Compass Education

Whole-School Strategies and Approaches to ESD

By Robert Steele

About

The AtKisson Group has been a pioneer and innovator in the field of sustainability since 1992. Our earliest work helped to establish standard practice in professional sustainability, especially in the field of indicator development and the training of sustainability change agents. Today, we advise large companies, NGOs, governments, and the United Nations on sustainability strategy, policy, training and decision-making. Our tools and methods have been adopted for use around the world by companies, international agencies, schools and universities. You can be confident that these tools will support you in moving from initial vision to idea, implementation and monitoring. See www.AtKisson.com for more information about our history and our other service offerings.

The Accelerator is the AtKisson Group's proprietary suite of professional sustainability tools. The Accelerator provides complementary strategy, planning, and assessment support to any organizational sustainability program or initiative. The tools are collected into four packages —Compass, Pyramid, Amoeba, and StrateSphere — according to their principal uses. They can be used internally by a skilled professional, or their application can be supported with the aid of an external consultant. Training the application of the Accelerator is available from AtKisson-certified Affiliates in Europe, North America, and Southeast Asia.

The VISIS Method is the conceptual architecture that ties the Accelerator tools together. It was invented by Alan AtKisson and has been developed by the AtKisson Group over nearly 20 years. The Method itself is open source; anyone may use it and adapt it.

This Report provides a summary of Compass Education's approach to educating for a sustainable future (also known as ESD), which has proven to be highly effective, based on feedback from teachers, students, and administrators. The Compass Education approach adapts and utilizes the AtKisson Sustainability Compass and Accelerator tools, together with other systems thinking tools and methods, to allow sustainability learning to happen without necessarily having to explicitly focus on this sometimes controversial and often times abstract term and concept.

Preface

In 2011 my friend and colleague Robert Steele, together with our mutual friend Lister Hannah, persuaded me to come to Southeast Asia and collaborate with them on a number of conference events for the teachers, administrators, and students of international schools in the region. We did not know it at the time, but that was the launch of something important: an initiative called Compass Education.

Since then, Robert has assembled a remarkable team of people who are multiplying the whole-school approach he describes here, by pursuing a "train the trainer" strategy — as well as a student empowerment strategy. Compass Education has spun off from the AtKisson Group to become a free-standing non-governmental organization ("NGO") in its own right. (See CompassEducation.org)

In this comprehensive paper, Robert lays out the vision and the experience of Compass Education to date. I believe anyone interested in education — or in transformational work for sustainability generally — will find a lot of inspiration in these pages, as well as a lot of information about how to work with the education sector in realizing the vision of the Sustainable Development Goals.

My thanks and admiration to Robert and the whole Compass Education team!

— Alan AtKisson
Pres. & CEO, AtKisson Group

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Introduction

Sustainable development is a dynamic process that enables people to realize their potential and improve their quality of life in ways that simultaneously protect and enhance the Earth's life-support systems. The vision of sustainable development is now well described by a number of agreements and declarations that have been widely adopted the world over, including the Universal Declaration on Human Rights, Agenda 21, the Global Compact, the Millennium Development Goals, the Earth Charter, the Decade of Education for Sustainable Development 2005-2014 (DESD), and the recent UN 2030 Agenda for Sustainable Development, prefaced by 17 sustainable development goals and 169 targets.

If we are to meet this human development challenge, mapped out by these documents and agreements, the implications for education systems and schools are substantial. This entails, however, much more than just a reorientation of curriculum within the existing school structure. This requires the transformation of education systems and the mindsets of school leaders and teachers. We will need to move from education 'about' and 'for' sustainability to education "as" sustainability, according to Dr. Steven Sterling (2003). As he states, "this entails a transformation of learning as change; where emphasis is placed on process, quality learning, development of the whole person, involvement of the whole school and whole school community, and is focused on authentic transformative learning experiences." Schools, as learning communities, need to model the vision of a sustainable world in their educational practice as well as in their management and governance. In essence, schools must eventually practice and model 'education as sustainability,' which in itself imbues a transformation of all aspects of a school.

However, most schools are still searching for, or lack understanding of, the roles and appropriate structures that will help them to realize that vision. They need to move more definitively away from the prevailing traditional, transmission-styled model of education, to an education that is transformational in its focus. This represents a significant paradigm shift to a model that mobilizes the active participation of everyone in the school community: the governing board, management, teaching and support staff, students and parents, neighbors, and local government.

For the sustainability vision to be achievable, a spirit of inclusivity, compassion, and mutual respect needs to pervade all aspects of a school's operations— engaging, enabling, and empowering all to learn, to create common goals, and to work together to achieve them. The students thus become an integral part of a whole-school learning community, not only learning about sustainability in the classroom, but rather seeing and experiencing it being modelled and practiced in all that happens in the school and beyond. Schools working towards this vision thus integrate sustainability into all aspects of the school, including planning, curricula, teaching and learning, operations, and engagement with the outside community. Moreover, it must also be embed in the overall school ethos and culture.

Compass Education

A Whole-School Approach to Educating for a Sustainable Future

A whole-school 'education as sustainability' approach implies that the concern shown for global issues in the formal curriculum is reflected in a school's day-to-day practice, both in the informal, or hidden curriculum, as well as in the formal curriculum. Moreover, the school's culture and ethos reflect the values and attitudes advocated in the classroom, and are habituated in the daily actions of administrators, teachers, students, support staff, and the school itself. A whole-school approach, as advocated by Compass Education, integrates pedagogy with the social/organizational and technical/economic aspects of school practice. We advocate a whole system process consistent with the characteristics of transformative education, as expressed in the 1996 report to UNESCO from the International Commission on Education for the Twenty-first Century, Learning: The Treasure Within. This seminal report introduced four pillars of sustainability education that go beyond the school experience itself and extend throughout a person's life. These pillars are: 1) Learning to know; 2) Learning to do; 3) Learning to live together; and 4) Learning to be.

Compass Education assists schools in putting these four pillars into practice by encouraging the involvement of the whole school as a learning community— students, teachers, administrators, auxiliary staff, parents, and members of the outside community take part in the experience and sustainability learning. Our approach encourages collaboration among these key stakeholder groups to try and create a shared understanding of what it takes to manage and run a school in a way that contributes to the transformation of education and

schools at every level—global, local, and personal. Thus, we advocate the addition of a fifth pillar: **Learning to transform.** A school adopting the Compass model and approach practices a transformative type of education that permeates the entirety of the school community, reaching out through a school's network and connecting with the local community, and beyond.

The Sustainability Compass

(Or 'Compass' for short)

The issues and challenges of sustainability cannot be reduced to mere pieces or problems that can be tackled as if they were unconnected to the rest of the world. Sustainability Challenges are interconnected and the linkages are often invisible to our eyes and minds. Our young people need new skills and values to make informed decisions, and thus we need to find simple models and approaches to help us understand and address this complexity in more intuitive ways that both children and adults can easily grasp and relate to. It is for this reason that we utilize the Sustainability Compass ("Compass" for short) as an effective tool, framework, thinking lens, and 'habit of mind' in educating for a sustainable future. The Compass has, as you might guess, has played a pivotal role in the organizational philosophy and approach of Compass Education, even giving us our name.

The Compass[1] was created by Alan AtKisson in 1997 to better translate other sustainability frameworks into something more inline with the systemic, multi-perspective, and non-linear nature of the world and how development must be understood and implemented.

Figure 1. The Sustainability Compass

As previously mentioned, the Compass is an easy to understand tool for orienting people to sustainability. The Compass is a directional symbol, giving the sense that we are mapping the territory, learning how to go where we need to go. It also provides us with a holistic picture that is particularly useful in education. A regular compass helps us map the territory and find our direction. This Compass does the same thing for sustainability. It takes the English-language directions — North, East, South, West — and renames them, while keeping the same well-known first letters (Figure 1).

[1] The Sustainability Compass is copyrighted to AtKisson Inc., but permission to use it (without charge) is nearly always granted to small non-profit and educational organizations such as schools.

N = Nature - The natural systems on which all life depends; healthy air, water, land; Natural resources and ecosystem services; biodiversity, sufficient habitat; preservation of scenic beauty

Sustainability in this dimension refers to living within the Earth's physical and biological limits, (its life-support systems), and contributing to the healthy functioning of its ecosystems.

E = Economy - The economic systems that provide humanity with goods, services, investments, and meaningful work; which includes revenue, jobs and wages, budgets, taxes, markets, etc.

Sustainability for this dimension refers to maintaining economic vitality and prosperity based on innovation, low-carbon, clean energy, and sustainable production and consumption.

S = Society - The social and cultural systems that provide cohesion, identity, security and freedom; cultural traditions; legal frameworks and sense of community.

Sustainability for this dimension refers to supporting social development, stability, inclusiveness, equity, and social cohesion.

W = Wellbeing - The health, happiness, and quality of life for individual people and their families.

Sustainability for this dimension refers to making individual health, opportunity, fulfillment, and happiness possible through the exercise of wise choices.

The Compass is a powerful metaphor for orienting and setting direction towards living and learning more sustainably, like how we use a real compass. And it moves us beyond "for and against" analysis by providing a point of convergence for different perspectives. Moreover, the four Sustainability Compass points provide a simple, clear, integrated, and comprehensive structure for sustainability learning, as well a platform for the sustainable management of schools as institutions that actively model the behavior they seek to develop. In summary, the Compass is multi-dimensional and can be used in a variety of ways, including . . .

- … as a holistic lens or mental model in curriculum lessons, or to help frame the entire curricula for alignment with sustainability education. Or even to simply strengthen integrative big-picture thinking for students, helping them to delve more deeply into issues and connect the real world to their own experience, starting in the earliest years of schooling.
- … as a frame and guide for aligning school policy with sustainability principles, helping to manage school operations for more effective embodiment of the sustainability ideal and develop measurable indicators of progress.
- … as a common symbol, a metaphorical "centre of gravity," around which everyone in the school community can gather, and feel part of this great civilizational journey toward a sustainable society.

Starting the Journey

Implementing the Sustainability Compass as a Whole-School Approach

How can educators and schools start using the Compass? The answer is: anywhere and everywhere. The **Compass Education** approach and methodology translates the four cardinal directions, or domains, of the Sustainability Compass into the more specific working areas of school life, which we call **Compass School Action Portals.** The Portals encompass all of the key areas supporting a school's mission, including teaching and learning, curriculum design and delivery, school management, governance, operations and resource consumption, personal wellbeing, social development, and engagement with the community. These five portals, or entry points, are all areas in which the Compass and its associated tools can be utilized to support new ideas and action within and outside the school. The five Compass School Action Portals are:

1) Teaching and Learning;
2) Leadership and Governance
3) Management and Operations
4) Buildings and Grounds;
5) Community Engagement, Networks and Partnerships.

Figure 2 illustrates the specific aspects within each of the five School Action Portals, and shows how they are interrelated to each other in a symbiotic way, together creating the overall school ethos and culture.

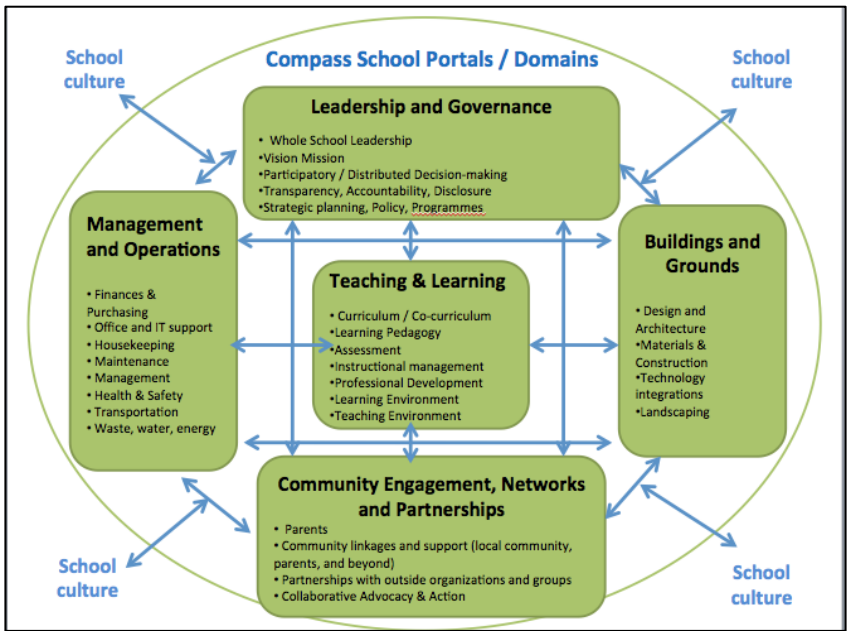

Figure 2. The five Compass School Action Portals

Figure 2. The five Compass School Action Portals

It is easy to talk about the Compass in theoretical terms. Of course it all makes sense. The crux of the discussion is whether the Compass is effective and really makes a difference for student learning and the overall transformation of schools to education as sustainability. Thus, I have included some case examples of how the Compass and other associated tools (i.e. Accelerator Lite) are being used in each of the five action portal areas.

Teaching and Learning

The practice of good teaching and effective learning are part of a symbiotic relationship that lie at the heart of educating for a sustainable future, and should reflect what is increasingly accepted globally as current best practice in ESD. This includes teaching that is based on the following:

- Student-centred learning, acknowledging the multiple-intelligences we all possess;
- Inquiry-based and constructivist approach, drawing on what we understand from neuroscience about whole-brain experiential learning, embedding the learning of content in context, integrating subject matter where possible, and thereby promoting:
    - integrated-interdisciplinary instruction that reaches across traditional boundaries between disciplines;
    - community-based investigations as authentic learning experiences that offer both 'minds-on' and 'hands-on' experiences through service-learning opportunities;
    - "place-based education' whereby the local natural and community surroundings act as a "venue" for connecting together and cementing the learning process in personal experience and meaning.
- Encouraging creativity and the skills of systemic, critical, and holistic thinking, with a foundation in the habit of reflection;
- Combining independent and cooperative learning, ensuring collaboration wherever appropriate, allowing learners to develop the capacity to communicate, to share and discover together.

The Compass is a tool that assists teachers in integrating sustainability thinking into curriculum, without explicitly having to frame its use around the term "sustainability." The Compass can simply be a lens through which teachers can engage their students in systemic thinking and by doing so, enrich their understanding of the subject matter. It provides for a value-added learning experience in a number of ways, including:

1. Inquiry and investigation— for developing questions and for research
2. Systems thinking— finding relationship interconnections and linkages, and understanding system dynamics
3. Synthesis of perspectives, ideas and thinking (e.g. of different stakeholders)
4. Evaluation and assessment

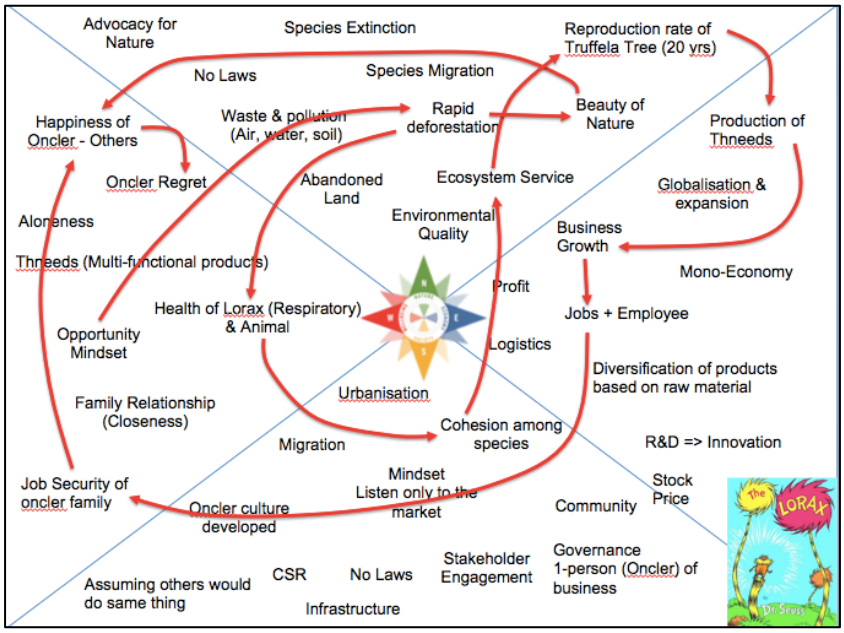

Figure 3. Compass Note-taking of the Lorax Story

5. Organization and note taking. One way Compass is often used by teachers is to help students take notes and organize their thoughts in a much more deep and holistic way, especially for reading assignments, or in watching video media. The Compass helps students to concentrate and to look deeper for meaning from a more integrative perspective.

Teaching and learning case examples:

Using the Compass as a note-taking template, students in a Grade 8 class were asked to watch the contemporary Lorax movie (adapted from the original Dr. Seuss book) and record their observations and thoughts in any of the four Compass quadrants. The Lorax is a classic morality tale often viewed and analyzed as simplistic and dualistic (nature vs. capitalism). According to the teacher, using the Compass as a note-taking and story analysis tool, combined with systems mapping of causal relationshipsm has significantly enhanced both the depth and breadth of meaning the students derived from the story. Figure 3 shows one of the results of Compassing the Lorax story.

Figure 4. Example of Student's Compass analysis of "Life on Sudirman Street"

The Compass can also be used as an inquiry tool. For example, the Compass can be used to help students explore the drivers and impacts of new inventions and innovations, so as to gain a broader and deeper understanding.

In another example, a Bahasa Indonesian teacher had her students use the Compass in the outside community as a contextual lens in their learning process.

She developed lessons for her Grade 10 students using the basic competency of "understanding the difference between fact and opinion." She assigned her students to go out into the community and use the Compass in their observations and talks with people to understand how the environment influences lifestyle, work, and even language. Students then selected a theme, such as "Life on Sudirman Street on a Sunday" and identified and differentiate fact and opinion about how they interact with the natural environment (Figure 4).

In another example, a primary grade school teacher in Thailand used the Compass to help her students analyze and come up with their new ideas surrounding a controversial issue, such as the use of elephants in Thailand's tourism industry. This issue is often seen in black and white terms. Almost all children will only see it from their own 'fun' experience, and/or mimic their parents' view point or that of others they've heard talk about the issue, without really thinking and seeing it in a bigger way. The teacher had the students use the Compass to begin to understand the bigger picture of the issue, and then to think about our own views, as well as possible new ideas for creating sustainable solutions for a controversial issue. She also had them use the 4 points of the Compass to come up with questions we should we ask ourselves as tourists regarding the use of elephants in Thailand, but from a wider perspective. Her students were able to easily identify cross-domain system relationships so as to begin to better understand the causal dynamics and feedback that are

actually occurring between the wellbeing of the elephants, the economics and livelihood of the mahouts and vendors, and the enjoyment of the tourists.

For our flagship Compass school in Chiang Mai Thailand, PTIS, the Compass is fully integrated across the curriculum in most grade levels. The Sustainability Compass is used in many contexts and grade levels to facilitate sustainability and holistic thinking, and to support global citizenship and local wisdom. For example:

- In grade 2, students used the Sustainability Compass as a lens to understand artists' messages, by using it to notice different aspects of a piece of art, make connections, and think about how the artist's message might change if part of the artwork is changed.
- In grade 3, students played a game to experientially understand how human activities impact water resources, and discussed issues related to nature, economy, society, and well-being.
- In grade 7, students researched the life of a person in medieval history through the four Compass points, which deepened their inquiry and helped them make connections.
- Students in Grade 8 MYP Science are required to use the compass model when approaching the issue of how to build a Sustainable Farm on a 10 rai (3.95 acre) plot. All areas of the compass model must be presented when discussing how this sustainable farm can be created.
- In an activity called Farmers and Bankers, students in Grade 9 MYP Maths use the compass model to help decide what products are needed in purchasing farm equipment, how loans are distributed, and what gives the most sustainable outcome regarding simple interest rates and compound interest rates.
- In grade 11, geography students use the Compass in two important ways: As a foundation to build up a case study, and as an analytical tool to simplify an overly complex situation.
- IB Diploma Biology students are given the classic compass model problem on how to sustain proper fish population levels and maintain viable fishing seasons for up to ten years in a row. Using a sustainable fishing game model, students decide, in "fishing groups," how many fish will be taken each season and why that number is required in terms of societal needs, profit needs, impact on the environment, and the well-being of the fishermen's families.

A full documentation of how the Traidhos Three Generations Community for Learning and PTIS is using the Compass can be found at: http://www.threegeneration.org/sustainability#operations-update15 and http://www.premcenter.org/teaching-archive.

A final example of using the Compass to enhance critical big picture thinking is its use in a 2-day inter-grade and interdisciplinary decision-making exercise. This exercise required students to act as disaster management consultants to one of 4 regional governments in the Philippines. The exercise was divided into 4 planning stages and a presentation stage. The 400 students were divided into 16 groups of 25 students, with each group assigned one of

four provinces often hit by powerful typhoons. Each group was tasked with conducting a hazard risk assessment (Nature) and a needs assessment (Society / Wellbeing), before making budget constrained choices on how to act with the option of emphasizing relief or preparation for future hazard events (Economy). The end product of each group (or performance task) was to create an engaging 5-minute presentation outlining each stage of the activity and the rationale for their decisions.[2]

Leadership and Governance

The importance of school leadership and governance to the journey of educating for a sustainable future cannot be overstated. It is the primary driver of the school's vision and mission, and serves to engage, enable, and empower the school community stakeholders so that together they can support one another in action within and across Compass Action Portals.

Good governance occurs where decision-making is distributed across the school community and involves students, parents, and others in appropriate ways. In doing so, the school begins to maximize the use of its physical and human resources in a manner that is economically, ecologically, and socially sound.

In practice, it might start in this way: First, the Head of School, his/her executives, key thought leaders from the Board, parents, teaching and support staff, and student leadership should become familiar with the Compass, and be able to convey its meaning and usefulness to other members of the school community. This group can serve as a steering committee or "sustainability leadership group" for the Compass School process.

To start, this group could, for example, take at least a half-day to orient themselves with the Compass, either on their own or with the help of a skilled facilitator. They could start with an inventory of their assets and concerns within each Compass Point, and use this as the basis for the creation of a future Vision of their school, balancing the four Compass directions.

This process sets the stage for the establishment of clear goals and longer-term outcomes expected to result from the Compass School journey, as well as milestone destinations along the way. It will lead to the strategizing of how to address and facilitate access of the other Portals.

The group may also go a step further and identify sustainability management indicators for the school. The implementation of regular meetings or special project teams can advance the process and add value to school life, without feeling like an extra burden. (Note that the tools and manuals made available to Compass School Network members will help guide this process.)

[2] Paul, G. Teacher at International School Manila, 2014.

Once this framework is established—or even while it is being established— this leadership group can explore critical linkages among the Compass Points and their respective indicators. They can begin to build up a more comprehensive and systemic picture of school operations, from classroom to community. And they can begin a search for innovative new projects, initiatives, policies, and programs that will help guide the school toward sustainability. As a leadership group, they can also plan and strategize for the successful implementation of these initiatives.

An inspiring example of this type of leadership within the Compass Education network of schools comes from the International School of Manila (ISM) in the Philippines. In 2012-2013 a group of highly motivated and influential students successfully leveraged their own knowledge and expertise using the Compass and Pyramid Lite tools in convincing the director of the school and the school board to allow them to organize and facilitate 3 sequential workshops with around 75 school community stakeholders— including teachers, administrators, parents, board members, students, and auxiliary staff— for a whole-school sustainability Initiative Planning, or SIP. Their aim was to assist their school to live its mission, which included: "Involve our community in sustaining and safeguarding our environment." This simple excerpt from the school mission statement highlighted the fact that sustainability lies at the core of the school's vision.

These students used the Compass and the other AtKisson Accelerator tool, Pyramid Lite, to build a collaborative platform of indictors, systems analysis, and innovative strategies for transforming their school's mind set, culture, and actions as related to sustainability education.

The Pyramid is used in tandem with the Compass in a group-style workshop process to explore a defined situation or community with regard to sustainability, and then to help them frame and create goals, ideas, and action initiatives. It starts with a 'Central Challenge'— a significant problem, question, or issue that the group would like to focus their attention on. Pyramid Lite is based on a systems thinking approach and uses methods to guide groups through discussion exercises, moving from information sharing, to reflection and idea brainstorming, to consensus building, and finally to basic planning for success. By the end of it all, the participants come to a solid agreement on how to take action, and commit themselves to a tangible Action Plan.

The ISM group started by discussing and analyzing existing levels of sustainability at their school and then developing a vision for how sustainability might look in the future. These desired future outcomes were then matched with baseline performance indicators, which were built into causal loop diagrams in order to find the best and most high impacting leverage points for positive intervention and change through the nexus of the curriculum, school operations, and management.

Four key initiatives emerged to address perceived needs in strategic ways, including a successful paper savings program which reduced overall paper usage at the school by 26 percent and electricity consumption by 2 percent. Ridership on the school bus was increased by 12 percent. Additionally, the school invested over USD 250,000 in roof-top solar voltaic

panels to supplement the electricity used by the school and reduce the school's CO2 emissions. Finally, they were able to show that the wellbeing of students, teachers and all members of the school community could be significantly impacted by adopting sustainability as a core value of the school.

One of the wonderful things about SIP@ISM is that it provided all involved with authentic and immediately relevant information about their own school community! This is useful for engaging students, both in and outside the classroom, with real data and real opportunities to be leaders in creating real changes in their school. See their video of the SIP on YouTube at: https://www.youtube.com/watch?v=ONzdijuAZaM&spfreload=10.

School Management and Operations

One of the key requirements for ESD is to promote a whole institution approach to environmental practice. As Anthony Cortese from Second Nature has emphasized, "A school must practice what it preaches," and make sustainability an integral part of operations, purchasing, and investments, and tie these efforts into the formal curriculum. In essence, a school is a microcosm of the larger community. Therefore, the manner in which it carries out its daily activities is an important demonstration of ways one can achieve environmentally responsible living and reinforce desired values and behaviors in the whole community.

Schools can move towards becoming sustainable organisations by committing to identifying, conserving and improving the environmental values of their school site, and by reducing their ecological footprint. As a starting point schools can reduce waste, minimize energy, transport, and water usage, increase recycling, encourage biodiversity in the school grounds, use sound purchasing practices, and ensure the cafeteria products are environmentally appropriate and healthy. Moving towards sustainability needs to become an important feature of how the school organizes its daily operations. The savings made can be used for other sustainability initiatives.

For our flagship Compass school in Chiang Mai, Thailand, the Compass has been fully adopted and sustainability is given center stage in the school's vision and mission: "We are a caring international community living and learning together for a sustainable future." The school aims to prepare students for a future of increasing cross-cultural independence, rapid technological change, and critical environmental challenges. Global issues, the importance of international cooperation, and knowledge of sustainability concepts are imparted through all disciplines.

The Compass also provided the framework for their 5-year strategic planning, with goals aligned with the four Compass points. In the plan it was decided that the school would aspire to the following goals:

- Be a school where Learning and the learner are central
- Be a school committed to expanding Leadership
- Be a school at the heart of a learning Community where sustainability matters

- Be an amplified school that embraces Technology
- Be a school that embraces Creativity
- Be a school that is Connecting to local, regional, and global networks

Each of these themes were then examined through the lenses of N = Nature, S = Society, E = Economy, and W = Well-being, which encouraged the exploration of different viewpoints and interconnections. Goals were then created and organized in a matrix organized by themes and Compass Points. For example, Table 1 shows an overview of the goals for the theme 'Learning'.

Nature:	○ We take full advantage of the unique natural environment and outdoor learning spaces
Economy:	○ We have systems in place to support the sustainable growth of facilities and resources for the learning programs
Society:	○ We have a flexible and expanding range of learning opportunities, accessible via a variety of media and locations, to meet students' learning needs and prepare them for continued learning in an increasingly complex society ○ Students make their learning visible to enrich their learning experience and to contribute to the learning of others ○ Students are principled and take their responsibility to themselves and society seriously, mindful of their actions and the possible consequences
Wellbeing:	○ Mindfulness is integrated into learning activities

Table 1. School Strategic Planning Goals for Theme 'Learning'

Outcomes were then developed for each of the goals, again using the Compass Points as lenses for exploring multiple viewpoints. The Sustainability Compass was useful as a tool for setting direction towards living and learning more sustainably and it helped the school to look at its community from different viewpoints in order to learn, make decisions, and take action in sustainable ways.[3] Teachers and staff actively use the language of Compass in their planning and other meeting conversations.

As everybody in the school must be involved together in actualizing the plan— not just the head of school, but all team leaders as well—all of the auxiliary staff participated in a 1-day workshop with Compass, with all teaching staff and operational middle managers staff joining. The aim was to familiarize everyone at the schools with the Compass and to gain understanding of the systemic dynamics of the school (webbing activity). According to the

[3] Submitted by: Karrie Dietz, 2013, while serving as Junior School Principal, Prem Tinsulanonda International School (PTIS), Chiang Mai, Thailand.

President, the Accounts Department really had a big 'ah-ha moment' regarding how they are connected to other departments' effectiveness, (transparency, efficiency), and how they affect the wellbeing of others (e.g. parents, teachers).

This workshop was followed by short discussions and coaching with the auxiliary staff department teams (e.g. housekeeping) regarding "what sustainability meant" and to identify what they thought they were already doing that aligned with this sustainability concept and principles. This helped to get all departments on board supporting the Compass framework and the long-term goal (to make the entire school and all operations more sustainable), as well as to get them to think in their work domain and consider what aspects of their domain fell into the different Compass Points. Each department had to identify what they would like to do (not yet doing) and what resources they needed to put their plans into action. These staff felt valued and excited as training participants. The teams involved included:

1. Gardeners
2. House keeping
3. Maintenance
4. Secretaries and administrative secretaries
5. Nurse, drivers, and transport office
6. Kitchen staff

Facilities and Grounds

It is not enough to introduce an energy savings regime and recycle wastepaper, however important that may be. We have to consider the entire environment within which learning takes place. In other words, we have to check how much our lecture halls, seminar rooms, libraries, malls, student buildings, cafés, and computer rooms fulfill sustainability criteria. Schools are often judged by physical appearance and presentation of the grounds and buildings. Increasing the diversity and extent of vegetation cover in school grounds not only enhances the image of the school, but also maximizes the potential of these spaces to provide educational and environmental experiences for the students.

Students, staff, and parents can be actively involved in the sustainable management of the grounds through activities such as habitat creation, mulching, vegetable gardening, landscaping, productive enterprises (if appropriate), and litter reduction. The opportunities are limited only by the imagination and enthusiasm of the school community. Although schools may be limited in what they can do about the design of existing buildings, the refurbishing of older buildings should incorporate energy-efficient elements. For most schools it is how they use the buildings and grounds that will have the most impact. New buildings should be designed with energy conservation as a priority.

Many of our partner schools are actively using Compass to help them assess their own sustainability footprint, especially as it applies to energy use, waste, water conservation and general natural resource consumption. Moreover, through the use of the Compass, students are more able to take ownership of the assessment and auditing work, integrating it into

their various course requirements. They are also looking further afield at the spaces for social interaction and wellbeing within their school environment and design, including the integration of natural green spaces into the school landscape where possible. Another of our flagship schools, United World College South East Asia East Campus (UWCSEA) has incorporated all four Compass points seamlessly well with their urban gardening programme, in which students from all grade levels are involved. See http://eastsustainability.blogspot.com.

Community Engagement, Networks, and Partnerships

Sustainable development is best achieved through collaborative action with the local and broader community. This might include partnerships with other educational institutions, local councils, businesses, industry, and community groups and networks. This links student learning to the workplace and to local environmental and social issues, and allows students to become active and involved participants. Schools that have fostered partnerships have sometimes gained access to resources not otherwise available to the school.

Moreover, strong engagement with parents, through their stakeholder involvement within the school community, can reap a rich dividend in terms of their connections within the larger community beyond the school to which they also belong. They can be significant catalysts in helping with the establishment of the networks and partnerships mentioned above.

Currently there are an increasing number of teachers using the Compass as the core problem analysis framework and foundation for service learning, community engagement, and assistance as part of their curriculum requirements. The Compass is being used for this in all grade levels, but is especially effective in the middle and upper secondary grades.

For example, one school in the Philippines has developed its own Sustainability Fund to help its NGO partners with their own missions focused on community development. The Sustainability Fund provides an opportunity not only for student organizations such as the grade level councils, prom Committee, and clubs to donate money to support the schools service partners, but the broader school community of parents and alumni. The establishment of the ISM Sustainability Fund, financed by donations, provides financial support for much needed sustainable projects in the community. Projects that the fund could support might include purchasing building materials, completing infrastructure projects, developing livelihood or environmental projects, improving sports and education facilities, repairing equipment or supporting scholarship programs. In order to be eligible, the school's Service Partners must apply using both written form and a face-to-face interview. The Compass is used in providing the project proposal framework for the projects' expected outcomes, reflecting all points of the Sustainability Compass (Nature, Society, Economy, and Wellbeing). Potential indicators for measuring the effectiveness of the project from all points of the Sustainability Compass (Nature, Society, Economy, and Wellbeing) are also required.

The interview process and recommendations are made by a committee consisting of faculty, administration, parents, and student representatives for approval by the head of the school.

Outcomes for the first two years of running this fund are as follows[4]:

Year 1: Remodeling the workshop of the school's service partner's (Berdesaco's) new project to recycle cans into model trucks, tricycles, and Filipino Jeepneys, with primary expense going to purchasing a press to increase project production efficiency, employment opportunity, and work conditions.

Year 2: Installing solar panels at the site of the school's service partner Stairway Foundation in collaboration with Solenergy. Incorporate learning opportunities for IB Chemistry and Physics students related to the installation process.

In another example, a middle school teacher from an international school in Bangkok, Thailand used the Compass and Pyramid Lite for empowering his students with the opportunity to make tangible contributions to community wellbeing, and learn invaluable project planning and project management lessons.

In August 2013 a group of nine students and two teachers from this school travelled to one hill tribe village in Omgoi, Chiang Mai. The aim of the trip was to learn about life in the village and identify the main developmental needs of the village that would improve their quality of life. Ten months later, on the third trip to the village, a group of 23 students engaged in development projects that gave the village of 300 people a safe source of water for the first time ever. They also worked with the locals to build eight families their first ever toilet and bathroom, and donated a lot of educational supplies including books and solar lamps that allow the families to read at night and self study for the first time ever.

The Compass was one of the primary analysis tools used by the students for developing their interview questions, collecting villager responses, and formulating their own observations. From this basis, they used the Pyramid and other systems thinking tools, such as causal loop diagrams (CLDs), to understand linkages, feedback loops, and identify where key point of leverage were for community improvement, and where development would best be served.

[4] International School Manila Sustainability Fund, 2014. http://www.ismanila.org/page.cfm?p=999

Assessing Whole-School Systems Supporting Educating for a Sustainable Future

To assist schools in starting the sustainability journey in earnest, we have developed the **Compass School Self-Assessment of Sustainability.** This tool, freely downloadable from the Compass Education website (www.compasseducation.org) has been developed to allow school teams to evaluate their progress in the development of different support systems needed for effectively integrating sustainability education as a whole-school approach. The self-assessment framework uses the four Compass Points (Nature, Economy, Society, and Wellbeing). We feel that the self-assessment can help identify systemic structural gaps in relation to fully integrating sustainability as a core value and practice in all domains and aspects of a school.

In all, there are 28 Indicators equally divided between the four Compass Points. Each Compass Point has 7 evaluation indicators and uses a simple 0-3 scoring method that is the same for each of the 28 indicators. As it is supposed to be a relatively quick process, it is not designed to be used as a detailed audit tool that looks at actual data, but is primarily concerned with the existence of systems and the extent of their implementation and reach within a school. The scoring can be based on the following criteria:

0 = Nothing has been done at the school related to this indicator. There is no action, no policy or work plan, or monitoring and reporting system in place in any area of the school.

1 = Some action and activities have been undertaken related to this indicator in certain areas of the school. However, there are no explicit policy directives, nor any monitoring, tracking, or reporting system developed. Nor are there any formally structured school-wide programmes. Only some school stakeholders (e.g. students, teachers, staff, etc.) are involved with this indicator.

2 = There are concrete steps being taken towards more formalized school-wide systemic structure for this indicator (e.g. existence of goal, targets, coordinated action, some monitoring and reporting, etc.), but they are not yet fully integrated into all areas of the school (i.e. not every department, building, school level is implementing).

3 = There exists a fully operationalized and integrated programme for this indicator. This includes school-wide policy, goals, measurable targets and indicators, work plans, teams, and a transparent monitoring and reporting system. A high level of whole-school community stakeholder involvement is achieved through all areas of teaching, learning, and school operations.

An example of the self assessment matrix is shown in Table 2, below:

	Nature Domain Indicator	SCORE 0-3	Economy Domain Indicator	SCORE 0-3	Society Domain Indicator	SCORE 0-3	Wellbeing Domain Indicator	SCORE 0-3
1	Water Use & Management	1	Considered Consumption And Production	0	Inclusivity in Decision-Making & School Governance	1	Sense of Purpose & Resiliency	1
2	Habitat, Biodiversity, and Ecosystem Services	0	Energy & Water Use	1	Equity and Inclusion	2	Individual Wellness	1
3	Green Energy Sourcing	2	Value for Ethical Business Practice	2	Social Cohesion	3	Health And Safety	3
4	Green House Gas Emissions	0	Fair And Equitable Remuneration	2	Sense Of Place& Belonging	1	Balanced Working/Learning Conditions	1
5	Waste Management	2	Investment in the Sustainability of School Facilities	1	Community Engagement & Partnerships	2	Interpersonal And Self Relationships	2
6	Environmental Compliance	2	Socially Responsible Investments (External)	1	Global Citizenship	1	Social And Emotional Learning	2
7	Connection with Nature	3	Community Contributions (financial and in-kind)	2	Authentic Service & Action	2	Growth and Development	3
	Total Score	10		9		12		13
	Sustainability Index = (Total Score/21)*100	47.62		42.8571		57.143		61.905

Table 2. Self Assessment Matrix

Conclusion

In summary, the feedback from teachers, students, and administrators shows that Compass Education's approach to educating for a sustainable future, (otherwise known as ESD), which utilizes and adapts the AtKisson Sustainability Compass and Accelerator tools together with systems thinking tools and methods, is highly effective in allowing sustainability learning to happen without necessarily having to explicitly focus on this sometime controversial and often times abstract term and concept. This is what we consider as developing 'sustainability habits of mind.'

The Compass Education approach, with its core methods built around systems thinking principles and practice, and using the Compass metaphor, contributes to the evolution of a school culture where sustainability is increasingly embedded throughout. It leads not only to the promotion and practice of sustainability principles, attitudes, values, and perspectives, but in doing so sees the implementation of sustainability tools, methods, frameworks, symbols, and language integrated into daily life. It also ensures the monitoring of the school's levels of sustainability in all four dimensions, facilitated by measurable indicators, and promotes a holistic environmental accountability.

For the educators associated with Compass Education this means that schools imbue a spirit of inclusivity, compassion, and mutual respect across and throughout all aspects of their operations. It also means engaging, enabling and empowering all members of the school

community to learn together, create common goals, and work collaboratively to achieve them.

The Compass Education whole-school model assist schools in building up to be an institutional role model for sustainable practices through values and behavior, holistic learning experiences, and participative, collaborative, shared leadership/decision-making. This is really where we will see substantive change occur in young people's mental models—including values, assumptions, beliefs, and world views.

The most important element, however, is that students must be an integral part of a whole-school learning community, not only learning about sustainability in the classroom, but being able to genuinely see and experience it modeled and practiced in all that happens in their school and beyond. Furthermore, students must be given opportunities to lead change, and be empowered with the tools and skills to do so effectively. Schools working towards this vision thus integrate sustainability into school planning, curricula, teaching and learning, and try to embed it into the school infrastructure and maintenance.

Finally, the Compass School process, by bringing people in the school community together from all quarters, creates innumerable positive spin-off effects as well, as people get to know each other in new and meaningful ways. In doing so, they find new ways to collaborate, new ways to help each other, new common goals and interests. Building school sustainability also builds school social capital and in so doing acts as a transformative agent. This is our Compass Education model.

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