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Sustainable Campuses: Sharing our Knowledge for Social and Environmental Sustainability



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Sustainable Campuses: Sharing our Knowledge for Social and Environmental Sustainability

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Abstract:

An important challenge facing post secondary institutions today is how to transform themselves into agents for sustainability. The Sustainable Campuses: Sharing our knowledge for Social and Environmental Sustainability is an initiative that works to encourage this transformation through the sharing of knowledge and experience between educational institutions of the North and the South. Through a collaborative and participatory action research approach this initiative seeks to identify factors that support institutional sustainability in post secondary institutions. Our findings propose that a supportive administration, engaged faculty and empowered students are important drivers for institutional sustainability.

Keywords:

Sustainability, campus, environment, education.

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Introduction



On November 2012, Dawson College and the Instituto Mexicano para el Desarrollo de Ciudades Verdes (Ciudades Verdes) in collaboration with the Universidad Pedagógica Nacional of the State of Morelos (UPN Morelos) and the Escuela Particular Normal Superior Lic. Benito Juárez (Normal Superior) with the financial support of the International Development Research Centre began a participatory action research project, Campus Sustainability: Sharing our Knowledge for Social and Environmental Sustainability. The project's main objective was to generate and support a process of knowledge generation and sharing as well as actions to support the establishment of sustainable campuses in post secondary institutions of the north and the south.

The motivation for this project came from the recognition that one of the challenges facing education today is how to respond to the environmental crisis we are experiencing as a global community. We recognize that post secondary institutions have the potential to offer innovative solutions to some of our greatest global challenges through their teaching and research activities (Cole 2000). They are the training grounds for future leaders and incubators for transformative social action. They also have the potential, through the establishment of policies that regulate their operations, to become examples, models of sustainable living. Thus, educational institutions at all levels must become capable of understanding, informing and encouraging local and global action, become agents of transformative social action towards sustainability.

Over the last decade Sustainable Campus initiatives have emerged throughout the Global North. A series of Canadian and international declarations on sustainability in education have been

developed, and many campuses have committed themselves to implementing the declarations' objectives (Wright, 2002). In Canada, the National Strategy on Environmental Education and Sustainability was established in 2002, which aims to further the integration of environment and sustainability learning into both formal and non-formal educational systems. Today, post-secondary institutions in the North benefit from extensive formal and informal networks for information exchange. Through L'Association québécoise pour la promotion de l'éducation relative à l'environnement (AQPERE), the Sierra Club's Youth Coalition's Sustainable Campuses initiative, the International sustainable Campus Network (ISCN) and the Association for the Advancement of Sustainability in Higher Education (AASHE), to name a few, a forum has been established to share experiences and best practices and to support campus sustainability and the advancement of teaching and research for social and environmental sustainability in the North. However, mechanisms to share knowledge and experiences with educational institutions in the South are lacking.

This project set out to construct tools, mechanisms and an adaptable model for North-South collaboration to support sustainability in education. We proposed to establish a process aimed at supporting a path towards sustainability in educational institutions in Canada and Mexico and to do so through the sharing of knowledge and experience.

We, the partners in this initiative, understand sustainability to encompass concepts of social justice, as well as respect for the natural environment. We believe that sustainability touches the ecological, social, political, economic and cultural realms. For this reason, even as we discuss

global consensus on the definition of sustainability and how educational institutions will help lead us there, we are particularly conscious of the importance of the specific social-cultural context. If there are to be local solutions to global problems, diverse pathways to sustainability must be discussed, explored and articulated. Furthermore, we understand that achieving sustainability, in its broadest sense, requires structural modifications of the dominant conventional model of development that are not directly in our hands, but that this should not paralyze us to move towards this goal. Furthermore, educational institutions are responsible for critically analyzing the political and

economic paths that have paved the way to our present ecological/social plights.

In this report we describe the participatory action research process, methods, our main activities, outcomes, as well as share our main research findings. The document has been written by the project's coordinators, Gisela Frias and Margarita Hurtado, however we would like to acknowledge that the content is based on knowledge generated through a collaborative process where students, teachers and administrators from all participating institutions have been engaged.

The partners and collaborators



This collaborative initiative has several levels of cooperation between different institutions. Dawson College and Ciudades Verdes S.C. are the main partners behind this project. They are both responsible for grant writing, execution, coordination and administration of this project. The UPN Morelos, with its three campuses, Cuernavaca, Ayala and Galeana, and the Normal Superior are integral collaborators in this initiative. Through this initiative they have embarked into collaboration with each other and with Dawson College on issues of campus sustainability. Another important collaborator is Earthvalues, a Canadian non-profit organization that has provided its expertise on informal environmental education to this partnership.

Shared Dreams and Responsibilities

This project was the outcome of a shared dream between Gisela Frias and Margarita Hurtado, who through a long process brought together the partnering and collaborating institutions. For the management of this project Dawson College and Ciudades Verdes shared the following responsibilities, which were carried out by the main coordinators.

- Maintain communication permanently to favor the development of the project
- Create and strengthen links between the participating institutions
- Promote and facilitate the exchange between members of the participating institutions
- Conduct research collaboratively
- Design strategies to disseminate the processes of project development and research
- Plan activities and monitor their development
- Prepare reports and documents, which may serve to disseminate the results of the action research project
- Develop and implement strategies for process evaluation and project results.
- Management of resources and development the financial reports

Other responsibilities held by Gisela Frias at Dawson College:

- Promote the participation of students, teachers and the educational community of Dawson College in project-related activities.
- Establish synergy with administrative departments and offices at Dawson College.
- Coordinate the participation in the project by Sustainable Dawson.

Other responsibilities held by Margarita Hurtado at Ciudades Verdes S.C.:

- Promote the participation of Mexican educational institutions in the project, UPN Morelos (three campuses) and Normal Superior.
- Promote the building of relationships between participating institutions in Mexico
- Promote the building of relationships between participating institutions in Mexico and Dawson College
- Establish synergy with municipal, state and federal government institutions that can help strengthen the project and contribute to the development of similar experiences.

Dawson College

Dawson College is an educational institution that offers technical training as well as pre-university programs. It is located in the city of Montreal, Quebec in Canada. It has a population of approximately 10,000 students, about 500 teachers and more than 50 areas of instruction. Among its curricula, about 20 technical courses such as nursing, civil engineering, graphic design, accounting and administration are taught. It offers pre-university programs in the arts, natural and social sciences.

Dawson College does not only strive for academic excellence, but has also pledged to pursue social responsibility and global awareness. Therefore, it has as an objective to continue to integrate awareness of environmental issues and sustainability in its operations and academic programs and to establish meaningful links with local and international community members. Environmental education at Dawson College has a multidisciplinary approach. The college offers two programs on the environment, one in social sciences and one in the natural sciences.

In August 2006, Dawson launched a two year environmental initiative through the Earthvalues Institute, a nonprofit organization specializing in environmental education. Action Conservation had as an objective to reduce Dawson College's ecological footprint. It brought together students, faculty and staff with the goal of becoming a more sustainable institution. Environmental leadership, as well as initiatives such as Dawson College's Peace Garden were at the core of the program (Earthvalues, n.d.).

In 2008 Dawson College adopted the initiative as its own and established Sustainable Dawson.



Sustainable Dawson is an initiative aimed at reducing the college's ecological footprint, improving Dawson's environmental performance in academic areas, infrastructure, operations and communications. The objective of Sustainable Dawson is to make of Dawson College an example of leadership in the achievement of targets within a comprehensive sustainability program, and to aim to achieve innovation and social responsibility through a collaborative learning environment (Sustainable Dawson). In 2010, Sustainable Dawson received the Excellence Award given out by Québec CégepVert.

From the beginning of this initiative, Sustainable Dawson, and its coordinators, Cindy Elliott and Chris Adam were integral partners in the development of the initial proposal as well as its implementation. Furthermore, the initiative was conceived as a means of sharing Sustainable Dawson's experience and lessons learnt with the participating Mexican educational institutions. It is important to point out that the dissemination of results and sharing of lessons learned is an important goal of this initiative.

Instituto Mexicano para el Desarrollo de Ciudades Verdes, S.C.

Ciudades Verdes S.C. is a Mexican civil organization whose main objective is to promote sustainable development through scientific and technological activities, promoting processes which articulate government and society with professional consultancy specializing in municipal, State and federal levels. Its members work to offer technical and organizational solutions as well as offer training to address environmental problems. They work to foster collaborative relationships among community members, civil society organizations, the private sectors, academic and educational institutions, national and international entities and others who work for sustainability.

The Collaborators



This project had the participation of two Mexican educational institutions, UPN Morelos and Normal Superior. These institutions participated as collaborators in this initiative, without initial direct research and project management responsibilities. However, these institutions were responsible for coordinating their own sustainability initiatives and systematizing their own experience. Each of the institutions prepared their own activity, which they have shared with us to be part of this report.

UPN Morelos: Cuernavaca, Ayala and Galeana



With the motto "Educate to Transform", the National Pedagogic University (UPN) was established in 1979 as a decentralized state institution with campuses throughout Mexico. Its main objective is to provide teachers, all throughout Mexico, with an undergraduate education. The National Pedagogical University (Morelos) is located in the city of Cuernavaca and has two branches, Ayala and Galeana. Currently, the institution offers university education including workshops, courses, diplomas, degrees, majors and graduate degrees. All programs focus on the educational field.

The main undergraduate program includes an undergraduate degree in education, one focused on primary and secondary education for indigenous students and the undergraduate degree in educational intervention. The overall enrollment is of about 900 students (Universidad Pedagógica Nacional, n.d.). The UPN Morelos was identified as a collaborator for the beginning of this initiative. Formal institutional support to collaborate in this initiative came through its administration.

Escuela Particular Normal Superior Licenciado Benito Juárez

The Normal Superior began operations in 1987 as a result of a social commitment established by the National Mexican Teacher's Union to provide "education for the people". Since then, generations

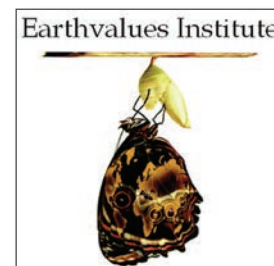
of graduates have entered the educational field at the Normal Superior. Most have become primary and secondary school teachers in both public and private schools, and others follow pedagogical careers using the general preparation acquired. The Normal Superior currently serves a population of approximately one thousand two hundred students from Morelos and surrounding states. It offers degrees for teachers whose teaching specialization is in Mathematics, English, Spanish, Biology, Physics, Chemistry, History, Geography, Education Civics and Ethics, Physical Education and Special Education.



It also prepares those who will provide long distance learning. The school also offers within its graduate programs, a master's degree in educational psychology and human potential and a Ph.D. in Psychology and educational innovation. Research is also an important line in the daily work of the school, along with editorial production (Escuela Particular Normal Superior Benito Juárez, n.d.). The Normal Superior was a collaborator within this initiative from its beginning. The institution's administration, via its director made a commitment to become part of this initiative.

Earthvalues Institute

Earthvalues is a non-profit organization based in Montreal, Canada. Using a philosophy of Nature as teacher and experiential and holistic approaches to education. The organization played a leadership role in starting sustainability efforts at Dawson College and the formal establishment of Sustainable Dawson. As such, its participation in this initiative was key. Their experience in leadership for sustainability and the establishment of student driven programs for sustainability was identified as key to this project from its beginning.



Research and Action Objectives



Participatory action-research seeks to generate knowledge that can be used to support collective action and change. In its academic context, it is based on the principle that research should be useful to communities, organizations and participants at the same time as contributing to the generation of scientific knowledge. As such it has as a primary objective to bring about

social/environmental change through a research supported process (Pratt 2000). The objectives of the Sustainable Campuses initiative are framed within a participatory action research approach. Thus they incorporate both the exploration of research questions and action driven objectives through praxis.

To generate and share knowledge about the process of moving towards sustainability in post-secondary educational institutions of the North and South

- To define sustainability, identify where we are in relation to it, establish concrete goals to achieve it and performance indicators and benchmarks to evaluate our progress, at each of the participating institutions.
- To generate tools and mechanisms to share knowledge and experience between participating institutions.
- To produce an adaptable, flexible, model for North-South, Academic-Community collaboration to implement action-based sustainability education.

To create a didactical model "space" where practices and attitudes that support sustainability can be showcased to other institutions; (capacity building)

- To review and demonstrate, with regards to facility operations, proper care and use of resources such as water, soil and energy and introduce eco-friendly infra-structural changes.
- To incorporate sustainability content, with regards to education and research by designing courses on sustainability, extra-curricular activities that supports sustainability. We aim to identify pedagogical tools that support the teaching, learning and action towards sustainability.
- To establish institutional policies (administrative system and engagement) that promote sustainability.

To foster a conscious and informed attitude towards the common good, respect for values that support community and an appreciation of biodiversity

- To engage in a collaborative "hands on" initiative to learn about, foster, and conserve biodiversity, while strengthening community relations, nurturing peace, through strategies that contribute to reduce poverty and social inequity.
- To empower individuals with the values to advance in the goals of achieving social and ecological sustainability.

Methodological Approach: Participatory-action research



The sustainable Campuses: Sharing our knowledge for Social and Environmental Sustainability is grounded in a participatory action research approach. An important principle at the core of participatory action research is the breaking down of power relationships between researchers and those who are conventionally seen as the subject of research. It is based on the acknowledgement that research is not the domain of academics only. It identifies those who are conventionally seen as the “subjects of research, or persons to be studied” as participants in the design, analysis, interpretation, application and dissemination of the research (Kindon 2005). It seeks to redefine the relationship between the academic researcher and the subject of research and thus redefine the research process. It defines research as a collaborative endeavor, one based on a process that is in continuous negotiation between the objectives and processes defined as academic research and those of the participants (Kitchin and Hubbard 1999; Kindon 2005).

Research plays an important part of this project. It is an engine that guides and builds capacity for action among the members of the educational community (participants) and also a means of documenting the project's process and thus generating new knowledge on North-South partnerships for sustainability within post secondary educational institutions.

Research on the project's process was carried out by Gisela Frias and Margarita Hurtado as the principal researchers. It is also important to point out that the principal researchers played an important role as project managers (coordinators) and that they played a key role in ongoing documentation and systematization of the project's process as well as facilitating the participation of others.

Methodological instruments

Research methods were designed to gather information about the different processes at play through this project and to gain insight into the different perspectives held by the participating members of the educational communities involved (participants). Some of the methods, such as the interviews, were used as conventional means of gathering data from different participants. However, others, such as the focus groups, were designed as a means of sharing and building knowledge among participants and supporting collective action.

Participant Observation

An important methodological tool used to inform the research (and action) was participant observation. We, Gisela Frias and Margarita Hurtado held multiple roles in the project, as principal researchers, coordinators and at the same time subjects of study. The use of participant observation in a participatory action research project required us to recognize ourselves as subjects who are part of the process and to adopt a critical perspective from where to seize the opportunity to detect and record relevant information regarding the object of the research (the project's process). From this position we engaged with other project participants, observed the projects' process and activities from within. The close relationship with others participants allowed us to promote and support ideas for project activities as well as document the process. As active observers we stepped back from the process and gathered information using participant observation techniques and tools designed for this purpose.

We devoted time and spaces to reflect on our role as coordinators. We had weekly Skype meetings where we reported to each other on the week's activities in the Mexican campuses and at Dawson College in Montreal. Registration of events and activities, part of the development of the project was another strategy for documenting activities to later be analyzed and interpreted. Thus, taking pictures and videos, making audio recordings, field journal writing, the annotation of testimonials, opinions, comments and ideas expressed by those directly involved in the project or that have a close relationship to it, were part of the strategy that guided our work as coordinators and researchers. The systematization of this information was channeled to updates on the project's Facebook page and the creation of other documents that described, contextualized and analyzed project activities.

Participant observation involved spending time with Sustainable Dawson and building up a relationship with the initiative's coordinators, who were also engaged participants in Sustainable Campuses initiative. Gisela Frias held regular meetings with members of the Sustainable Dawson team and throughout the initiative worked closely with them. Margarita Hurtado worked closely with the emerging teams engaged in sustainability work at each of the Mexican campuses, students, faculty and staff.

Semi-Structured Interviews

Semi-structured interviews were designed to gather information from a wide range of different key project participants. These included students, teachers, administrative staff and directors from all three post-secondary educational institutions who participated in the project. The interviews carried out included: Five interviews with Dawson College students who participated as interns in different participating Mexican campuses; Interviews with Sustainable Dawson's coordinators; An interview with the director of one of the Mexican campuses; An interview with the academic dean of one of the Mexican campuses; An interview with five teachers from the two participating Mexican campuses; Two interviews with Mexican students (who were not available for the focus group carried out with students).

The interviews were designed to inform on the participants perspectives on the following issues:

1. Views on sustainability and campus sustainability
2. Their participation on campus sustainability projects
 - a. Organizational experience (intra-institutional)
 - b. Types of projects carried out
3. Inter institutional relations

In order to close the loop between research and action, the results of these interviews (via the final research report) will be shared with all project participants.

Focus group

A focus group with students from Dawson College as well as from the Mexican campuses, who participated in the project, was organized. The main objective of the focus group was to have a student perspective on the following topics: their definitions of sustainability, the student's organizational experience throughout the project, their motivations, roadblocks and factors that supported their



organizational process. The focus group took place at the UPN Galeana. It was designed and carried out jointly by Gisela Frias and Margarita Hurtado. A total of nine students participated in the focus group, one from the Normal Superior, two from UPN Cuernavaca, three from UPN Galeana and two from Dawson College. There was no representation from UPN Ayala. Participation in the focus group was voluntary. The students invited to participate were identified by their peers as leaders, with high levels of participation in the

project. It involved students who participated in the development of the participatory diagnosis, action plans, design and implementation of communication strategies and promotion activities aimed at achieving the objectives related to the project.

The focus group was run as a dialogue among participants. Dialogue, conducive to knowledge generation, was encouraged by the establishment of a horizontal relationship between the researchers and the participants. The role of the researchers was to create an environment of trust, to facilitate a process that encouraged wide participation, recognizing the knowledge of each of the participants and laying a foundation of respect and recognition of the richness of a diversity of opinions and perspectives.

To have greater richness in the diversity of responses and ensure equitable participation, each participant was given the focus group questions before the focus group session (questions were given a week in advance). At the focus group, the researchers facilitated the participation of all participants as they shared their answers. Once all participants intervened the researcher opened the forum for dialogue and reflection, collectively identifying common and divergent experiences.

Project Workshops and Evaluations

One initial workshop, a mid-evaluation workshop and a final evaluation workshop took place throughout the life of the project. These workshops had as objectives, not only the gathering of data, but also to provide the opportunity to build and strengthen collaborative work among participants from the different campuses and participating institutions as well as reflect on the advances of the project and to identify factors that either hinder or support the process of moving towards sustainability

Preparatory and Integration workshop (November 2012)

The preparatory and integration workshop took place on November 2012. It counted with the participation of a wide range of project participants from the different participating institutions. Two students from the UPN Galeana, one student from UPN Ayala, four students from UPN Cuernavaca

and two students from the Normal Superior. There was also participation from one teacher from the



UPN Ayala and one from UPN Galeana. Two teachers from Dawson College and Sustainable Dawson's coordinator also participated. While the objectives of the workshop were established by the project's coordinators, the workshop was facilitated by Xinemi, a Mexican non-profit organization.

The activities designed by Xinemi led the group to reflect on the values that underline the collective work that supports the objectives of the project.



The workshop also provided an opportunity for participants to organize themselves and brainstorm around different forms of knowledge and experience sharing among the participating institutions. Each of the delegations gave a presentation sharing the work that has been done at their campus as part of their own sustainable campus initiative, highlighting strengths and weaknesses, best practices and lessons learnt. Participants

collectively identified capacity building needs.

Mid-Term evaluation

On May 15th 2013 a midterm project evaluation took place at the Normal Superior, in Cuernavaca Morelos. The evaluation was designed and facilitated by Margarita Hurtado (Ciudades Verdes) and had the participation of representatives, teachers and students from the UPN (all three campuses) as well as the Normal Superior. The directors of both of these institutions also participated, Professor Concepción Tonda (UPN) and Professor Carlos Gallardo (Normal Superior). Gisela Frias, project coordinator at Dawson College, participated in the evaluation via Skype. Teresita Maldonado, representative of CECADESU, SEMARNAT and Mercedes Pesqueira, Director of environmental Education at the Ministry for Sustainable Development (State of Morelos), also participated in the evaluation.

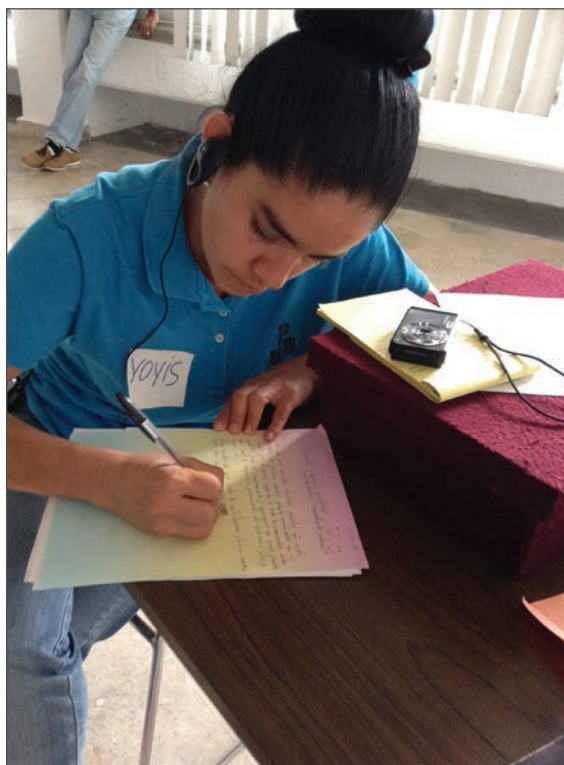
As a research tool, the midterm evaluation provided information on the status of sustainability projects at each of the participating institutions. The evaluation also provided the opportunity for participants to share with each other institutional advancements, the identification of best practices as well as roadblocks encountered (organizational, administrative, and others), in the work for sustainable campus initiatives. The mid-term evaluation also served as a tool for action. It provided a space for collective reflection on the process carried out to date and as a means of collectively deciding on future project activities. A mid-term evaluation report was written.

Final Evaluation Workshop

After twelve months from the beginning of the project we carried out a final evaluation. The evaluation took place in Cuernavaca, Morelos on November 11th and 12th 2013. Participation in the evaluation workshop included students, teachers, administrative staff from the UPN Cuernavaca, UPN Galeana, Normal Superior and Dawson College. It is important to highlight that also the Director of the Normal Superior participated for a short period during the evaluation. Mercedes Pesqueira, Director of environmental Education at the Ministry for Sustainable Development (State of Morelos) was also present at the evaluation as well as Janice Astbury, independent consultant

and Ph.D. researcher from the University of Manchester.

From a participatory research perspective the evaluation was conceived as a time for reflection on the processes and for the collective identification of results, impacts, obstacles and favorable conditions. The evaluation provided an opportunity for individual and institutions to reflect on the



lessons learnt and to collectively re-construct the process. The evaluation was carried out by individual reflection on several guided questions followed by a round of discussions on each of the questions. The questions were designed to inform on the participant's experience in the project in the following areas: environmental management and project management capacity; pedagogical dimension (curriculum/research); environmental (operations) impact; inter and intra institutional collaboration.

The evaluation's objectives were defined by the project's coordinators, Gisela Frias and Margarita Hurtado. However, two external evaluators were asked to facilitate the process and to provide their independent review. The facilitators, Dr. Miguel Izquierdo and M.A. Teresita Maldonado are both professionals in the education field. Teresita Maldonado is highly experienced in environmental education.

Ethical review process

The Sustainable Campuses: Sharing our knowledge for social and environmental sustainability obtained research ethics approval from Dawson College's Research Ethics Board. We followed the process established by Dawson College. Following we describe the process as well as some of the main challenges presented by the process.

An application for Research Ethics Approval was submitted to Dawson College's Research Ethics Review Board prior to the implementation of any research activity. The process required the researchers to obtain letters of consent from each of the participating institutions, UPN Morelos and Normal Superior, acknowledging their voluntary participation in the project as collaborators and consent for the collection of data about their institutions through the project's research activities.

We also submitted a detailed description of all the methods to be used including appropriate consent letters to be given to each of the project participants. Consent forms were designed and administered in English, French and Spanish, according to the language of each preference of the participants. See annex V for copies of consent letters received from UPN Morelos and Normal Superior, letters of approval from Dawson College's Research Ethics Board as well as a sample of the consent letter used with participants.

The requirements for obtaining research ethics approval under a participatory action-research context presented several challenges. Following we describe what we identify as conflicts between the philosophies of participatory action research and the regulatory regimes and procedures required by research ethics boards, as experienced through this project. We also share how we aimed to meet these requirements and at the same time tried to stay true to the participatory action research process.

The core conflict between the philosophies behind participatory action research and the regulatory procedures established by the research ethics board lays in the notion of research subjects and its relationship to the academic researcher. While research ethics regulatory procedures aim at protecting research subjects from potential harm and exploitation that they may experience as a result of

the research process, and to protect the academic researcher from such possible future allegations, participatory research is based on the notion that research participants work collaboratively with academic researchers in the design, analysis and interpretation of findings. In participatory research, there are no research subjects per se. Those involved are considered to be research participants, involved in recognizing and changing their own reality and utilizing research to do so. Participatory action research works within a paradigm that attempts to make the research process a more inclusive and democratic one (Flicker et al. 2007). Thus, as Martin (2007) argues, the regulatory procedures established by research ethics boards assume an academic researcher driven model. It perpetuates the notion that knowledge production is the domain of academics researchers (Flicker et al., 2007). It also assumes a passive research subject rather than an engaged research participant. This core difference is at the basis of many other practical conflicts experienced in meeting research ethics regulations.

One of the first conflicts we faced with the regulatory procedure established by the research ethics board was the requirement to provide a detailed descriptions of all research activities to be carried out throughout the project prior to receiving approval to carry out any research activity. This presented a conflict in terms of principle as well as practice. Under participatory research, flexibility and participants' true engagement in the research process is a core principle. As research participants engage in the process and identify their own needs, the process and activities are designed and carried out. This is a process that unfolds in the life of the research. Defining all research activities prior to starting the project implied going against this in principle and practice.

Engagement with the research ethics board lead us to first of all differentiate and define the roles of all those involved in the project. We identified several levels of involvement. We recognized the role of the principal researchers and coordinators. Due to time constraints, the application for research ethics approval was elaborated by the primary researchers only. We also acknowledged the participation of what we identified as key research (project) participants. These included individuals who have had meaningful participation throughout the project, while these were students, faculty, staff or others. They engaged themselves

in the project through organizing at their campus and were active participants in the project's decision-making forums. We also recognized the participation of overall project participants. These included individuals who participated in one or more project activities but who were not engaged in the project's decision-making process nor were approached to provide information on their participation.

Consent was obtained from all key participants. These were obtained when project participants were interviewed or were part of a focus group or a workshop. The procedure was explained, including the possible risk for participating and issues of confidentiality. Key participants however questioned why they needed to provide consent if they were part of the research process and were involved in generating. This process was challenging as it established clear divides between the principal researchers and research participants, rather than help to establish a closer relationship where all participants work together.

A following step involved differentiating activities as "action driven" from those that were "research driven". The blurred division between what can be considered research versus action, or project ac-

tivities, made the identification of all methodological instruments difficult. This however, allowed us to continue carrying out project activities. Project activities were carried out without the need for research ethics approval. Methodological tools to gather data on these activities such as participatory observation, interviews and other conventional research methods such as interviews, focus groups were designed and these were identified as subjected to research ethics approval. The application for ethics approval was done in two stages. We submitted an application to be able to use information about the project that was generated prior to the formal beginning of the project, a secondary use of data request. We followed up by an application covering the life of the project. However, there were constant discussions with the ethics review board to determine the need to submit different project activities, which could be considered research, for ethics approval.

The process of applying for research ethics approval meant an important rethinking and redesign of the methodology used during this study. As a result we used more conventional research methods and worked towards distinguishing roles between the principal researchers and the research participants.

Activities, Results and Impacts



The project's proposal had a set of core activities designed to meet the project's objectives. The project was divided into three core stages: the participatory diagnosis, the design and implementation of campus sustainability action plans and the evaluation, systematization and evaluation stage. While these stages coincide with a chronological order, some activities overlapped across stages. For instance, in some of the campuses the implementation of sustainability projects began as early as the first stage of the initia-

tive, while in others it did not take place until the project was formally in its evaluative stage.

The participatory nature of this initiative required a degree of flexibility in the design of the activities that would be carried out throughout the life of the project. The activities that were pre-designed were considered to be the core activities that would allow the partners develop a collaborative working relationship. These activities are linked with the partnership process and the development

of spaces for the generation and sharing of knowledge among participants. Other activities, such as the actual "campus sustainability" initiatives to be carried out at each campus were dependent on this process and the engagement of the different project participants.

We find it pertinent to discuss some discrepancies from the process-oriented activities that were established in the original proposal for this project and the actual activities that were carried out. These changes responded both to the importance of being responsive to a learning process as well as the identification of particular opportunity and/or barriers.

One important change made to the activities programmed versus those carried out was the proposed course on Peace and Sustainability that was proposed to take place at Dawson College, with a field component in Mexico. Originally, we had set out to do this course as a means of addressing issues of sustainability in course content at Dawson College and as a means of providing Dawson College students with a field experience in Mexico, to learn about campus sustainability issues on the ground. The activity was envisioned as a ten-day trip for a group of 10-15 students and three teachers. After further consideration we re-evaluated this idea and decided that we wanted to establish "internships" rather than a ten-day trip. We felt that a "tour" of issues would not provide the kind of engagement between the participating institutions that the project aimed to foster. Thus, the activity was replaced by five internships for a one-month period, for Dawson College students, at different host campuses in Mexico.

Another important change to the activities that emerged from the decision not to do a course on Peace and Sustainability at Dawson was the decision to design and carry out a course on Campus Sustainability in Mexico. The course was designed by project coordinators Margarita Hurtado and Gisela Frias and it took place in July 2013 at the Normal Superior. More details on this course will be elaborated on in the section of research results.

It is also important to highlight that in many of the project activities that took place after June 2013, there was no direct participation from UPN Ayala. This campus is presently involved in a land tenure dispute and the university has lost access to its campus. Previous to this the campus, through its students, teachers and administration were active participants in all of this project's process and activities. These events however, have engaged the educational community on a very difficult and time-consuming process and their direct participation in the project has been put on hold.

Following we have compiled a table that briefly describes the main activities carried out as part of this project. Meetings and other forms of communication, for project coordination, between the participants are not detailed here. The table also identifies the main results obtained from each of the activities and highlights the overall long-term impact associated with it.

The table does not give details about all the different sustainability projects carried out at each of the campuses throughout this initiative. These activities have been systematized by each of the campuses through their own document.



Activities, Results and Impacts Table

Stage One: Participatory Diagnosis

The project's first stage is a participatory diagnosis. It was carried out mainly from November 2012 to February 2013. However, other activities carried out throughout the length of the project contributed to the objectives of the participatory diagnosis.

This process asks participants to identify and define their own local problems and search for locally appropriate solutions. It will have as its main objectives a) to construct a local definition for sustainability, b) to identify the point at which each institution is at with respects to sustainability c) establish goals and define appropriate performance indicators to measure advancements, d) gather information to establish an action plan e) involve participants in the action plan f) design tools and mechanisms for knowledge sharing as a way to strengthen mutual capacity building and g) provide data to generate new knowledge based on a comparative analysis of the experiences of the institutions of the North and South and our collaborative experience.

Activities	Outcomes	Impact
Pre-Project Workshop: Path to Sustainability June 2012	15 participants representing the following institutions:	Increased the institutional capacity to foster institutional change towards the establishment of sustainable campuses through tools such as participatory diagnosis, elaboration of action plans for the design and implementation of campus sustainability projects, or organizational structures.
Review and systematization of the results from the workshop "Camino hacia la sustentabilidad/Path to Sustainability" from June 2012.	<p>Escuela Particular Normal Superior Lic. Benito Juarez, Universidad Pedagógica Nacional (Cuernavaca, Galeana and Ayala), Pilot program for Environmental Education IEBEM, CECADESU Semarnat, CIDHEM, Unidad de Manejo Ambiental (Environmental Management Unit).</p> <p>Contributed to the conceptual, theoretical and methodological capacity of the participants and their use of tools for campus sustainability.</p> <p>Greater awareness of sustainability as a concept and its links to post secondary education. Appropriation of the term and its relevance of for campuses.</p> <p>Sensibilization of the relationship between sustainability and peace.</p> <p>Elaboration of a participatory diagnosis</p> <p>Establishment of an inter-institutional link.</p> <p>Identification of Sustainable Campuses initiatives in Mexico and internationally. Established possibilities of links and exchange between them.</p> <p>Course is a mechanism for the sharing of knowledge between different members of the educational community and among different educational institutions.</p> <p>Promoted the establishment of an organizational model to involve the educational community in actions for sustainable campuses (in Mexican institutions)</p>	<p>Provided the conditions for future inter-institutional collaboration for campus sustainability.</p>

Activities	Outcomes	Impact
<p>Meetings and Workshops by Ciudades Verdes at each Mexican participating institution (UPN Cuernavaca, Ayala and Galeana and Normal Superior).</p> <p>Organizational leadership workshops and project planning workshops</p> <p>Implementation of participatory diagnosis (at each Mexican campus).</p>	<p>A total of 120 Mexican students and teachers participated in meetings and workshops where the project was presented.</p> <p>75 Mexican students were trained on project design using the tool "El tren de la Participación" (Participation Train).</p> <p>An organizational proposal was promoted for the engagement of the entire educational community in campus sustainability action projects. Establishment of working groups made up of student leaders in the areas of biodiversity, waste, water, energy, soil and communication.</p> <p>Several activities took place at each of the Mexican campuses geared at group/team building around environmental action.</p> <p>Several presentations were given at the different campuses and students and teachers began their organizational process. Formation of committees.</p> <p>Students and teachers began process of identifying issues they wanted to address in terms of campus sustainability.</p>	<p>The introduction of tools for project design to students and teachers to foster their capacity building in terms of actions for sustainable campuses.</p> <p>Put in practice/test organizational models for campus sustainability.</p> <p>Development of opportunities for engagement, teamwork and leadership skills among students and teachers in Mexican campuses.</p> <p>Learning to work with others (educational community) as the basis for campus sustainability.</p> <p>Student and teacher involvement in institutional projects.</p> <p>Put in practice strategies to foster an organizational process for campus sustainability.</p> <p>Application of program competencies for students learning "educational intervention" at the UPN.</p> <p>Generation of information and knowledge that can be used for the development of an action plan for campus sustainability.</p>
<p>Systematization of the participatory diagnosis and design of communication strategy.</p>	<p>Three of the four Mexican campuses systematized the results from their first stage.</p> <p>Generation of documents to share with other project participants.</p> <p>Documentation was shared widely with project participants and others via Facebook.</p>	<p>Knowledge was generated and shared about campus sustainability processes.</p> <p>Reports represented an independent vision of sustainability by each institution.</p> <p>Documentation can be used for future publications and the creation of other educational and didactical materials.</p>
<p>Two-day Preparatory and Integration workshop with teams from UPN (Ayala, Cuernavaca and Galeana), the Normal Superior and Dawson College. Coordinated by Ciudades Verdes.</p>	<p>Participation from Galeana: two students and one teacher.</p> <p>Participation from Ayala: one student and one teacher.</p> <p>Participation from Cuernavaca, four students</p> <p>Participation from Normal Superior two students</p> <p>Participation from Dawson College, two teachers and one administrator.</p> <p>Four Mexican campuses represented, one</p>	<p>Students, teachers and administrators increase their capacity to organize for campus sustainability by the appropriation of several tools, the identification of key values required for collective action, the use of indicators to measure their change.</p> <p>Sharing of practices and experiences cross-culturally generates new knowledge among participating institutions.</p>

Activities	Outcomes	Impact
<p>Development of mutually beneficial partnerships with members of the international community.</p>	<p>Mexican NGO and one Canadian Campus. Report done by the facilitators of the activity (Xinemi, NGO).</p> <p>Increased awareness about values that support collective environmental action and leadership.</p> <p>Sharing of knowledge about campus sustainability and the state of sustainability at each participating campus and their sustainability projects.</p> <p>Sharing knowledge about sustainability indicators to be used within a campus (Dawson College experience).</p> <p>Students, teachers and administrators become inspired by the work done by other campuses and the recognition of their own advances.</p> <p>Establishment of communication mechanisms for sharing of experiences among participating institutions.</p>	
<p>Visit by Sustainable Dawson Team to Mexican partner Institutions</p> <p>Visit to UPN Ayala, UPN Galeana, UPN Cuernavaca and Normal Superior.</p> <p>Project presentation and meeting with Ministry of Environment and Natural Resources CECADESU (Federal government).</p> <p>Project presentation and meeting with Ministry of Sustainable Development (State of Morelos).</p>	<p>In-situ knowledge (for Dawson College) of the natural, social, cultural, educational, socio-political, economic context under which the project is taking place in Mexico.</p> <p>Establishment of links, relationships between the different individuals and institutions involved in the project.</p> <p>Visit to and links made with governmental agencies in Mexico in the area of sustainable development and environmental education.</p> <p>Visit and all activities by the team were documented on the project's Facebook page.</p>	<p>Establishment of alliances at different governmental levels, state (Morelos), federal and international (in Mexico).</p> <p>Construction, strengthening, deepening of the relationships towards the knitting of networks for campus sustainability among participating institutions, allies and potential partners.</p> <p>Sharing knowledge and experiences with different types of institutions has the potential to expand and deepen the sphere of incidence of the project.</p> <p>Increase in terms of number of institutions involved in the project but also a qualitative change in terms of the types of institutions and their potential to foster social change.</p>

Activities	Outcomes	Impact
<p>Visit by Sustainable Dawson and Coordinating team to:</p> <p>UNAM's Alternative Technology's Center.</p> <p>Visit to UMA (Unidad de Manejo Ambiental/ Unit for Environmental Management).</p>	<p>In-situ knowledge of how a UMA works in order to apply some of its practices in the projects carried out at the participating campuses.</p> <p>Establishment of working relations with national (Mexican) institutions in the environmental field to begin innovative collaborative sustainability projects at the participating campuses.</p>	<p>potential establishment of working relationship between Mexican campuses and institutions in the environmental research and management field.</p> <p>Bring global awareness of environmental/ sustainability issues for the transformation of institutional practices at Dawson College (through Sustainable Dawson's practice).</p> <p>Increasing Dawson College's capacity to be a leader in anticipating and responding to the needs of society by being able to have a more global perspective on environmental issues and sustainability..</p>
<p>Visit by Sustainable Dawson and Coordinating team to "Cosas de Profes/ Teachers' Issues" Radio program:</p> <p>Interview given by Chris Adam and Cindy Elliot</p> <p>Interview given by Gisela Frias and Margarita Hurtado.</p>	<p>Outreach about the project and about sustainable campuses to a wide audience of students, teachers and staff of different campuses in the state of Morelos.</p> <p>Sustainability content in local Mexican radio programming.</p>	<p>Increased social awareness about the role of post secondary institutions in terms of social change for sustainability.</p> <p>Radio and TV programs represent and opportunity to share knowledge and experiences by two countries on campus sustainability.</p>
<p>Systematization of Sustainable Dawson's experience</p> <p>Research Activities</p> <p>Review of Sustainable Dawson literature</p> <p>It included the review of SD's website, Facebook page, end-of-year, participatory observation (participation in team meetings) and interviews with Sustainable Dawson's coordinators.</p> <p>The review of the literature generated by Sustainable Dawson was done by Gisela Frias.</p>	<p>Increased knowledge about the process behind the establishment of Sustainable Dawson, the organizational model behind it, areas of influence as well as the methodology behind its actions.</p> <p>Integration of Gisela Frias as a Dawson teacher into the work by Sustainable Dawson.</p>	<p>Potential generation of material to share the Sustainable Dawson experience internationally.</p>
<p>Virtual forum to share the results of the participatory diagnosis, (google group, etc). Creation of an online mural with the results of the participatory diagnosis and information about the process from each campus</p>	<p>We began a google group including representatives from each of the participating institutions.</p> <p>We established a Facebook page and a Facebook group where different project participants share activities linked to their sustainability projects and general posts about sustainability.</p>	<p>Inter-institutional connections were established with the objective of sharing knowledge.</p> <p>The development of a network that shares information, knowledge and experience in an informal and interactive fashion.</p>

Stage two: Design and Implementation of the Action Plan

The second stage of the project (seven months) includes the design and implementation of the action plan, based on results from the participatory diagnosis. Objectives are linked to bringing about changes in educational institutions towards sustainability in a) operations, b) education and research and c) administration and engagement. This stage is also linked to our objective of connecting post-secondary institutions of the North and South in a collaborative initiative to learn about foster, and conserve biodiversity, while strengthening community relations, nurturing peace, through strategies that contribute to reduce poverty and social inequity. Knowledge generation and sharing will be an important component of this stage.

Activities	Outcomes	Impact
<p>Systematization of Sustainable Dawson's experience</p> <p>Systematization of Sustainable Dawson's Experience</p> <p>Generation of videos about Sustainability at Dawson by Dawson College students in Spanish.</p> <p>Spanish Class: Three videos were created by Spanish students in Maria Fernanda Benavides' class (Peace Garden; Sustainable Dawson; Student life at Dawson)</p>	<p>Integration of Dawson College students into the project.</p> <p>Integration of sustainability issues into curriculum of Spanish courses at Dawson College.</p> <p>Strengthen the link, through integration of sustainability into the curriculum, between Dawson teachers and students and Sustainable Dawson.</p>	<p>Systematization allows for self-reflection, recovery of the experience lived in order to be able to share lessons and best practices.</p> <p>Systematization allows for the sharing of SD experience with others, to plant a seed to facilitate, invite other to carry out actions for campus sustainability from their own context.</p> <p>Identification and sharing of lessons learnt and best practices.</p> <p>Development of best practices and lessons to be shared among north-south partners.</p> <p>Development of student driven communication tools for sharing of experiences in an international network of institutions.</p> <p>Internationalization of Sustainable Dawson's experience.</p>
<p>Systematization of Sustainable Dawson's Experience</p> <p>Research Methods and Geography classes: two videos generated by students on indicators of sustainability and student life at Dawson College.</p> <p>Sociology class: video by Gisela Frias integration the work by Anna-Liisa Aunio (Sociology) sharing the experience of Dawson's Roof Top Garden.</p>	<p>Exploration of link between theory and practice in different courses at Dawson College.</p> <p>Generation of educational material as part of the curriculum.</p> <p>Identification of sustainability actions taken at Dawson College by students and teachers (outside of Sustainable Dawson). These included Green Earth Club (student club) and teachers teaching and involved in sustainability.</p> <p>Generation of material about Sustainability, Sustainable Dawson and Sustainability at Dawson (in Spanish)</p> <p>Videos shared via Facebook.</p>	<p>Dawson College students have the opportunity to apply the competencies acquired through their programs.</p> <p>Internationalization of Dawson College's educational practice.</p> <p>Develop social responsibility and global awareness in participating Dawson College students.</p> <p>Develop appreciation of cultural diversity in both Canadian and Mexican campuses.</p>

Activities	Outcomes	Impact
<p>Systematization of Sustainable Dawson's Experience</p> <p>Interns from Dawson College's Community Leadership and Recreational Training Program</p> <p>Diego Bermudez</p> <p>Regular updates on Facebook page on sustainability at Dawson</p> <p>Gabrielle Caron</p> <p>Video on self watering containers</p>	<p>Diego Bermudez worked for 6 hours per week for a total of 90 hours as communication's coordinator.</p> <p>Gabrielle Caron worked for 30 hours per week for a total of 450 hours.</p> <p>Integration of project activities into the curriculum.</p>	
<p>Visit by Ciudades Verdes, UPN and Normal Superior to Dawson College</p> <p>Activities included:</p> <p>Guided visit of Sustainable Dawson Projects</p> <p>Project presentation at Environmental Studies/Environmental Science Seminar</p> <p>Class presentations</p> <p>Meetings with Dawson College administrators</p>	<p>Strengthening of inter-institutional relationships between Dawson College and Mexican partner institutions.</p> <p>In-situ learning about the socio, economic, cultural context behind sustainability projects at Dawson (for Mexican partners)</p> <p>Sharing project findings with Dawson College Community (Students, teachers and staff).</p> <p>Development of first "campus sustainability training" at Dawson College, which included a series of learning activities.</p>	<p>Experiential learning opportunities provide motivation for action.</p> <p>Potential development of an outreach program to share best practices by Sustainable Dawson.</p> <p>Strengthening of inter personal, inter-institutional and international links as a basis for collaborative work towards sustainability.</p> <p>Expanding perspectives and strategies on how to move towards sustainability in educational institutions considering the north and south contexts.</p> <p>Greater impact on the dissemination of sustainability experiences as a result of exchange and the use of media that both institutions have at their disposal.</p>
<p>Celebrating our Path to Sustainability (April 2013)</p> <p>Celebration at Dawson College with guests from Mexico.</p> <p>Fundraising at Dawson College for Sustainability project at the Normal Superior.</p> <p>Interviews for Radio International by Rufo Valencia</p> <p>Margarita Hurtado and Gisela Frias</p> <p>Richard Filion (Dawson College Director General)</p> <p>Luisa Montes (Sustainability Coordinator at Normal Superior)</p>	<p>Outreach to Dawson community about sustainability projects at Dawson and in Mexico.</p> <p>Celebration of Dawson College becoming carbon neutral.</p> <p>Sustainability project at the Normal Superior shared at Dawson College. Auction of pictures part of "Our Green Neighbours" exposition by the Normal Superior.</p>	<p>Greater awareness about global environmental and sustainability issues among the Dawson College educational community.</p> <p>Informed concern for the larger good among campuses as they celebrate each other's accomplishments in a non-competitive environment.</p> <p>Increased awareness about the importance of strengthening working relationships between members of the educational community as a basis for campus sustainability action.</p>

Activities	Outcomes	Impact
<p>Workshop "Tools for Environmental Education" took place on Thursday April 25 and Friday April 26 2013, from 2:30 to 5:00 and it was also part of Sustainable Dawson's Earth Week's activities.</p> <p>Workshop was design and facilitated by Margarita Hurtado.</p>	<p>10 faculty members from Dawson College who teach environmental content in their courses participated.</p> <p>Participating faculty came from different programs including social science (sociology, geography and anthropology), science, business administration and CRLT.</p> <p>In addition, a teacher from the Mexican university "Normal Superior Benito Juárez" and an undergraduate student from the Mexican National Pedagogical University also participated.</p> <p>Capacity building of participants in environmental education.</p> <p>Tools shared for environmental education, including drawing techniques and interpretation as well as several board games (See Annex VIII for full report)</p> <p>Full report was shared widely on Facebook and through Dawson College.</p>	<p>Teachers involved expressed not only increased knowledge of techniques but also a sense of solidarity with other working for sustainability.</p> <p>Engaged teachers, with the right tools can in turn support engaged students.</p> <p>Participants reported to have felt renewed, willing and creative in their teaching practice.</p> <p>Transformation of the teaching practice can change the world.</p>
<p>Workshop "Tools for Environmental Education" took place on Thursday April 25 and Friday April 26 2013, from 2:30 to 5:00 and it was also part of Sustainable Dawson's Earth Week's activities.</p> <p>Workshop was design and facilitated by Margarita Hurtado.</p>	<p>Students and teachers from UPN Cuernavaca and Galeana, Normal Superior and Dawson College learned and shared knowledge about campus sustainability in a common learning environment.</p> <p>Capacity building in areas such as leadership, student organizing, environmental sustainability, environmental practices and technologies and others.</p>	<p>Teachers who participated in the course are integrating sustainability into the curriculum and linking it to campus sustainability initiatives.</p> <p>Student participants are actively engaged in student organizing for campus sustainability, applying what was learnt through the course.</p> <p>Educational communities that learn together can work together braking power dynamics and transforming education.</p> <p>Potential for greater impact as other Mexican educational institutions are interested in having the course given.</p>
<p>Dawson College students intern at UPN and Normal Superior.</p>	<p>A total of five internships were designed and carried out.</p> <p>Dawson students were hosted at different campuses (Normal Superior/UPNGaleana) for a period of a month.</p> <p>UPN Ayala- Kendal Birker and Gabrielle Caron</p>	<p>Transformation of educational experience.</p> <p>Engagement of the full person (student).</p> <p>Application of skills and knowledge gained as Dawson College students at the service of the global society.</p> <p>Pilot project provides insight into possible future internship for environmental studies and</p>

Activities	Outcomes	Impact
	<p>UPN Galeana- Lea Neumark-Gaudet and Dylan Davis Normal Superior Katie Wheatley</p> <p>These internships allowed us to integrate students from different Dawson College programs into the project.</p> <p>Student internships based on hands on, experience and knowledge sharing about campus sustainability.</p> <p>Youth to youth exchange and relationship building was generated.</p>	<p>environmental science students at Dawson College.</p> <p>Physical transformation for campus sustainability (linked to work done by interns and local students).</p> <p>Opportunities for the development of social responsibility and global awareness.</p> <p>Development of educational experiences that allow for the appreciation of cultural diversity.</p> <p>Personal transformation of participating students and educational community of host campus.</p>
<p>Generation of student blogs Gabrielle Caron Lea and Dylan Katie Wheatley</p>	<p>Three blogs were created. http://dawsonmexico.tumblr.com http://mexicoprojecto.blogspot.mx</p> <p>Use of writing as a tool for self-reflection and learning.</p> <p>Outreach and dissemination to wider Dawson College, UPN and Normal Superior community done by students involved in the project.</p>	<p>Information and knowledge generated and widely shared about campus sustainability initiatives.</p> <p>Facilitation of engaged learning through the use of social media.</p>
<p>Dawson Student fund raising</p> <p>Community Recreational and Leadership Training fundraised and increased awareness about campus sustainability projects in Mexico through a range of activities.</p> <p>UPN Ayala educational community send thank you video messages to Dawson College.</p>	<p>CRLT students fund raise for UPN Ayala and raise \$1000 (Canadian dollars).</p>	<p>Relationship building between students at Dawson College and students at Mexican campuses.</p> <p>Exploration of funding possibilities for campus sustainability projects in Mexico.</p>
<p>Dawson, UPN and Normal Superior, worked on a shared campus sustainability project to create "Peace Gardens/Huertos/Jardines por la Paz" initiatives.</p> <p>This was done through sharing the experience of the creation of Dawson College's Ecological Peace Garden (videos, presentations, visits)</p>	<p>Gardens created at all participating institutions. These include medicinal (herb) gardens, vegetable gardens and cactus gardens.</p> <p>Gardens were created by the educational community's collective work.</p>	<p>The activity supported knowledge generation, sharing, valorization and conservation of biodiversity.</p> <p>Symbolic spaces for peace generation in educational institutions.</p> <p>Collective work generated feelings of belonging and strengthened community relations among students, teachers and staff.</p>

Activities	Outcomes	Impact
<p>Visit from Dawson College to Normal superior to work on Peace Garden.</p> <p>Cindy Elliot, Sustainable Dawson's coordinator and creator of Dawson College's Peace garden visited Mexico for two weeks to support the creation of a Peace Garden at Normal Superior.</p>	<p>Shared methodology for community building through gardening projects.</p> <p>Creation of a Peace Garden at the Normal Superior.</p> <p>Workshops to appropriate theoretical and methodological, technological tools with axiological approaches that support sustainable practices.</p>	<p>Opening of spaces to speak about, work for and live peace.</p> <p>Experiential learning in the context of collaborative work and the sharing of knowledge in different socio-cultural and environmental contexts.</p> <p>Training of individuals with ethical principles that have the potential to transform their lives and that contributes to transition to sustainable societies.</p> <p>Internationalization of Dawson College experience in community building as a basis for sustainability projects (Peace Garden)</p>
<p>Visits and support given by the State of Morelos' Water and Environment Program. (CEAMA) for sustainability projects at participating educational institutions in Mexico.</p>	<p>Done at UPN Ayala, Galeana and Normal Superior campuses</p> <p>Knowledge was generated and shared about the importance of biodiversity.</p> <p>Actions like foresting and reforestation with native species were done with the participation of the entire educational community.</p> <p>Increased biodiversity and increased capacity for CO2 sequestration.</p>	<p>Activities promoted knowledge, valorization and conservation of biodiversity in the campuses and the region in general.</p>
<p>Campus Sustainability Projects At Dawson College, UPN Ayala, UPN Cuernavaca, UPN Galeana and Normal Superior.</p> <p>Several activities ranging from organizational to hands on work were involved in the implementation of their action plan for campus sustainability at each campus. See attached report from each of the participating institutions.</p>	<p>A series of sustainability projects were carried out at each of the participating institutions. A detailed report from each institution is attached.</p> <p>Projects were in the following areas: Curriculum and Research Operations: (water, energy, waste management, biodiversity, food security) Policy and community relations: Establishment of a Sustainability Coordinator post (Normal Superior).</p> <p>Workshops to learn together about several issues related to sustainability.</p>	<p>Projects impacted the physical environment of each of the campuses, transforming these into teaching spaces about and for sustainability.</p> <p>Transformation of teaching practices as well as curriculum modifications and research, support an educational culture for sustainability.</p> <p>Training of individuals who are able to internalize knowledge that will lead to feel, think and live in a more sustainable manner and to spread, through their example and work as individuals and professionals, to influence their families, communities and areas of intervention.</p>

Activities	Outcomes	Impact
On-going virtual forum to share experience between participants including: Skype conferences, online discussion groups and Facebook.	<p>Active Facebook page managed by a growing group of project participants.</p> <p>https://www.Facebook.com/pages/Plant-eles-Educativos-Sustentables-UPN-Normal-Superior-Dawson/465630926809940</p> <p>Two working Facebook pages for campus sustainability project at Normal Superior and UPN Galeana</p> <p>https://www.Facebook.com/plantelsustentable.normalsuperior?fref=ts</p> <p>https://www.Facebook.com/upn.sedegaleana.7?fref=ts</p> <p>On going Skype discussions</p>	<p>Pilot use of social media in a collective manner for the sharing of knowledge within and between participating institutions.</p> <p>Generating and sharing knowledge on an ongoing basis through an open system of self regulation allows for all participants to have their input validated.</p> <p>Beginnings of a network of knowledge sharing.</p> <p>Great wealth of information that can now be further systematized and shared widely outside of the more internal networks (website and other forms of documentation and sharing)</p>

Stage three: Systematization, Evaluation and Dissemination

A third stage (five months) included the systematization of findings, final evaluation and dissemination of final results. While each activity incorporated a data gathering technique, a final evaluation of the project also took place.

Activities	Outcomes	Impact
<p>Focus Group with students from Mexican Institutions and Dawson College.</p> <p>Workshop took place at UPN Galeana.</p>	<p>Data collection on perceptions on the concept of sustainability and campus sustainability.</p> <p>Data collection about the organizational process for campus sustainability in different campuses from a student perspective.</p> <p>Data collection about intra and inter institutional relationship building.</p> <p>Sharing research skills with students.</p>	<p>Information to be systematized and analyzed for knowledge sharing through the generation of different materials.</p>
<p>Interviews with Teachers and project participants from Mexican Institutions</p> <p>Interviews included</p> <p>Carlos Gallardo (Director- Normal Superior)</p> <p>Jorge Dominguez (Academic Dean- UPN Cuernavaca)</p> <p>JosueSerdan (Campus coordinator UPN Galeana)</p> <p>Jesus Castro (Campus coordinator- UPN Ayala)</p> <p>Juan Salvador Nambo (teacher at UPN Galeana)</p> <p>Luisa Montes (Sustainability Coordinator at Normal Superior)</p>	<p>Data collection on perceptions on the concept of sustainability and campus sustainability.</p> <p>Data collection on campus sustainability from the perspective of teachers and directors.</p> <p>Data collection about intra and inter institutional relationship building.</p>	<p>Information to be systematized and analyzed for knowledge sharing through the generation of different materials.</p>

Activities	Outcomes	Impact
<p>Interview with students from Dawson College who have participated in student internships in Mexico through the project</p> <p>Kendal Birker Gabrielle Caron Lea Neumark-Gaudet Dylan Davis Katie Wheatley</p>	<p>Data collection on perceptions on the concept of sustainability and campus sustainability.</p> <p>Data collection on campus sustainability from the perspective of Dawson College students.</p> <p>Data collection about intra and inter institutional relationship building.</p> <p>Data collection about experiential learning.</p>	<p>Information to be systematized and analyzed for knowledge sharing through the generation of different materials.</p>
<p>Visit from Mexican student to PED day at Dawson College (October 2013) Billy Hernandez</p> <p>Participation in Ped day Meetings with Sustainable Dawson Campus sustainability tours Meetings with Green Earth, student group Meetings and work with Dawson's Student Union Participation in Eco-hack with Dawson College's sociology students Class presentations: Geography, Sociology and Spanish.</p>	<p>Sharing of project activities and results to Dawson College teachers and staff.</p> <p>In-situ learning about the socio, economic, cultural context behind sustainability projects at Dawson (for Mexican partners)</p> <p>Sharing project findings with Dawson College Community (Students, teachers and staff).</p> <p>Development of a "campus sustainability training" circuit at Dawson College, which included a series of learning activities.</p> <p>Development of a student blog (Spanish) http://visitasustentablecanada.blogspot.ca/2013/10/el-ped-day-el-gran-dia-dia-2.html</p>	<p>Experiential learning opportunities provide motivation for action.</p> <p>Potential development of an outreach program to share best practices by Sustainable Dawson with other campuses.</p> <p>Impact on the integral formation at a student who can share the learning with his family, his campus and in the long term, in his professional field as an education intervention professional.</p>
<p>PED Day Presentation Panel discussion during Dawson's Ped day. Chris Adam (Sustainable Dawson) Billy Hernandez (UPN Galeana) Lea Neumark-Gaudet(student Dawson College) Gisela Frias (teacher/project coordinator Dawson College)</p>	<p>15 teachers and staff members from Dawson College were informed about the Sustainable Campuses project.</p>	<p>Opportunities for future engagement of more Dawson College teachers and staff in the project.</p> <p>Collective reflection on issues such as campus sustainability and experiential learning.</p>
<p>Visit by Dawson College to Normal Superior and UPN Galeana and Cuernavaca.</p> <p>Visit from Diane Gauvin (Social Science and Administrative Technologies Dean) Cindy Elliot (Sustainable Dawson Coordinator) Chris Adam (Dawson College teacher) Gisela Frias (Dawson College teacher and project coordinator)</p> <p>Visit included a walk through the campus</p>	<p>In-situ knowledge (for Dawson College) of the natural, social, cultural, educational, socio-political, economic context under which the project is taking place in Mexico.</p> <p>In-situ knowledge (for Dawson College) of the campus sustainability projects carried out at the host campuses.</p> <p>Establishment of links, relationships between the different individuals and institutions involved in the project.</p>	<p>Construction, strengthening, deepening of the relationships towards the knitting of networks for campus sustainability among participating institutions.</p> <p>Identification and celebration of accomplishments builds relationships among project participants and motivation for action.</p> <p>Knowledge of different realities and contexts in which a project is developed to broaden views and perspectives.</p>

Activities	Outcomes	Impact
<p>learning about different sustainability projects.</p> <p>Meetings with Directors, teachers and students.</p> <p>Celebration of accomplishments through a social event.</p>	<p>Visit and all activities by the team were documented on the project's Facebook page.</p> <p>Meetings to share experiences between different project participants.</p>	<p>Develop the ability to use communication strategies to disseminate sustainability initiatives.</p> <p>Establish and strengthen interpersonal and inter North / South links.</p> <p>Share together results and achievements of the projects.</p> <p>Recognition and multiplier potential of these experiences.</p>
<p>Inauguration of Agua Viva (living water) and Aula Viva (living classroom) projects at Normal Superior.</p> <p>Wide invitation to inauguration of Normal Superior's sustainability projects.</p> <p>"Agua Viva" project- rainwater collection and filtration for the establishment of a public water fountain.</p> <p>"Aula Viva" project- living classroom outdoors space for an ecological garden and the exposition of environmentally friendly practices opened to students and teachers as a learning space.</p>	<p>Visit to the garden by government officials from Mexican federal program for environmental education, CECADESU (Leonardo Meza); Miguel Brito, GEZ.</p> <p>Access to clean and free (of charge) drinking water for the entire educational community of the Normal Superior.</p> <p>Establishment of a model space for the exposition of sustainability practices.</p> <p>Increased biodiversity at the campus.</p>	<p>Establishment of the Normal Superior as an educational institution leading the process of transformation to a sustainable campus in the state of Morelos.</p> <p>Sharing of a model of sustainable practice within an educational institution that trains educators.</p> <p>Project impact on the national and international level. Multiplier potential experienced by institutions at the state, national and international level.</p> <p>Ability to implement actions that promote coexistence and peace building spaces and collaborative work.</p>
<p>Participatory final evaluation workshop including all stakeholders.</p> <p>Two day evaluation in Cuernavaca Morelos. Participation included students, teachers and administrators from Dawson College, UPN Cuernavaca, Galeana and Normal Superior.</p> <p>Included the participation of two external evaluators (see Annex IV)</p>	<p>Collective data gathering and analysis of the projects results and impact in areas such as: environmental management and project management capacity; pedagogical dimension (curriculum/research); environmental (operations) impact; inter and intra institutional collaboration.</p> <p>Knowledge generation and sharing from wide variety of participants.</p> <p>Relationship building between project participants.</p>	<p>Collective analysis to be documented with the potential of being shared widely with other project participants and in the campus sustainability field.</p> <p>Capacity building in the establishment of paces for collective reflection and analysis to evaluate processes.</p> <p>Building the capacity to share perspectives, ideas, visions, dreams collectively in a cross cultural setting with diversity in age and professional experience.</p>
<p>Internal Evaluation- Gisela Frias and Margarita Hurtado</p> <p>Four day working meeting for collaborative analysis.</p>	<p>Gathering of all data collected in Mexico and in Canada.</p> <p>Drafting of final project reporting documentation in a collaborative manner.</p> <p>Advancement on research findings analysis.</p>	<p>Collective analysis to be documented with the potential of being shared widely with other project participants and in the campus sustainability field.</p> <p>Exercising collaborative work, sharing visions and north / south perspectives.</p> <p>Develop research processes to document and share research results as a strategy to support sustainability experiences.</p>

Activities	Outcomes	Impact
Publication of a manual for campus sustainability. Project's Final Report writing Overview document created to outline process and final action and research results (wide distribution) (online publication).	Estimated to be done by Dec 2013	Documentation to share knowledge on campus sustainability and research with Mexican university campuses.
Participation of project participants in <i>Cosas de Profes</i> and <i>BJ Media</i> at the Normal Superior in special programs about the project. <i>Cosas de profes</i> (teachers' issues) is a weekly radio program done by the Normal Superior. <i>BJ Media</i> is a newly founded radio and tv station at the Normal Superior.	Sharing knowledge and experiences about the ways to building sustainable campuses using radio and tv programs. Up to date these are the interviews that have taken place Margarita Hurtado (project coordinator) Cindy Elliot and Chris Adam (Sustainable Dawson_ Dylan Davis, Lea Neumark-Gaudet and Katie Wheatley (Dawson College Students) Gisela Frias(project coordinator) Paulina Mogel (Summer course participant) Janice Astbury (Independent Consultant) Leonardo Meza (Director of Environmental Education at CECADESU/SEMARNAT)	Potential production of radio and tv programs about sustainability topics using BJ Media and other channels from Mexico and Canada. Motivate other students and teachers in the country to start making changes for campus sustainability. Generate conditions to create links and networks between institutions that are in similar experiences and share best practices. Bjmedia has began daily programming on sustainability issues as a result of their engagement with the project.
Dawson College student presentations at Dawson College.	Each Dawson College intern has done presentations in classes, student forums and public forums at Dawson. Close to 500 students have learned about this project through student lead presentations.	Contextualization of the project in terms of environmental education and social engagement.
Public forums at all three participating institutions will be used to share the results with the participants and the community at large.	To be done before the end of January	Sharing knowledge with a wider public.



Project Research Results



The following sections describe the main results from the research conducted throughout the project. These are described in their “raw” nature. They are not associated nor interpreted through any particular theoretical framework. Instead, they are described in the context that they were generated as a means to construct a more general interpretation.

Constructing institutional visions for Campus Sustainability

The concept of sustainability achieved its greatest popularity when in 1987 in the Brundtland report. Sustainable development was then described as a re conceptualization of the goals of progress that have guided the industrialized world. It positions itself as a type of development that aims to “meet the needs of the present without compromising the ability of future generations to meet their own needs” (World Commission on Environment and Development, 1987). It proposes that economic growth must consider the limits of nature and natural resources and that progress goes beyond the economic, that the social fabric just as important for the future generations’ right to a livelihood. There can be no progress without fresh air, without biodiversity without clean water for all. There is no progress in a world of inequality. Much has been written on sustainable development, including abundant criticism that exposes it as a last attempt to spice up a decaying economic model based on environmental and social exploitation.

The complexity of the concept calls for a reflection on how the concept is being appropriated by the educational community to redefine the role and objectives of our social institutions, in particular our educational institutions. One of the objectives of this initiative was to identify how the participating institutions define sustainability and thus use it as a guiding principle to reshape the roles and

practice of their institutions.

How do participants define sustainability?

Through semi-structured interviews and a student focus group, members of the three participating educational institutions were asked to provide their definition of sustainability, what sustainability was for them and what they envisioned as a sustainable campus. Following we will describe the definitions given, highlighting the associations made with the term as well as some of the main differences between the northern and southern visions for sustainability.

“Sustainability is the use of nature, in a way that future generations can continue to enjoy its benefits” (Student focus group)

“Sustainability is being aware of global issues, to find solutions to help correct these issues to enable a healthier planet. Sustainability is being able to work with the community, to share knowledge to work as one and to transfer the knowledge to the next generation” (Gabrielle Caron, Dawson College Student)

“Sustainability is an attitude. It is an attitude that is expressed through a commitment to aim for development through equilibrium in the use of the natural resources. It is solidarity not only with the rest of the planet, but also with the future generations” (Jorge Arturo Dominguez, UPN Cuernavaca academic director)

“The concept of” sustainability has a connotation that has to do with the environment. But it also refers to the social and economic. Not only are they equally important, but they work together. Without community there can be no sustainable spaces.” (Dylan Davies Dawson College Student)

“Sustainability is to live the present visualizing a

future where all human beings can have a home. It is a healthy world, filled with peace, love, justice and freedom.” (Yarida Avila UPN Ayala student)

The definitions provided by the students, teachers and directors interviewed reflect different degrees of familiarity with the official, conventional definition of sustainability as outlined by the Brundtland Report. The definitions provided by Dawson College students varied from their Mexican counterparts in that there was a stronger emphasis on the conventional definition of sustainability, one that incorporates environmental, social and economic objectives. Their definitions also reflect an awareness and concern for global economic dynamics that generate poverty and inequality.

An important aspect of the way participants described sustainability includes the notions of what they referred to as “taking care of”, or “helping” “nature” or the “environment”. There is indication that they associate the term mainly with the deterioration of the physical environment while also identifying that there is an important role for us to play in mitigating the impact that our, individual and collective actions and consumption patterns have on the future generation’s ability to meet their needs. The definitions given, particularly by the Mexican participants, have a strong emphasis on the need to promote “greening” activities, such as the expansion of green areas. This vision of sustainability is also corroborated by an analysis of the sustainability projects that each of the Mexican institutions chose to focus on.

Participants’ definitions also link sustainability with social objectives such as peace and justice. Participants associated meeting sustainability goals through an emphasis on community building and solidarity with others. While these are seen as values required to achieve sustainability, they are also described as objectives of sustainability, the social nature of their vision of sustainability.

How do participants define Campus sustainability?

A sustainable campus is one that trains citizens in the nurturing of the environment. It is one that educates about the environment” (Josue Serdan – coordinator UPN Galeana)

“It is an institution, a campus, that makes a com-

mitment to sustainability in its academic and normative aspects, the institution’s philosophy and its educational programs” (Jorge Arturo Dominguez-Academic coordinator UPN Cuernavaca)

“They are schools, or institutions that have achieved the goal of working together in order to create a greener environment within their campus and community they have the goodwill to outreach to the rest of society “ (Gabrielle Caron Dawson College Student)

“My school is a teaching school so I see it as an institution in which the students become informed about sustainability, learn about sustainability, look for opportunities to become sustainable. It is also a space where you not only learn about but also learn to share, develop and apply knowledge so that our space can be a model, an example to others in terms of infrastructure and policy. A place where everyone works together, students, teachers and administrative staff” (Yarida Avila UPN Ayala)

When participants were asked what a sustainable campus was to them they defined it as an institution that has a commitment to sustainability which reflects itself in its core reasons for being, teaching and learning, as well as its operations and the policies that guide it. An emphasis was also placed on how this goal for sustainability is to be reached, community engagement.

Participants expressed that a sustainable campus is one that engages in teaching about sustainability as well as the generation of knowledge about it. Dawson College students who were interviewed referred to the importance of not only having sustainability be the core subjects in programs such as environmental studies and the environmental social science profile, but the need for environmental and sustainability issues to be addressed in all of the College’s programs. They envisioned an institution where sustainability is at the core of what students learn about as citizens as well as in their professional and academic programs. According to this vision, a sustainable campus is one that takes on the responsibility to educate for sustainability. Mexican students placed an emphasis on the fact that their institutions are teaching institutions and thus defined a sustainable campus as one that trains them to teach about sustainability.

Participants also described a sustainable campus

as one that establishes norms and policies that regulate the institution's operations for sustainability. Thus, for example, a sustainable campus places norms on how waste management is carried out, water and energy consumed and green areas kept. This aspect of campus sustainability was described as a key component to learning about sustainability, learning through practice.

In the definition about campus sustainability participants highlighted the importance of reaching sustainability through community building and participation. The shared vision of a sustainable campus is one where students, teachers and administrative staff engage in sustainability.

Campus Sustainability Projects

Throughout the life of the project each of the participating campuses carried out a series of campus sustainability projects. These projects were the outcome of each educational institution's own organizational process, which is described in a following section. Here we classify the projects into different categories. For a more detailed account of these projects see Annex VII.

Campus Gardening and Reforestation projects



In all participating institutions projects that aimed to increase biodiversity and extend forested areas were implemented. These projects included:

- Reforestation efforts through the planting of native and other species
- Construction of cactus gardens

- Construction of herb and medicinal gardens
- Construction of fruit and vegetable gardens
- Construction of green walls
- Construction of rooftop gardens
- Construction and upkeep of Peace gardens

It is important to point out that all these initiatives were carried out within the context of creating community gardens, places created by the educational community for the educational community. Some of these focused on the provision of food, protecting and increasing local biodiversity, as well as spaces for community life and increasing awareness about sustainability.

Curriculum and Research

In all campuses there were efforts to make changes to the formal curriculum, add extra curricular activities and to support research focused on environmental and sustainability issues. These also included collaborative efforts between the different partnering institutions.

- The design and teaching of elective courses related to environmental issues and sustainability.
- The Sustainable Development and the Environmental Culture courses were taught at the UPN as part of the bachelor's degree program in Educational Intervention.
- The incorporation of sustainability content within different courses included in existing programs.
- At the UPN, the Action Research and the Qualitative Research course incorporated campus sustainability as a main theme to be explored in these courses.
- The design, production and distribution of environmental education materials as part of an assignment linked to a particular course.
- At the UPN the course Design of teaching materials, designed posters, brochures, postcards and billboards with environmental and sustainability themes.
- Undergraduate research related to sustainability.
- This includes five undergraduate theses being carried out with this project as the main subject of study, four at the UPN Galeana and one at the UPN Ayala.
- Support the training of members of the educational community on different topics to promote the transition to sustainability through participation in courses and workshops.
- Workshops were carried out at all participating institutions opened to all members of the commu-

nity included themes such as: composting, vermicomposting, building green walls, seed saving, self watering containers for gardening, planting and use of medicinal plants.



- The co-design and teaching (inter-institutional) course on "Strategies and tools for building sustainable educational institutions" (See Annex VI).
- Field visits for hands on learning about environmental issues.
- These included visits to permaculture farm, Fresno (Garden of environmental culture), Park Chapultepec (Natural Protected Area), Ecological house, Center for technological innovation, Center for Alternative Energy (UNAM).
- Field visits from Mexico to Dawson College as learning opportunities.
- Recognition of the importance of applied learning lead to the establishment of internships.
- At Dawson College, the rooftop garden and peace garden initiatives established internships available to all College students.
- Internships were established to engage Dawson College students from different programs, in sustainability projects in partner Mexican institutions.
- Broadcasting, through radio and internet television of sustainability programming
- Environmental and sustainability content was disseminated through "cosas de profess" (teachers' issues), a radio program emitted from the Normal Superior.

ers' issues), a radio program emitted from the Normal Superior.

- Establishing of new environmental content programming at B.J. Media, at the Normal Superior.

Operational Projects

Several of the projects that were designed and carried out during this initiative included projects aimed at making the operations of the institutions more environmentally friendly, to reduce their ecological footprint.

- Audits were carried out at several of the institutions
- These included garbage audits, biodiversity audits and energy audits. These were carried out by members of the educational community with the support of external experts.
- Audits were followed up by the starting of composting and recycling programs at the Normal Superior and UPN (all campuses).
- The construction of a system to capture, keep and purify rainwater.
- The Normal Superior constructed a water captivation and purifying system using a bicycle as a pump. The system provides free drinking water to the community.
- Design and construction of a living classroom.
- The Normal Superior built a Living Classroom.



An outdoors place for community engagement and learning about environmental issues and sustainability.

Community Building and Engagement

While community building and engagement were an integral part of the method used to design and implement the campus sustainability projects, as an approach, there were specific activities that



aimed primarily at bringing the educational community together.

- Painting of murals with the theme of sustainability.
- Recreational and sports activities to promote integration among participating campuses.
- These included inter institutional activities, bringing in UPN, Normal Superior and Dawson College students, faculty and others.
- Hockey games and other activities were organized during the time Dawson College interns were in Mexico.

A model for institutional sustainability

At the beginning of this initiative, the partnering institutions found themselves at different organizational levels with respect to sustainability. At Dawson College, there already existed an institutional initiative mandated to carry out and support sustainability initiatives on campus, Sustainable Dawson, as well as other initiatives working for sustainability at the campus. At the UPN and Normal Superior the beginning of this initiative marked the beginning of an institutional commitment to sustainability. Following is a brief description of the different organizational forms that existed or were established at each of the participating insti-

tutions, to support campus sustainability. We will then highlight what participants identified as the main roadblocks to organizing for sustainability action and the factors that supported their institutional sustainability projects.

Dawson College

Sustainability at Dawson College takes place from different internal initiatives that involve different members of the educational community. These initiatives range from student driven initiatives, to academic programs and an institutional program for campus sustainability.

Sustainable Dawson is an institutionally supported initiative that has as a mission to carry out and support initiatives that lower Dawson College's ecological footprint, to guide it in becoming a sustainable institution. The initiative began under the guidance of a non-profit organization, Earthvalues through a program called Action Conservation. After two years of operation it became a Dawson College initiative

Sustainable Dawson's organizational structure includes a full time sustainability coordinator and a part-time project coordinator who is also a Dawson College teacher. The initiative is also institutionally supported with a yearly budget and office space. The initiatives carried out by Sustainable Dawson respond to three lines of action: operations, academic-curriculum, policy and community engagement. In order to carry out their mission, Sustainable Dawson has worked with students, teachers and staff and works to coordinate projects between different members of the educational community.

Student driven projects are at the core of Sustainable Dawson. For the first six years of operations Sustainable Dawson has worked mainly with students from the Community Leadership and Recreation Training (CRLT) program. Students have been involved in the design of several projects that mainly deal with the College's operations. Student engagement is done through the fulfillment of their requirements for several courses within the CRLT program (program design, fundraising and others). Thus, students are credited for the work they do for Sustainable Dawson. Through a participatory action research model students identify environmental issues at Dawson

College and through research they find means to address these issues and provide workable solutions. Students design projects, carried them out and fundraise. Another way in which Dawson students have been involved through sustainable Dawson has been through the internship program part of the CRLT program.

Through a set of sustainability indicators that make up Dawson's Sustainability Assessment Framework, Sustainable Dawson has been making progress in meeting its objectives. While a great percentage of the work is student lead, many of the changes respond to the establishment of a relationship between Sustainable Dawson and Plants and Facilities at Dawson College. Based on research carried out by students, Sustainable Dawson staff proposes changes to make operations more ecologically friendly while at the same time aiming to meet economic viability and social responsibility (Sustainable Dawson 2009). In terms of policy, Sustainable Dawson has also been key in leading the institution to adopt policies that support its sustainability goals such as Dawson's Sustainability Policy adopted by the Board of Governors in 2008.

Sustainable Dawson is increasingly playing the role of coordinating the educational community to carry out sustainability projects, bringing together students, faculty (from different programs) and staff who have their own initiatives. They have the capacity to weave the various threads of student, faculty and staff commitment to social and environmental sustainability to weave a convergent sustainable community. One such project is Dawson College's Rooftop Garden. The initiative is jointly coordinated by a Sociology teacher, Anna-Liisa Aunio, and Cindy Elliot, Sustainable Dawson's coordinator. This initiative addresses sustainability issues from a curricular and an operational approach. Students are engaged in learning about food issues from a global and local perspective as they are enrolled in a course for credit, the "Sociology of Food", while they also engage in action as they learn to plant and save seeds. This initiative has also generated "internships" and engaged students in hand on work in the garden while they also gain course credit.

The Green Earth Club is a student run club at Dawson College. The club is institutionally supported by the Dawson College's Student Union.

They receive a budget as well as a meeting space to carry out their activities. The main activities carried out by Dawson College's Green Earth Club can be described as environmental in nature with a critical perspective. The group defines themselves as striving to promote sustainable practices in the educational community in a fun and inspiring manner.



They focus on raising awareness as well as environmental responsibility through events that are educational, practical and enjoyable (Green Earth Club). In the academic year 2012-2013 the students organized a water bottle campaign, informing students (and the entire Dawson College community) of the impacts of consuming bottled water. They also worked on raising awareness about the importance of bees, had a sustainable bazar during the Christmas period, and organized activities as part of Earth day

The **Dawson College's Student Union** is a student run organization. With a student elected team, students design their own projects to contribute to student life. Some of the projects that the DSU carried out from 2012 to 2014 include a water bottle campaign, to encourage the student community to not buy bottled water while public access to water is available. Another project is their Food Box. The main objective of the Food Box is to provide affordable access to food for the entire educational community. While affordability is one of the main objectives of the program, the food box also aims to provide food that is healthy, ideally organic and locally grown.

In the last six years Dawson College has also

responded to the need for environmental education through the establishment of the **Social Science's Environment Profile** and an Environmental Science program. Both of these programs are part of the college's pre-university programs. They provide incoming students with two programs that are environmentally focused while at the same time meeting the requirements to graduate with a Science or a Social Science diploma.

Dawson College is a vibrant community of engaged faculty, students and staff who involve themselves as individuals and professionals to social and environmental causes. Faculty and students have a long tradition of using the classroom to engage with each other as a learning community to support transformative change. Knowledge and action on environmental issues and sustainability is generated at Dawson College through different organizational structures. It is also found in many independent initiatives by teachers, students and staff, who through their research, courses, extra curricular activities generate an overall change.

Initially Proposed Organizational Structure

At each of the participating Mexican campuses, there was an institutional commitment to engage in actions that move the institution on a sustainable path prior to the beginning of this project. However, there was no existing organizational structure for designing and executing sustainability projects. An organizational model, based on addressing different environmental issues, was proposed by Ciudades Verdes. The objective was to promote and support the participation of members of the educational community, directors, faculty, administrative and support staff and particularly students.

Each of the institutions identified a "project coordinator" who was responsible for mobilizing the community into action. Through a series of presentations students were encouraged to organize themselves into "leadership working groups" and focus their action on different thematic issues. The suggested themes were: biodiversity, water, energy, waste management, communications and institutional policies.

This proposal was made at all campuses as part of the initial presentation of the project to members of the educational community. There was a very good initial response. At all campuses students were enthusiastic and assigned themselves in to the various working groups according to their interests. Following, workshops by Ciudades Verdes were carried out providing students methodological tools for the design of action plans based on a participatory diagnosis and comprising the definition of objectives, targets, indicators, activities, human and material resources, time, ways to evaluate, organize and communicate the process and results.

Despite the interest shown both during the project presentations and during the workshops to design action plans, in practice, the proposed model did not give the expected results. While students assigned themselves to different groups, they did not follow up with action.

Through interviews and participant observation we could identify several factors linked to the failure of this particular organizational attempt. At the UPN there was a change in the administrative direction of the institution. Directors and campus coordinators with whom there was a relationship were changed. Teachers assigned to coordinating the project were also changed. This made continuity very difficult. As students were organizing into groups they were not provided the proper support structure for their organization. Furthermore, there was a constant flow of students and teachers interested in the project but who had not participated in the initial workshops.

Thus, knew little of what had been done already. It took several months for each of the campuses to find their own organizational structure and at the end, the proposed structure was not assumed as their own by the participating institutional communities. These efforts however, were can be considered successful as they were the basis for engaging the educational community in a discussion about the need to organize for collective action. They provided an opportunity for community dialogue about environmental issues and the role of the institution in establishing a path to sustainability. Following we describe the organizational efforts made at each of the Mexican campuses

UPN Morelos (Cuernavaca, Ayala and Galeana)

At the beginning of this project the UPN Morelos was not institutionally involved in a sustainability initiative. Through this project the institution made a commitment to explore means of becoming a sustainable campus. The project was institutionally adopted in its three campuses, Cuernavaca, Galeana and Ayala. The experience developed differently at all three campuses yet we can identify common factors that supported or hindered institutional organization for sustainability.

At the beginning of the project there was no organizational structure to design and carry out sustainability projects. The institution provided a teacher with release time, Juan Salvador Nambo. With a total of ten hours a week this teacher was given the responsibility to coordinate the organization of students and faculty at all three campuses so they could design sustainability projects. Through the project different members of the educational community of all three campuses participated in workshops designed by Ciudades Verdes to provide students and teachers with tools for project design and they were also provided with the above described organizational structure.

UPN Cuernavaca



The organizational process at UPN Cuernavaca was the one to have the slowest start. While presentations to introduce students and teachers to the project and workshops on project design were given at the start of this initiative, organization did not take place well into the project. The sustainability projects that were done were designed and carried out by students under the leadership of students. Through their participation in the initial

project activities, two students emerged as leaders. These two students participated in the project workshop that took place in November 2012 and were later responsible for encouraging other students to participate in the initiative and also engaged the participation of faculty and staff, including the important participation of the campus' gardener. Students organized themselves within the context of their classes and encouraged other classes (and their teachers) to become involved. They motivated their teachers to use the curriculum as a tool for action and managed to create a meaningful learning experience about sustainability in the process. For a description of the projects carried out at UPN Cuernavaca see Annex VII.

UPN Ayala



Initially, at the UPN Ayala campus sustainability initiatives were promoted mainly by the dedication of a student who was supported by the campus' director. Both had participated in a workshop done by Ciudades Verdes and Dawson College, on campus sustainability in June 2012. At UPN Ayala the entire student community was encouraged to participate on a voluntary basis and they formed a student group. This group, which reached 30 students, organized themselves to design and carry out sustainability projects. For a detailed description of all the projects carried out at the UPN Ayala, see Annex VII. Student leadership for environmental action was strengthened during through the stay of two Dawson College students at this campus. During their stay many other students expressed leadership in the design and execution of sustainability projects. Another way in which sustainability projects were carried out was through a course that was included in the curriculum at this campus, Cultura Ambiental (Environmental Culture). The course engaged teachers and students in sustainability projects as part

of their requirements for the course's completion.

It is important to point out that the UPN Ayala campus found itself midst a land tenure conflict during the time this project was carried out. As a result the university lost access to its campus and students and teachers were relocated to a temporary location. Due to this situation, students and teachers could no longer focus on project activities on their campus.

UPN Galeana



At the UPN Galeana sustainability projects were designed and carried out by a class and its teacher. During the June 2012 workshop, the coordinator of this campus participated in the sustainability campus workshop. Students and teachers were also present at the initial November 2012 workshop. Later on, as the project was presented to the entire educational community, one class took on the coordination of the project. The group of students became to be known as the "high performance team". Initially, they began working within the context of their participatory action research class. Once this course was finished, they continued working on the projects during their own time. Eventually, other students and teachers became involved in the project through different courses that were added to the curriculum, Cultura Ambiental and an Ethics class.

Normal Superior

At the Normal Superior, the project was seen by the Director as a "special strategic project". The administration assigned teacher, Alberto Miranda to be responsible for its functioning and gave this teacher release time to coordinate. The coordina-

tor was given the responsibility to report directly to the Director. With the support of Ciudades Verdes, presentations about the project, and workshops on project design were given. Students and teachers were invited to participate on a voluntary basis. Students organized themselves into the different groups (leaders of energy, water, etc.). The first coordinator was a teacher with a profile linked to environmental issues, a biology teacher. Due to a change in employment, the coordinator was replaced by the school's sociologist, Luisa Montes. The new coordinator did not have a profile linked to sustainability, but was considered as someone who was trusted by the institution. She was expected to report directly to the Director so that he may know what was working and what was not, and there could be a quick response. She was assigned ten hours a week.

The initial organizational structure did not work. However, students at the Normal Superior organized their own group and carried out several projects. The student group however dissolved and the projects were mainly spearheaded by the administration. The administration, with the project coordinator decided on the projects they wanted to carry out and looked for ways of involving students, teaches and staff in the projects.



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A Proposed Organizational Model for Campus Sustainability



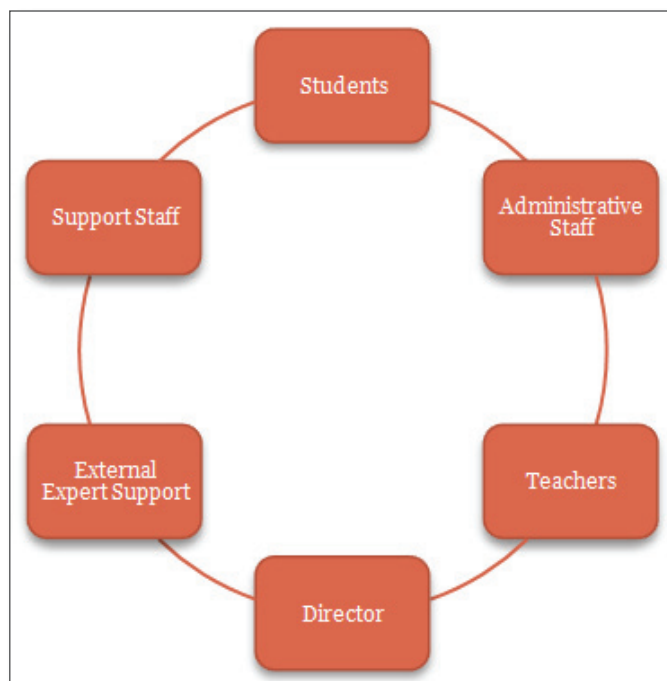
The organizational structure of educational institutions can be described as mainly rigid and hierarchal in nature. Decision-making is a top-down affair and knowledge is treated as a treasure held by some and to be transferred to others. Students in this case are seen as empty vessels to be filled with knowledge. Campus sustainability requires of the engagement of all the members of the educational community or it risks being a cosmetic, physical change without a process of awareness raising by its members. True engagement however, requires that each individual has the power to make decisions and the recognition that all individuals have important knowledge to be shared which can contribute to finding solutions to the complex issues sustainability presents.

From the beginning of this initiative the existing hierarchy in educational institutions was recognized and by encouraging the entire community to engage in becoming agents of change, those power relations were challenged. As students, teachers, staff, directors and others were encouraged to become involved in changing their educational institutions, the capacities of each individual were recognized and valued, whether they were students, teachers, staff or any other member of the educational community. In this case, the hierarchal, top down structure was not changed for a bottom-up structure. Instead, each member of the community was empowered to envision his or her institution as a sustainable campus and given the opportunity to transform it.

Flexible structures that are able to adapt to those who conform it allow for the skills of all participants to be recognized, shared and used. A flexible structure does not imply that the decision making powers of an institution's directors need to be dismantled, instead it implies that leadership for sustainability may come from teachers, students, staff and the institution must be flexible to recognize it and support it.

Adaptable structures also allow for individuals to feel empowered and thus tap into their deeper motivations for bringing about change. This initiative shows us that leadership can come from students, staff, teachers or the administration itself. For this leadership however to translate into action it needs to facilitate the participation of others. Spaces for students, teachers and the diverse members of an educational community to work together are needed, places where the conventional hierarchies are dismantled and each individual can participate along side others.

During this project in all cases activities were conducted with the participation to a greater or lesser extent, of different members of the educational



community. Some were driven and supported by management and staff or by teachers assigned to coordinate the project. Others were driven mainly by teachers in their classrooms or by students, with little or no support from teachers, manage-

ment or staff. The projects that involved campus cleaning and beautification, afforestation, planting vegetables, medicinal plant gardens, building peace gardens there was involvement of the entire school community. These were in some cases driven by the administration and in others by students, but they involved the entire community to see them through.

To achieve greater involvement within the school community, it is necessary to implement different strategies to strengthen the organization for collaborative work that makes possible the development of sustainability projects. Providing tools, strategies and overall support and resources to those individuals within the educational community who are interested and want to engage in bringing about change in the institution. These individuals will then emerge as leaders and drive change within the institution. How does an educational institution respond to today's environmental challenges and becomes a cradle for sustainability? How do we breakdown conventional hierarchical schemes that inhibit its members from reaching their full potential and become engaged learners and leaders? What is needed is a restructuring of our vision of who can make decisions and drive change within an institution. As changes take place in the operations, the curriculum and other aspects of campus life the entire community becomes engaged in learning about social and environmental responsibility as integral parts of higher education.

Drivers for campus sustainability?

Through participant observation as well as the semi-structured interviews conducted we aimed to highlight different factors that participants identified as contributing to their organizational experience or hindered it. Based on their organizational experience participants shared their reflections. We asked, what students, teachers, staff, directors could do, from their posts, to support sustainability at their campus. Following we share the responses. We have focused mainly on factors that support sustainability. The lack of these conditions can also be understood as factors that may hinder the organizational process. We only identify these when they are not obvious.

A supportive administration

"The administration must play a facilitator role, not a protagonist role. Here, [at the Normal Superior] the Director knows nothing about sustainability, but has the sensibility and an open heart to support those who do know about it" (Carlos Gallardo, Director Normal Superior).

Support for sustainability from the institution's direction is essential. Institutional commitment to sustainability requires the organizational structure of the institution to reflect such commitment. The administration has resources and decision-making power to bring about change and support other members of the educational community to bring about change in all areas linked to the functioning of the institution, operations and academic.

During this project, an important factor identified to support sustainability action was the direction's decision to assign an individual (teacher) to the coordination of sustainability projects. In both cases, at the UPN and the Normal Superior, the teachers who were assigned this task were assigned a number of hours to work with the Sustainable Campuses initiative. Assigning an individual to this role, tells the rest of the members of the community that the institution is behind change for sustainability and is willing to commit human resources to it. Through this project we learnt how important it is to have someone who is part of the institution that can promote and coordinate the work individuals and groups within the campus want to do. Further commitment could include the assigning of a permanent post for a sustainability coordinator. This can contribute to continuity and the institutionalization of sustainability as an important axis of action.

The administration can also lever support by encouraging the participation of teachers and staff in pursuing their own projects for sustainability. This can be done by encouraging teachers to engage students in sustainability actions within or outside of the curriculum. This encouragement can come in the form of time and or recognition for the work being done.

Another way that the administration can support sustainability is by channeling financial resources to sustainability. While this project provided resources for sustainability projects at each of the

participating Mexican campuses, the directors of the participating institutions also committed financial resources to these projects. This however, is limited by the financial capacity of the institution as well as the degree of independence that the institution has to manage its finances. In the case of the UPN and Normal Superior, both institutions have very different degrees of independence. The UPN is a state funded and run institution with a very top-down decision making structure that provides for little room for each of the campuses to make important decisions on how resources will be spent. The Normal Superior on the other hand, is a private institution and while it responds to the board of directors of the National Teachers' Union, it has greater decision-making power to make financial decision.

Changes in the curriculum are also dependent on the level of independence enjoyed by the institution. In the case of the changes that took place at the UPN and the Normal Superior, initiatives to incorporate sustainability to the curriculum came from students and teachers and the administration supported the proposed changes. Thus, we observed that as individuals made commitments to sustainability they pushed for changes at the institutional level. Openness and flexibility to respond to these proposed changes are important. These changes are then only limited by the structure of the institution, which in turn can also be challenged under the recognition of the transforming needs of our society.

The establishment of institutional policies is also at the hand of the administration. Sustainable Dawson's coordinator, during an interview, argued that one of the most important steps taken at Dawson was the adoption of Dawson's Sustainability policy. The policy itself sets sustainability as a guiding principle for the institution. It lets the community know that sustainability is an important goal for the institution and for which programs, projects and activities will be developed.

Policy change is sometimes however slow or cumbersome to come about. In the case of operational changes participants argued that in some cases when normative changes (policy making) are needed these must go through rigorous decision-making procedures. However, de facto changes can take place as individuals push for change without the immediate need for normative

changes to take place.

Participants were emphatic on making the point that while normative change is important, it is more important for actual change to take place and then for the norms, rules and regulations can be adapted. As a teacher pointed out "sometimes when we have norms, we do not even obey them. But when we are aware that change is required, we will push for normative change".

Engaged faculty

The participation of faculty was key for the successful completion of sustainability at each campus. Many teachers became sustainability leaders in their educational community, promoting environmental knowledge and action. Also, during interviews students highlighted that engagement of their teachers was a key factor supporting their projects. Support from teachers came in different forms, as teachers in the classroom and as facilitators of change outside of the classroom.



Teachers who got involved in this initiative were key engines of change. They proposed curricular changes and acted as facilitators of change by opening their classrooms to spaces for environmental action. We observed that as teachers got involved and participated in project activities, such as in the course "Tools and Strategies for Campus Sustainability" they became more enthusiastic and felt more empowered to lead environmental action and change. It is important to point out that both participating institutions in Mexico are teaching institutions, teachers have pedagogical training and not many of them have formal training in environmental science, which they initially felt was needed to teach about sustainability. Dis-

cussion on environmental education however, led teachers to recognize that sustainability is not the domain of scientist only and the need for non-reductionist perspectives. Through capacity building on environmental issues they started to recognize ways in which sustainability could be part of the courses they already were teaching and also felt capable of teaching other courses more directly linked to sustainability such as the UPN's course on Sustainable Development and the one on Environmental Culture. The administration however, does identify the lack of teachers with environmental studies training as an important roadblock to incorporating sustainability into the curriculum.

As students engaged themselves in environmental action they required time to organize and carry out their projects. Key teachers were flexible to provide students with time within their classes to participate in this initiative. Others looked for ways to engage their classes through assignments for credit that allowed the students to use their time to both contribute to their sustainability projects while at the same time meeting their academic responsibilities. Others went as far as proposing that courses be included in the curriculum so that they could use these courses as tools for environmental action.



Students also noted that an important factor supporting their organizational efforts were teachers who had an open disposition to let students lead their own projects. Teachers who allowed students to take on a leadership role were identified as key supporters of sustainability. Attitudinal changes that challenge the power relations between students and teachers can open spaces for the type of collaboration needed to carry out projects. Stu-

dents are dynamic and enthusiastic members of the educational community. Many of them are also knowledgeable and have important skills to contribute. Under conventional power relations in educational institutions however they are at the bottom of the organizational pyramid (in terms of decision-making).

Empowered Students

"The ones responsible for seeing the Sustainable Campus project through were us [the students]. Some teachers participated and some were not interested or busy with their classes. But then we started to see that students were the key to this project and that we had to strengthen our knowledge and take all the opportunities to build our capacities". (Interview Yarida Avila –UPN Ayala student)

Throughout the Sustainable Campuses project the most prominent element behind the sustainability projects that were carried out were students, students who were motivated, enthusiastic and empowered to take on action. Students who became involved in this project were engaged in an organizational process, through workshops on project design and implementation as well as on capacity building activities linked to the projects they decided to carry out. Living through the process of student engagement presented an opportunity to identify the conditions necessary to support it.

How do students become empowered? During a student focus group, carried out mid-term and the project's final evaluation students shared their experience participating in this project and highlighted what was behind their motivation to become and continue to be involved in sustainability action at their campus as well as what their main roadblocks had been.

Students identified that their organizational process changed them as individuals and as a group, or class. Students interviewed indicated that the opportunity for collective discussions and engagement through group work was the key to collective action. They valued the opportunity to engage with their classmates, "discovering the potential for action", and "strengthening of their capacity to work in groups" as they critically reflected

on the environmental issues facing their campus (Student comment- Final Evaluation). They also discovered new ways of seeing others and gained interest in sharing knowledge.

An important outcome of the organizational process was a greater sense of *compañerismo* fraternity, among participating students. At the UPN Galeana, students talked about how they became a family and experienced a greater sense of commitment to the objectives of the project and also a commitment to each other. These students discussed how they were not looking forward to graduating, as they wanted to continue their engagement not only with the project, but with each other. In the case of UPN Cuernavaca, students discussed how prior to their engagement in the project their class was divided, with no sense of *compañerismo*, but that this had changed with their engagement with the project and with each other. At the UPN Ayala, a student leader shared with us that through the project “we [the students] not only shared an experience as class mates but also strengthened our affective relationships. We learned to related to each other not only in a educational setting but as *compañeros* and as friends” (Interview Yarida Avila). Relationships of trust were developed which were at the core of their ability to work together.

Students identified that capacity building was key to their success. They identified that as a group they experienced the development of their capacities in terms of project design, management and implementation. Capacity building also extended to leadership and group management, oral and written communication. They also identified increasing their knowledge of environmental and sustainability issues, planning processes and an interest in other languages. This is particularly important considering that prior to the project sustainability was not present in the curriculum. Knowledge about environmental and sustainability issues were generated and shared through this project both within the curriculum and also through a latent curriculum expressed in the project activities supported by the institutions.

The changes experienced through the process also reached the personal level. Students indicated that through their participation in the project their perceptions about the world were changed and how they acted in it as well. A student ex-

pressed “this project changed my life, the way that I live my daily life” (Student comment- Final Evaluation). Students expressed that through participating in this project they experienced feelings of pride, belonging and hope [Final Evaluation]. Pride of their institution and of being involved in the project, belonging and being an important part of the project and the institution, hope in the possibility that changes can be brought about. During the Final Evaluation students identified that values, such as trust, hope, respect, solidarity, commitment, patience, perseverance and tolerance were developed through the project, values that strengthened their organizational experience.

Empowered students are students who are motivated to bring about change, who have the skills to do so but also who are given the spaces within the institution to carry out action. Students expressed that one of the main constraints they faced was the lack of time and decision-making power. Students indicated that they had difficulty finding time to organize themselves and plan their activities as in many cases these activities were carried out outside of class time. As Jessica, a student at UPN Cuernavaca expresses “many of us do not have the time. For example, in the last two months we were asked to hand in final assignments, so when we had decided to meet on Fridays from 8 to 9 am but it was hard for all my classmates to make it”.

A packed academic schedule and other work and family commitments did not give the students the time to work on their projects. Students who had the support of their teachers and were able to incorporate their projects within class time and or as part of the curriculum indicated that this was the ideal situation. This was true for students who were already engaged in the project. There is also indication that in the case when students were required to engage in sustainability projects by their teachers this also created conflicts. This was the case of a class at Ayala UPN where half of the students in one class were participating in the project and enjoyed the opportunity to carry out these projects within the context of their class, while the other half were not interested and were asked to meet the same class requirements.

Another important factor that can support student empowerment is the creation of spaces where

students have decision-making power. In a hierarchical structure where students are placed at the bottom, students felt powerless to carry out the actions they felt were necessary for their projects. They commented that they often felt they needed their teachers' approval or simply did not know who to ask if they could carry out a particular action. This is an indication that there lacks a culture of student organizing and decision-making. Students are accustomed to work within the structure and as such as were waiting for approval and not felt empowered themselves. In other cases they felt frustration after having reached a decision and having this questioned by a higher authority. As a student indicated during the focus group "we might have the capacity, but at the moment of making a decision a teacher can set you back by telling you no, that is not the right way".

A Network for Institutional knowledge and experience sharing

The Sustainable Campus initiative had as one of the main objectives to strengthen the capacity of educational institutions for sustainability action



mainly through the sharing of knowledge and experience. Throughout the initiative we designed opportunities to engage different members of the educational community of all three participating institutions in activities that motivated them to share their process and lessons and to learn from each other. These activities are described in the previously shared table of project activities.

The activities that were designed for knowledge and experience sharing can be grouped into four

categories: student internship exchanges, institutional visits, courses, social media exchanges and evaluative workshops. These activities contributed to the development of a network, or support mechanism for sustainability action at each campus. The network was based on the principles of sharing rather than competing. Sharing was done with a generous spirit of showing others what is being done at each campus, opened to sharing lessons learnt. All campuses engaged in sharing their experience, whether these had just began organizing or had a rich organizational experience such as Sustainable Dawson.

Student internship exchanges

"I see sustainability as a much broader subject now. It is not just the act of planting a plant or buying greener cleaning products, but also about working together or making the world a better place. Building connections with people around us, working together as a team in creating change for a better tomorrow is how I now see sustainability. It is about finding the goodwill in people and working as one" (Interview: Gabrielle Caron- Dawson College Student intern)

During the life of this initiative four Dawson College students and one alumni participated in a project internship. The internships were designed to engage Dawson College students who had knowledge and or experience about campus sustainability issues in an exchange with Mexican students. We looked for students who were either enrolled in an environment/sustainability focus program and who ideally had an organizational experience on campus working for sustainability with Sustainable Dawson or other initiatives on campus. These students were given the task of preparing material to share with other students in Mexico about sustainability issues at Dawson, support the organizational experience taking place in the host institution and to report back to Dawson College on their experience. Two students interned at UPN Ayala, two at UPN Galeana and one at the Normal Superior. Two of the students were part of Dawson College's Community Recreational and Leadership Training program (CRLT), two students were from Dawson College's Social Science Environment Profile and one from Dawson College's Environmental Science Program. All five interns had an experience working with Sustainable Dawson and three of them were part

of Dawson College's Green Earth Club.

The establishing of these internships required institutional collaboration, which entailed the establishment of a program of activities for the students to carry out while in Mexico, as well as clear distribution of responsibilities. Ciudades Verdes, in collaboration with the Mexican educational institutions, took on the responsibility of finding lodging for the students and assigning a person responsible for their activities. Funding for the internships came from Dawson College's Student Success program as well as IDRC funding. Dawson College engaged in finding means to provide the participating students with credit for their internship when no formal internship program was available to the student.

All five students spent a month in Mexico, as interns in their assigned institution. Their activities included working closely with other students on locally designed sustainability projects. Depending on the level of organization at the host campus, students also encouraged campus organizing through community building activities. Students also designed and gave workshops on different sustainability issues they were engaged in at Dawson College, such as the design of self-watering containers for rooftop gardens or sharing Dawson College's plastic water bottle campaign. Finally, they also had as a task to report back to the Dawson College community on their experience. Four out of the five participating students wrote a blog, where they shared their experience and learning with others.

Interviews held with all five Dawson College participating students indicate that the internship experience provided them with an opportunity to increase their knowledge about environmental issues, learn about sustainability from an institutional and international perspective, participate as engaged individuals in sustainability action through knowledge sharing and action and have a cultural youth exchange.

During interviews students identified different environmental and sustainability issues they were exposed to which they had not considered previ-

ous to their internship. Environmental issues such as waste-management, water and energy use, biodiversity conservation and others were explored in a different, local context. While students expressed having an understanding of these topics from a theoretical perspective, gained through their courses at Dawson College, they valued the opportunity to understand these issues as they were being experienced at their host campus. These issues were also explored in a Mexican context, in some cases in a rural or urban context. They also had the opportunity to learn about these issues as they are tackled institutionally within the context of a campus. Institutional differences between Dawson College and the host campus were also identified by the students as important knowledge about different approaches to sustainability.

A student accounts during an interview that:

"my trip to Mexico has changed the way I see sustainability in terms of cultural differences and the challenges [we each] face. In Mexico, I found out very quickly that although they did not have much money as us, to put towards their projects,



it did not matter because they would always find solutions. I also found it amazing how little permission they needed to begin creating something new on the school property, example, compost, cactus garden, etc. this made it a lot easier for them to begin working on things without having to deal with some many administrative details"

In terms of sustainability, students identify that the main learning from their exchange experience was in terms of community building. All five students discussed during their interviews that the internship had taught them that community engagement is key to sustainability. They talked about the jornadas, workdays organized by students where the entire educational community got together to carry out physical work for their school. During an interview a student described his learning experience in the following manner: "While I was in Mexico, I was exposed to hard working passionate people, who believed in their school and in maintaining their country and their planet". Another student noted that "the concept of sustainability brought the whole community together, not just a group of students or the administration". This concept of community and community building was experienced by the participating students during their stay at the Mexican campuses and during their engagement with other Mexican youth engaged in sustainability action.

Students also identified that the internships gave them an opportunity to share what they had learnt at Dawson College and in some cases through their environmental activism. It is important to note that all participating Dawson College students were either enrolled in an environment related program and or were engaged in campus sustainability. At the same time it is also important to point out that the participating Mexican campuses did not have at the time that the project started any environmental programs or courses, thus their students did not have access to environmental information through their programs. Accordingly, the internships were design so that Dawson College students could share with the Mexican students their knowledge and experience in environmental action. For the Dawson College participating students this meant having an opportunity to apply their knowledge, have hands on experience and to become engaged global citizens.

Culturally, Dawson College students were exposed to a different language and culture, and they all took on the opportunity to learn Spanish. The cultural exchange provided them to see middle class family living in rural or urban cities. They had the opportunity to step into a Mexican household and learn about different social family structures and the local context. Students also took the opportunity to share their culture with their Mexican counterparts.

The student internships proved to be a meaningful way of sharing knowledge and experience from a student-to-student perspective. Dawson College students learnt from Mexican students while interviews with Mexican students and teachers supported that the leaning was mutual. The learning went beyond environmental information and knowledge. Interviews indicate that these student internships and the relationships that developed motivated Mexican students to continue working on their sustainability projects, as they felt that "someone cared" about what they were doing. Personal relationships and networks were established that are seeing by the participants to support their actions.

Institutional Visits

Another mechanism used to share knowledge and experience between institutions was the design of visits from Mexican delegations to Dawson College and from Dawson College to Mexico. These visits were key at establishing institutional ties and forming a network of institutions working for sustainability in education. These visits brought



the participating institutions closer together and established a collaborative space and possibilities to explore future institutional collaboration.

Two students from Mexico, one from UPN Ayala and one from UPN Galeana, as well as the Normal Superior's Sustainability Coordinator and Ciudades Verdes' coordinator visited Dawson College. While we identified these activities as important and relevant we were limited in the number of people that could travel from Mexico to Dawson College due to financial constraints. Visits from Dawson College, not including the above described student internships, included visits by Sustainable Dawson's Coordinators, two teachers

as well as Sustainable Dawson's Dean of Social Science and Business Technologies.

The visits from the Mexican delegates to Dawson College were designed as learning spaces to share knowledge and experience. Thus the visitors had the opportunity to do the following activities:

- Guided visits through the Dawson College campus identifying and learning about different Sustainable Dawson projects
- Discussions with Sustainable Dawson coordinators to share best practices
- Applied work with Sustainable Dawson projects. These included participation in Earth Day Week celebrations, clearing of Peace Garden, selling of tulip bulbs as fund raising, etc.
- Visit and participation in Dawson College's environment related courses
- Presentations to share project advances in Mexico to Dawson College students, teachers and staff
- Discussions with student campus groups involved in sustainability, such as Dawson Student Union and Green Earth Club

For Sustainable Dawson, these visits were an opportunity for outreach and to develop a program for showcasing its projects and the organizational and community building process behind them. Through a self-reflexive practice Sustainable Dawson has identified its path as well as its strategy, which through this project is now sharing internationally. The visits were also an opportunity to build relationships with other institutions on the



process of learning about sustainability. These relationships were based on sharing knowledge and experience in a setting of trust and good will rather than the more common engagement between in-

stitutions that compete for recognition and raising the profile of the institution each institution aims to meet the benchmarks established by different certifications. Ideas such as the establishment of Sustainability Tours came about through, tours that highlight sustainability projects at Dawson College and focus on how these projects were brought about by community engagement and the integration of academic and operational activities were developed during these visits.



Visits by Sustainable Dawson representatives to the participating Mexican institutions also proved to be important means for sharing knowledge and experience. During these visits, Mexican institutions had the opportunity to showcase their projects and collective forums to discuss campus sustainability were established. Learning about sustainability from a different institutional and international perspective provided all participating institutions with new perspectives on institutional sustainability.

Dawson's Sustainability Coordinator, Cindy Elliott, for example made a visit to the Normal Superior to support their efforts in creating their Peace Garden. Drawing on her knowledge as a horticulturalist as well as her experience creating and coordinating the creation of Dawson College's Peace Garden, she spent two weeks working with students, teachers and staff in Mexico.

Sustainable Dawson coordinator and program developer were asked to describe what changes they perceived in themselves due to their exchange with the Mexican institutions. Their responses

indicate that participation in this project provided them with knowledge about sustainability but also a positive exchange experience with others and a value shift. As Chris Adam noted, participating in the project provided him with "renewed knowledge for how to structure projects with a strong dose of community building as a powerful agent for change." He also stated that from this experience he confirmed that "positive psychology theory in the cultivation of hope, trust in others and validation must be injected continually into evolving projects". The impacts however also reached his personal value system as he shares that his "sense of sharing has shifted after meeting the people of Mexico".

Use of Social Media



One of the main challenges presented by the objective of sharing knowledge and experience was language. Social media however, provided an opportunity to help bridge the cultural and physical distance between the participating institutions. The use of facebook, as well as blogs provided an

Pictures, documents, videos were generated and later shared widely through facebook.

A facebook page provided the opportunity to upload information in both English and Spanish, and provided an opportunity for all participants to provide and also view content. The facebook page was managed by several individuals. Students and faculty from the participating institutions provided content. During the final evaluation however, discussions on the use of facebook lead us to conclude that it did not meet our expectations due to a different culture in terms of the use of the tool. The expectation by the coordinating team was that facebook could provide a platform for the discussion of issues. However, while content was widely viewed, comments did not lead to the expected discussions. Mexican participants argued during the final evaluation that culturally facebook is not used by students as a means of establishing discussions but mainly sharing pictures and images. Furthermore, teachers are not all connected and using this socialmedia.

Courses and workshops



Institutional sharing of knowledge and experience was supported through participation in workshops and the inter-institutional design of a course on campus sustainability. The project coordinators designed three workshops. A preliminary, a mid-term evaluation and a final evaluation workshop were designed to gather project participants from all institutions to discuss project objectives as well as activities. These workshops brought the collaborating educational institutions together even in the absence of formal institutional partnerships (Dawson College, UPN Morelos and Normal Superior). The process brought the institutions, its members and administrative structures to col-



opportunity for continuous updates on what was being done at each participating campus, as well as a means of systematizing project activities.

laborate with each other in the accomplishment of common goals and to support each other in their own institutional objectives.

An important space for knowledge sharing and collective learning was the design of a workshop, Tools for Environmental Education: A workshop for facilitating student engagement, learning and environmental action. The workshop was designed by popular environmental educator Margarita Hurtado, who is also the coordinator of this project in Mexico. The workshop brought teachers



together from Dawson College and their Mexican counterparts to learn and shared their own pedagogical practices in environmental education. Through the workshop relationship were built between Dawson College teachers and a network for knowledge generation and sharing between institutions established.

Finally, the course Tools and Strategies for the development of Sustainable Campuses, held in Mexico was a perfect example of four educational institutions coming together to teach and learn. With participation from students, teachers and staff from all participating institutions knowledge was shared on environmental issues, best practices for campus sustainability, leadership for sustainability and other topics collectively identified through this project as the basis for sustainability action. The design of the course brought together best practices in the area of education for sustainability.

The course was constructed on a theoretical-conceptual model based on the collective construction of basic knowledge for the understanding of the concept of sustainability and campus sustainability (curriculum, research, policy, operations

and community engagement), knowledge about global environmental issues and leadership for environmental action. The methodological approach was participatory and experiential in nature. It aimed to generate links between theory, research and practice through a participatory action research model. Participants were exposed to the use and application of alternative energies, eco-technologies, curricula design for sustainability and techniques for group dynamics. An important axis for the design of the course was the development of activities that promoted collective and inclusive work as well as peaceful environments and the reinforcement of values such as warmth, openness to diversity, coexistence, joy, friendship, fellowship, compassion, empathy, respect, hope and trust, all identified as key for building sustainable societies. Chris Adam, a collaborator and participant in the course described it as "experiential, holistic, authentic and interdisciplinary. The project (itself) was not only an incubator of ideas, dreams and application, because such an incubator doesn't form unless those ideas and application are cradled. This project was, throughout, a safe place to be and how that happens was addressed in the course".

External Support

The network established thorough this project went beyond the participating partner and collaborating institutions. Needs for information and pro-



fessional support were identified and a network of professionals and institutions for the resolution of concrete problems was developed. The network also extended to other educational institutions

interested in education for sustainability, as well as government agencies and non-governmental organizations working in the area of education or sustainable development. These alliances proved to be key for providing an opportunity to share best practices with the community at large and also guaranteeing the sustainability of the initiatives carried out for campus sustainability.

Professionals in the area of biodiversity conservation, green walls, horticulture, green energies and others were brought in to support projects taken on by the different participating institutions. It is important to point out that these professionals played a supporting role, rather than becoming involved in the decision making process already established or being elaborated at each of the participating institutions. Many of these professionals are part of non-profit organizations in Mexico. Thus, extending this network to incorporate the support of these professionals has established relationships between educational institutions and civil society. This is an important advancement in the establishment of synergy between different social actors.

Collaboration was also extended to include governmental institutions at the state and national lev-

el in Mexico. Important alliances were established through this project with institutions such as the newly established ministry of Sustainable Development in the State of Morelos. The ministry has supported the Mexican participating institutions by extending their human resources to support their sustainability projects. The Mexican institutions have also extended their support to the ministry. For example, presently, the Normal Superior and the ministry are collaborating in the development of radio and video programming for sustainability. The federal agency, SEMARNAT, the secretariat of Environment and Natural Resources has also participated in this project through collaboration in workshops. These partnerships strengthen the capacity of educational institutions in Mexico to bring about change within their sphere of influence. There is a reconfiguration in the way institutions relate to each other based on problem solving as well as the establishment of new norms.

Interest in the project continues to grow. It is being identified, by Mexican governmental institutions, as a model drawing the interest of other higher education institutions in also becoming members of this network of knowledge sharing and support for sustainability in education.

Final Recommendations



Given the complex nature of sustainability issues it is imperative that institutions of higher education learn, teach and aim to model sustainability. Research, curriculum but also the campus' grounds and its infrastructure are tools for contemplating and acting on the institution's performance and role with regard to sustainability. This project set out to establish collaboration for institutional sustainability in higher educational institutions of the North and South. In the process we learnt about institutional organizational processes, inter-institutional collaboration, support networks, education for sustainability (or sustainable development), leadership for environmental action and community engagement as key building blocks for sustainability in education. Through a participatory and flexible process it identified tools and strategies for knowledge building and

sharing within a context of community building and leadership strengthening. The process allowed us to identify factors that strengthen such process. Following we offer our recommendations to all the participating institutions. Some of these recommendations are specific to the context of this project and others can be generalized as contributions to the overall understanding of how to support a path to sustainability in our institutions of higher education and educational communities.

Structure for institutional Sustainability

Throughout this project each of the Mexican participating institutions explored different organizational models to carry out their sustainability

projects. Their organizational efforts and Dawson College's organizational experience mainly, but not exclusively, that of Sustainable Dawson, allowed us to identify key internal elements that support sustainability on campus. These include empowered students, engaged faculty and a supportive administration. A structure however, that brings together and provides support to the educational community is necessary. We recommend:

- The establishment of a sustainability policy. It is fundamental that each institution draft its own sustainability policy, based on a collective vision of sustainability.

- The establishment of a Sustainability Coordinator. This post could be covered by a teacher, a student or a staff member. However, it is imperative that the post includes allotted time to coordinate campus initiatives with payment, or an economic stimulus, or release time. In the case of a student we suggest provide academic recognition.

- The main task of the Sustainability Coordinator should be to encourage and support students, faculty and staff to involve themselves in projects that will help the institution achieve its sustainability goals. Ideally, this should aim to integrating research, curriculum and operations through the collaborative work of students, faculty and staff.

- Due to the importance of establishing personal relations, we suggest that the post of Sustainability Coordinator should aim for stability, which in turn will allow him or her to build relationships with students, faculty and staff.

- Establishment of a Sustainability Committee

- Ideally integrated of engaged students, teachers and staff.

- Allocation of a budget for sustainability projects or a strategy for fund raising.

- Capacity building for writing grant proposals and applying for funding

- Allotment of human resources for project management.

- Allotment of time by administrative staff, including financial officers, to the functioning of the institution's sustainability project.

- Establishment of an ongoing capacity building program for project design and management

- Allocation of time, spaces and resources for student initiatives. Encourage and support student-driven initiatives and encourage their collective action (student run clubs or activities).

- Allocation of time, spaces and resources for faculty initiatives. Provision of release time for research on institutional (campus) sustainability, resources for creating links between research and teaching, possibilities for creating links between curriculum and operations (learning about and taking action on issues such as energy use, waste management, etc.)

- Showcase institutional advances

- This can be done via facebook, a website or through the elaboration of a semester report.

An integrative approach to campus sustainability

Sustainable Campus initiatives throughout North America have already identified the importance of working on all different aspect of campus life, curriculum, research, operations and in some cases community engagement. Our contribution lays in proposing that campuses aim to integrate, make links between these different elements that make up campus life and the reason for being of the institution. There is great potential for lowering campus ecological footprint as students, faculty and staff work together using the curriculum and research as well as professional expertise found at the institution to do so. This means bringing members of the educational community together, building relations of trust and mutual respect to do what they do best, teach, learn, administer or fix. We encourage institutions to find synergy between curriculum and operations and nourish relationships between students, teachers and staff.

Following are some more specific recommendations:

- For the UPN and Normal Superior we suggest the design of courses and programs with environmental and sustainability content, that are applied and linked to campus operations or curriculum.

- Campus Sustainability Courses have the potential to engage students in theory and practice by carrying out research on campus operations (or curriculum) and proposing solutions.

- For Dawson College we recommend to move towards a more integrative means of teaching about the environment and sustainability.

- Establishment of internships for both the Environmental Studies and Environmental Sci-

ence in collaboration with Sustainable Dawson

- Encourage greater collaboration between Sustainable Dawson and the curriculum (with all departments).

- Support research into Sustainable Dawson and other Dawson initiatives that support social and environmental responsibilities

- Capacity building among teachers, student and staff on environmental issues through extra-curricular programs.

- Participation in workshops, outings, visits to learn about other experiences provide a practical, fun and experiential means of learning.

- Capacity building through courses or extracurricular activities on leadership, collaborative work, fundraising strategies, positive psychology and projects design. Pedagogical approach that engages educational community in environmental/sustainability action.

- Continuous collaboration with external professionals and government institutions for capacity building and collaborative action

- Support for research on environmental education and sustainability, with a focus on campus sustainability

- Encouragement and support for researcher engagement in the Sustainable Campus project

- Support for dissemination of project research results and educational material

Inter-Institutional Collaboration

The establishment of inter-institutional collaboration was one of the main strategies used throughout this project to support an organizational process towards sustainability in educational institutions. This collaboration was international in nature but also among Mexican campuses and between educational institutions and other organizations such as government agencies and civil society (NGO) organizations such as Ciudades Verdes and Earthvalues. This collaboration provided opportunities to share knowledge and experience in areas such as organizational structures, environmental knowledge, environmental education, project design and management, leadership training and others. This collaboration however,

was also an important element in motivating the participants to see their projects through. Being a showcase to others was a strong motivational force. Students, faculty and staff felt proud of their accomplishments as they were appreciated by others. Through personal and institutional relationship building an important network has been created through this project. Our recommendations aim at strengthening of this network and eventually to its extension.

- The establishment of a “network committee” made up of representatives from Dawson College, UPN (all three campuses), Normal Superior and Ciudades Verdes.

- The main objective of the committee would be the discussion of means to maintain and support collaboration between the participating institutions. This committee should include the participation of students, faculty and staff.

- Activities may include regularly established meetings, workshops as well as the use of social media for communication.

- Establishment of formal partnership agreements between UPN Morelos, Normal Superior and Dawson College. Establishment of an agreement of intention to continue collaboration for sustainability.

- A formal partnership agreement is now existent between Dawson College and Ciudades Verdes.

- Support of collaborative research projects between faculty of the different institutions.

- Continue to showcase, share advances made on campus sustainability.

- Via facebook, website, sharing of reports, etc.

- Establish course “Tools and Strategies for Campus Sustainability” as an accredited “diplomado”.

- Open up of network to other educational institutions through a dissemination strategy of project activities and results.

- Design a plan to extend the network for knowledge and experience exchanges with other schools in Morelos and other Mexican states, Latin American countries that are in similar processes.

Dissemination Strategy

Dissemination and outreach has been done throughout this project. The maintaining of a facebook page, presentations made by different project participants in different forums within and outside of the participating institutions, radio and tv (online) interviews have been an important means of sharing with others about the process we have engaged in and the emerging results. Presently there is a manual being elaborated based on the experience of the summer course "Tools and Strategies for Campus Sustainability".

- Maintain and upkeep facebook content by all participating institutions
- Transferring of facebook content into a website for wider access and dissemination

- We propose that the website is housed in one of the participating institutions with a clear mechanism for updating information and accessible to all.

- Future presentations by project participants in different forums outside of the participating institutions

- The writing and publishing of an academic journal article

- This is presently being done by Gisela Frias using this report as the main source of information.

- Set up of a conference to share experiences with other campuses.

- Encouraging students to present from all participating campuses

- Elaboration of video to share main research findings and overall experience.

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