



Module 8: Action Plan for the Sustainable School

Introduction

One of the goals of the *Sustainable School* is to achieve an atmosphere where educational spaces are committed to reducing their impact on the environment. Another goal is to launch measurable and replicable actions that can be integrated into the twenty-first century educational framework that ideally encourages sustainable development from a practical standpoint.

Recognizing that we are living in the Decade of Education for Sustainable Development (2005-2014), a change in habits with respect to the environment is an unavoidable goal/addition to the training of students. Within this context, sustainable schools are educational centers that have made the decision to actively participate in the transformation of habits, and in this manner orchestrate a series of integral projects with positive impacts on society, the economy and the environment.

Objectives

At the end of this unit teachers will:

- a) Identify the level of involvement of a school with respect to sustainability
- b) Know key aspects to incorporate into a work team

- c) Carry out an *Eco-Evaluation*
- d) Identify the steps for an *Eco-Action Plan*
- e) Recognize opportunities to undertake projects that can orient educational centers to be *Sustainable Schools*.

Themes

1. *Stages of a Sustainable School*
2. *Eco-Evaluation*
3. *Action Plan*
4. *Sustainability indicators for schools*

The objective is to propose, conceptualize and specify a *Sustainable School* as a work that corresponds to the school community as a whole: principals, parents of families and students; as well as administrative and support personnel, technical experts and professionals.

Through the understanding of this information, and the fostering of individual, group and community abilities, a common goal will be achieved; the creation of an educational space that contributes at a local level to the immediate preservation of the environment, and therefore contributes to other efforts currently being undertaken in the academic sector, regarding the topic of sustainability.



1. Stages of a Sustainable School

Before moving forward with ideas, proposals and exercises to guide the construction of a *Sustainable School*, it is necessary to identify the current stage of your school, with respect to

the level of involvement with the topic of sustainability. To do this, we suggest that you use the following table that shows the four phases of involvement to achieve the transformation into a *Sustainable School*:

Level of Involvement with the Topic of Sustainability			
Awareness Phase	Starting Phase	Implementation Phase	Replication Phase
<ul style="list-style-type: none"> -An interest in the environment is present within school leadership. -Some professors are implementing extracurricular activities along these lines. -The school participates in environmental projects and/or sessions 	<ul style="list-style-type: none"> -Formation of a Committee -The development of a sustainability work plan within some area of the school -Interest has spread to students and parents. -The school stresses the importance of engaging in sustainability projects. -Teachers recognize the topic of sustainability as an important factor in the education of students. 	<ul style="list-style-type: none"> -Operate under a sustainability work plan. -Identifying areas in which the school can implement projects to diminish the impacts on their surroundings -Develop indicators to measure outcomes. -Search for a method of implementing sustainability projects in other areas of the school. 	<ul style="list-style-type: none"> -Rely on the indicators developed. -Have begun to quantify results at least once a semester. -The Committee is interested in communicating the results and also promotes the signing of official documents to institutionalize the initiatives. -Principals use this information to evaluate the general operation of the school. -A continuity plan is in place for the following school year. -Aim to positively impact the community in the general vicinity of the school.

Table 1. Levels of school involvement with the topic of sustainability

As an exercise, form groups of 5 to 7 students in the classroom and hand out papers that include the above table. Ask the students to

brainstorm among their groups to identify which stage their school is in. Elect a representative from each group to come to the front of the



room and explain his/her group's conclusion. Invite the work group to this activity. Show examples of actions in favor of the environment that your school is doing (investigate, along with other groups and co-workers, the direction the school is going in). The results of this exercise can help to support the vision of the school as a sustainable place.

2. Eco-evaluation.

As part of the fundamental activities of a *Sustainable School* an initial diagnostic must be conducted regarding activities that impact the environment; we will call this diagnostic an *Eco-evaluation* and it will help us to identify processes, areas, and spaces that can serve as points of intervention to improve the school's environmental performance without jeopardizing daily activities.

The school Eco-evaluation should be understood as a starting exercise, whose results will serve to identify goals and measure progress (when measuring against the Eco-evaluation each school year). It must be taken into consideration that promoting changes in people's habits can also create drastic changes in their way of viewing things, and with this, their resistance to change (and a commitment to breaking old habits). In this sense, it will be useful for the work group to follow an *Eco-action Plan* that allows for action with a commitment and discipline to sustainability.

Examples of areas where the Eco-evaluation can be applied:

1. - Water

Subject: consumption, cost per unit, quality, maintenance and automation installation, leaks, environmental impacts due to the presence of contaminants and impacts on human health.

2. -Electrical Energy

Subject: consumption, cost per unit, maintenance and automation installation, campaigns, environmental impacts caused by atmospheric emissions and impacts on human health.

3. -Waste

Subject: accumulation and cost of proper waste disposal such as: paper, plastic, pet, organic waste, inorganic waste and toxic waste: environmental impacts due to the presence of waste in the ground, water and air; infrastructure for the collection and proper disposal of waste; collection center.

4. -School work materials

Subject: types of materials, consumption, costs, substitute products, environmental impact from the use of these materials (daily and for festivities).

5. -Recreational space and school yard

Subject: size of the area, function, security, signage, roads, aesthetics, cleanliness, impacts on the environment and human

health.

6. -Training centers

(classrooms, laboratory, recreational areas, and library)

Subject: size of area, function, security, signage, cleanliness, impacts on the environment and human health.

7. -Exterior school spaces

Subject: size of area, function, security, signage, regulations, aesthetics, cleanliness, impacts on the environment and human health.

8. -Mobility (transportation)

Subject: traffic, security, signage, environmental and human health impacts due to atmospheric contamination, visual and noise pollution.

9. -Flora and Fauna

Subject: types, distribution, aesthetic, teaching function, environmental and human health impacts caused by the presence of pesticides, herbicides and toxic substances.

10. -Eating spaces (food vendors, cafeteria)

Subject: size of area, function, security, signage, regulations, aesthetic, cleanliness, environmental and human health impacts (from products consumed).

substances, green areas, security, etc.

-Prepare questionnaires, databases, or any other mode of collecting information.

-Count and interpret information.

-Inform and make the school community aware of the results and challenges.

Note: To fully understand the development and use the questionnaires and records from the Eco-evaluation, please consult Activity 1 of this unit.

2.1 Work group

An initial meeting is recommended to form the work group. It is also recommended that those invited should include people with different roles within the school, for example the person in charge of maintaining the green areas and gardens, the school principal, the parent coordinator, as well as professors.

The first meeting should explore the interest in transforming the school into a *Sustainable School* and propose the *Eco-audit* as the first group task.

As an ice-breaker for group members it is suggested that each person comment on what they believe the school's current level of involvement is, using Table 1 as a reference, which is presented in the previous section. Once a consensus is reached about the school's level of involvement with the topic of sustainability, the first meeting ends with the exercise "Creating the Vision" and the next meeting is scheduled where members will work

Steps to carry out an Eco-audit:

-Form a work group.

-Definition of areas where a diagnostic can be implemented; for example: energy consumption, waste production, presence of toxic



as a group on the *Eco-audit*.

To create the vision of a Sustainable School the group members must brainstorm in response to the following question: **Where do we want to go?**

Examples of goals that can be included in the vision of a Sustainable School:

- Minimize impacts on the environment and protect human health.
- Conserve natural resources for rational use by the current population and future generations.
- Support the local economy.
- Transform our relationship with nature.
- Promote social equity practices, cooperation and differentiated responsibility.

Once the first meeting has concluded, the work group will have formed the *Sustainability Committee*. This Committee will then coordinate the *Eco-action Plan*.

As we have already mentioned it is crucial to include representatives from distinct school groups – administrators, students, teachers, janitorial and maintenance employees, parents and members of the school board of directors. The primary function of the Committee will be to ensure continuity of planned actions, and allow for the involvement of new members and decision-makers from the school, as well as to facilitate these actions and

promote communication in the school.

Location factors (outside of the school’s control) that influence the achievement of objectives in the Sustainable School:

- Geographic environment (altitude, orography, hydrography, climate, soil)
- Atmospheric contamination of the water, soil and natural areas
- Demographic and urban dynamic
- Changes in the use of soil: urban and commercial developments
- Legislation and regulation
- Messages and forms of communication

3. Eco-action Plan.

The risks of implementing actions without a plan of action (and which stops being conducted for lack of foresight) include apathy, lack of credibility and motivation among those involved. Therefore it is very important to create an action plan which we will call an *Eco-action Plan*. Using the results of the start-up evaluation (*Eco-evaluation*), the school Committee will be able to identify priorities and key areas to take action. In agreement with the priorities that each school has set, an action plan will be generated that includes the short, medium and long-term goals.

The short-term goals will help to motivate the launching of the Sustainability project in the school, gaining the involvement of students



and professors, while the long-term goals will include a guide to help the Committee move beyond the status quo towards greater environmental improvements.

Note: To fully understand the development of the Eco-action plan please consult Activity 2 of this unit.

3.1 Monitoring

The semestrelly measurements will create partial results that will help measure progress and share the experience with the rest of the school. The best way to present progress is varied; for example: written report, video, surveys, etc. The resultant information from the monitoring is needed to assure that one is on the right path and making good time. Furthermore, this process assures the continuity of the project within the school, maintaining student interest.

3.2 Celebration

They say that you teach by example, which is why it is important that the school recognizes, communicates and celebrates the achievements gained from the implementation of the sustainability project.

Every achievement deserves to be recognized both internally (from the Committee to the school community) and externally (from the school community to the surrounding community – for example, neighborhood, neighborhood committee, etc.).

Communicating the school’s interest in sustainability could have a positive impact on school image, as well as help with project continuity as a result of heightened expectations.

As an environmental project, the benefits extend to people, the physical environment and the whole student community: students, teachers, parents. Internal and external communication is extremely important as this is the opportunity to show that you can make a difference and invite the general community to participate.

Documenting the experience in a systemized way will help motivate other educational institutions to participate in this type of project which has benefits for current and future generations.

Six steps for transforming your school into a Sustainable School.

STEP 1. Establish a Green Team or Eco-Committee

To implement the Sustainable School project the work group will be formalized through the creation of a Committee which will coordinate the action plan. This should be composed of representatives from distinct school groups – administrators, teachers, janitorial and maintenance employees, parents and members of the school board of directors. The primary function of the Committee will be to further the



planned actions, and allow for the involvement of new members and school decision-makers, as well as to facilitate actions and encourage communication within the school.

STEP 2. Adopt a Sustainability Declaration in line with the Vision.

This document should be proposed by the Committee. It is recommended that you invite parents, students and teachers to give their opinions and comments about the action plan proposed by the Committee in such a way that the project is formalized through the Declaration of Sustainability. The students should be able to participate as well. This can also be developed through a competition among students. The important part is to be inspirational and foster action, describing what the school hopes to achieve through the implementation of the sustainability project.

It is important to involve school management in such a way that it is seen as an institutional initiative and is communicated to all levels, for example: present it on school bulletin boards, at meetings among professors and parents, and, for schools that have a web page, integrate it into the institutional mission.

STEP 3. Implementing an Eco-evaluation.

An evaluation allows for the

identification of the level of involvement and needs to overcome in the topic of sustainability in the school.

Through this exercise, the current practices and future actions that the school hopes to implement are better understood.

To carry-out the audit the school should have a parameter to measure progress of the action plan and the impact of results in the short, medium and long-term. The indicators will be a key tool in evaluating the results as it will help us identify what to measure and how to measure it. The indicators are what give us a true vision of the positive changes and success of our plan.

STEP 4. Creating an Action Plan.

Using the results of the environmental audit, the school Committee will be able to identify priorities and key areas to take action. These will comprise the action plan where goals and measurable short, medium and long-term goals will be included. The short-term goals will help to motivate the start-up of the Sustainability project in the school, gaining the involvement of students and professors. The long-term goals will help in following the established plan with a guide and the challenges will help us move beyond the status quo towards greater environmental improvements.



STEP 5. Monitoring and evaluating progress.

This is a crucial stage for the longevity of the project. The evaluation, although underestimated, is essential for measuring the success of the project. It is important that from the moment the indicators are defined and the audit is carried out, that the evaluation is taken into consideration. It would be ideal if the same Committee members and students participated in the monitoring and evaluation process, which can include an annual environmental evaluation and periodic evaluations throughout the year. The information gained is needed to assure that one is on the right path according to the goals and objectives laid out in the action plan. Furthermore, this process assures that environmental education is a continual process in the school, maintaining the interest of the students.

STEP 6. Integrate the project into school curriculum.

The implementation of the sustainability project transforms the dynamic of the school into a laboratory where students can apply the concepts they have learned and put into practice activities with their teachers.

With the aim of incorporating the sustainability project into the school curriculum, the appendices present the curriculum matrix, where the project is adapted to materials

appropriate for first to sixth grade.

STEP 7. Communicate and celebrate.

They say that you teach by example, which is why it is important for the school to recognize, communicate and celebrate the successes achieved through the implementation of the sustainability project. As an environmental project, the benefits extend to the people, the physical environment, and the entire student community: professors, students and parents. Internal and external communication is incredibly important as this is the opportunity to demonstrate that it is possible to make a difference and invite the general community to participate.

4. Sustainability indicators for schools

Sustainability indicators are measurements of operational aspects of the school that allow for the establishment of an evaluation of project results. These indicators should be expressed in numeric form, to allow for the measurement and frequency of a determined process, for example: energy consumption, water, and waste production.

You can begin with a group of 5 indicators as a pilot test, and continue gathering more indicators in accordance with the Sustainable School and then extend to other areas:



Basic Indicators

1. -Energy consumption (Kwh)
2. - Water consumption (m3)
3. - Production of local solid waste (kg)
4. - Production of toxic waste that must be disposed of in a special manner (kg)
5. - Volume of materials disposed for recycling (kg)

Note: For a more complete list of indicators please consult Activity 3 of this unit.

The results of each indicator will represent very valuable information for decision-making. The ways of interpreting the indicators can be quantitative or qualitative:

Quantitative interpretation:

numeric data that indicates increases or decreases in consumption, productions, collection of resources and materials.

Qualitative interpretation: non-numeric data that indicates environmental health, risk of accidents, operational deficiency, quality and efficiency.

Ideally each one of the 10 (ten) areas mentioned on page 3 (water, electrical energy, waste, school work materials, recreational space and school yard, teaching centers, external school spaces, mobility, flora-fauna, places for eating) will have a qualitative and quantitative indicator.

An example of how to apply an indicator is water consumption. The quantitative data shows us a tendency to increase or decrease consumption according to the season and activities undertaken in the school. From here you can take corrective measures while at the same time tying the information to other areas. With the results of the indicators we are no longer speculating, nor are we guessing, rather we are basing our actions on evidence in a systemitized form of procedure. To achieve this we should not forget at any moment to encourage the active participation of the school community. In a parallel manner, the indicators also help us to gauge if we are achieving our goals.

Examples of sustainability indicators:

- Water consumption (cubic meters)
- Energy consumption (Kwh of electricity/month)
- Consumption of materials (kilos of paper/month; liters of paint and glue/month)
- Local mobility and student transportation (Number/month)
- School vehicle parking (Km./month)
- Road security (Number of road police/monthly hours)
- Green zones and open spaces (square meters)

- Arboreal species and/or native trees (number/square meters)
- Recreational space (square meters/student)
- Accumulation and management of waste (kilos/person/month)
- Study area. Classrooms and communal areas of learning (meters squared/student)
- Sickness (number of cases/type of illness /month)
- Involvement of the community (number of community members that are incorporated in some action within the school/activity/month)
- Production of dangerous waste (kilos of bottles of cleaning products, insecticides, batteries used, etc./month)

Elements that support the measurement of results from a Sustainable School

-Compost area (natural fertilizer starting with the food waste from the school community)

-Area where food is sold (with nutritious products, ideally organic and fair trade items could be sold)

-Recreational area and school yard (insurance and ergonomic chairs)

-Green areas (in soil or flowerpots with native or endemic species)

-School library (that include books, magazines, games and videos with environmental, health and security themes)

-Stocking center (preferably only paper, cardboard, plastic bottles, aluminum cans)

-New or adapted infrastructure to control temperature and aeration

-Official curriculum that includes the environmental and sustainable dimension

-Work plans and projects (including with the school community)

-Environmental Policy (institutionalization of the project)

-Sustainable mobility program (transit, transportation, signage and environmental conservation)

-System for saving water and taking advantage of rain water

-Program for saving electrical energy and/or systems for alternative energy

-Program for the management and control of waste (3Rs)

-System for security, health and emergency (Including the first aid area)

-School nursery and garden