

# SUSTAINABLE IS MORE THAN ABLE

- VIEWPOINTS ON EDUCATION FOR SUSTAINABILITY



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*(extracts of the danish discussion booklet: "Sustainable is more than able - a discussion paper on adult and general education for sustainability")*

**Sustainable is more than able**  
**- viewpoints on education for sustainability**

PUBLISHED BY



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# 1. INTRODUCTION

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In June 2002, Eco-Net published discussion booklet in Danish, "Bæredygtig er mere end dygtig – et debatoplæg om folkeoplysning og uddannelse for bæredygtig udvikling ("Sustainable is more than able – a discussion paper on adult and general education for sustainability"). The booklet contains thirteen contributions on ideas, visions, and experience, the authors of which took part in an e-mail debate on the topic in the autumn of 2001. The present booklet presents extracts of their contributions, including their key points and conclusions concerning adult and general education for sustainability.

The booklet intends to highlight the potentials of adult and general education in terms of promoting a sustainable development in Denmark – and globally. It has been realised in many quarters, among them chapter 36 of Agenda 21, that change towards sustainability has to rest on a broad inclusion of all citizens – and that adult and general education are pivotal areas of intervention. This makes the sustainability project a major challenge for the entire education sector, and Eco-Net wishes to open up a broad discussion and experience sharing on how we are to enable the learning of principles and practices of sustainability in all forms of education and competence building.

Adult and general education for sustainability comprise three main areas of intervention:

- integrating sustainability into the subject-matter and the formative aspects of both existing and new educations,
- integrating principles of sustainability in pedagogy.
- integrating environmental concerns and sustainability into the physical framework and functional operation of education institutions.

This pertains to all forms of formal and non-formal education and competence building – right from compulsory education, tertiary education, universities and in-service training, to evening schools, folk high schools and more non-formal types of adult education.

The Earth Summit on Sustainable Development offers the opportunity of trying to place the realisation of education for sustainability on the international agenda, as more than pretty declarations of intent.

Denmark has a long-standing tradition of democracy and public education, also practiced in compulsory education and via our folk high schools

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and evening schools. We thus have some potential for launching a community education project on sustainable development. All the same, our results and experience in the field are rather limited. There might be examples of – and experience in education for sustainability in other countries and cultures that we could learn from. Eco-Net intends to find out, and would therefore like to make contact with international organisations and associations interested in a dialogue, with a view to sharing our ideas and experience regarding adult and general education for sustainability.

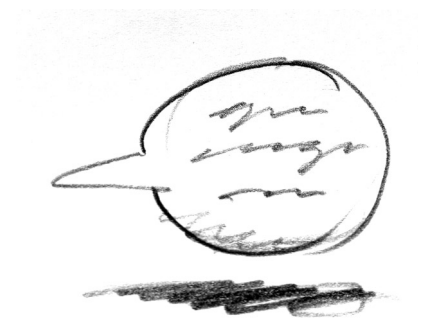
*Feel free to use the extracts in the present booklet for inspiration and to open up dialogue and debate. A debate on how to grow not just able – but sustainable...*

*Please contact Eco-Net, if you are interested in interchange and/or co-operation – or just want to know more.*

*august 2002*

*Anne Mette de Visser  
Project coordinator*

*Lars Myrthu-Nielsen  
Secretarial manager*



## 2. A BRIEF PRESENTATION OF ECO-NET - A DANISH NGO

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The Network for Ecological Education and Practice (Eco-Net) is an NGO founded in 1994, with the mission of promoting community education and public debate on ecology and sustainable development.

The Eco-Net Newsletter is published six times a year – and both in a web and a printed version. The newsletter provides an easy overview of initiatives and events concerning ecology and sustainable development.

Eco-Net runs three websites, based on a comprehensive network and an advanced database of individuals and NGOs in the field of ecology and sustainability.

<http://www.eco-net.dk>

- is the homepage of the association. Here, you will also find the Eco-Net Newsletter and an English section.

<http://www.eco-info.dk>

- is an internet portal and a guide to the world of ecology (in Danish only). Here, you will find all about ecological products and green lifestyle, addresses and links to organisations, individuals, and companies in the field of ecology, a

green library and a nationwide calendar of eco-events as well as notes on ecology.

<http://www.BæredygtigUdvikling.nu>

- is an internet portal presenting events, organisations, individuals policies and debates for sustainable development (in Danish only). This homepage has a separate section on education for sustainability.

Eco-Net also organises annual nationwide weekend seminars, during which new topics in ecology and sustainability are brought up for discussion.

Moreover Eco-Net publishes discussion materials (see list of links on the last page), organises topical discussion meetings and Internet discussions – and experiments with new democratic forms of dialogue meetings.

The activities of the association are planned and co-ordinated from the secretariat, based in conjunction with the Danish Folk High School for Sports and Gymnastics in Ollerup.



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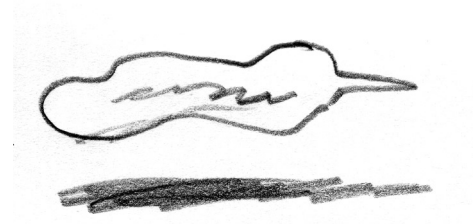
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**NATIONAL NETWORKS AND PARTNERSHIPS:**

Eco-Net is member of:

*The Danish Council for Adult Education*

- covering 39 adult education organisations in Denmark

*The Danish 92-Group*

- a co-operation between the 21 largest Danish environmental and development organisations, all of which work on following up on the 1992 UN Earth Summit on Environment and Development in Rio de Janeiro.

(See the list of links on the last page).

### 3. DENMARK'S FOLLOW-UP ON CHAPTER 36 OF AGENDA 21

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The Agenda 21 declaration was entered into at the UN Earth Summit on Environment and Development in Rio de Janeiro in 1992. Chapter 36 of Agenda 21 concerns "Promoting Education, Public Awareness and Training". Here governments worldwide are called upon to secure the availability of basic education, and to integrate sustainable development as an overarching topic at all levels of education. Now, what has happened in this field since the 1992 Earth Summit?

At the international level, the target of securing education for all by the year 2002 has far from been reached. More than 113 million children are still left without any access to primary education, 880 million adults are illiterate, and girls have poorer access to education than do boys. Moreover, the standard of education and learning has a long way to go, in terms of both values and skills.

In Scandinavia and Denmark, certain initiatives have been launched in the field of adult and general education that fall within the goals stated in Agenda 21. In 1994, Ole Vig Jensen, then Danish minister of education, introduced the concept of "greening education", and since 1995, inclusion of green aspects has been mandatory for all subjects and at all levels of the Danish education

system. For a brief sequence of years, the Danish Ministry of Education committed funds for development and pilot studies for "greening" education and community education. Above all, the now shelved "Green Fund" of the Danish Ministry of the Environment allocated funds for community education initiatives towards sustainable development – including about a hundred so-called "green guides".

#### THE HAGA DECLARATION

In 1996, the Baltic countries started a government-level co-operation towards sustainable development in the region. The so-called Baltic 21 Co-operation comprises Denmark, Norway, Iceland, Sweden, Finland, Estonia, Latvia, Lithuania, Northwest Russia, Poland, and Germany (adjacent Länder). In March 2000, Denmark signed the Haga Declaration, an outcome of this co-operation, with the mission to secure the preparation of a common strategy and an action programme towards sustainable development, to cover all forms of education and levels in the Baltic region. Finally, in January of 2002, Baltic 21E, which is an Agenda 21 strategy for education in the countries round the Baltic Sea, was published.

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### **THE HAGA DECLARATION INCLUDES THE FOLLOWING STATEMENT:**

*The creation of knowledge on and awareness of sustainable development must be seen as a life-long process and should address people of all ethnical groups, ages and both genders. It must include all levels of education, formal as well as informal, from pre-school to higher education and adult education as well as awareness-raising measures through actions by non-governmental organisations (NGOs) and informal modes of teaching and learning, e.g. within the family and through the media.*

*Education in sustainable development should be pursued at all levels of education; it should be included in all curricula or equivalent instruments corresponding to the level of education. Such education should rest on a broad scientific knowledge and be both integrated into existing disciplines and developed as a special competence. It demands an educational culture directed towards a more integrative process-oriented and dynamic mode emphasising the importance of critical thinking, and of social learning and a democratic process.*

*Education in sustainable development should be based on an integrated approach to economic, environmen-*

*tal and societal development and encompass a broad range of related issues such as democracy, gender equity and human rights. This broad approach should be recognised in both natural science and social science, and should complement and build on existing initiatives in environmental education.*

*Teachers and educators have a key role in education for sustainable development. Training programmes for educators and teachers should take into account the concept of sustainable development and promote suitable learning methods based on research in the area. Further research on education for sustainable development should be encouraged.*

*All educational institutions have an important role in the further implementation of Agenda 21 and should aim at being linked to internationally or nationally recognised development strategies or the equivalent; to have staff fully trained and competent in education for sustainable development; and to provide all students with relevant opportunities and methods for learning about sustainable development.*

*Education in Sustainable Development should also be regarded as an important tool for achieving sustainable consumption and production patterns as well as for necessary lifestyle changes.*

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### **HOW HAVE POLITICAL INTENTIONS BEEN TRANSLATED INTO PRACTICE?**

Now, how have these political intentions been translated into Danish practice? According to a 1998 progress report, "greening education" was generally accomplished by "greening" pre-existing educations – most often by introducing green aspects into their syllabuses. The progress report also shows that new independent educations emerged, and that a number of pilot and development projects were carried out. One of the most comprehensive development projects in compulsory education was about environmental education in Scandinavia (the so-called MUVIN project), carried out in the period of 1993-1996.

However, a study done in 1999 shows that just 40 per cent of the ninth-grade respondents in secondary schools had devoted time to environmental issues. A smaller-scale survey among teachers in compulsory and post-compulsory education, effected within the Group 92 framework, shows that the "greening" of post-compulsory education consists primarily in mandatory biology and geography courses. Social science and the humanities do not implicate environmental issues in any major way – and generally, interdisciplinary activities encounter difficulties in post-compulsory educa-

tion due to the new elective subjects structure.

Thus, albeit many education institutions have incorporated "green" preambles, this was not sufficient to allow principles of sustainable development to leave deep imprints on education as such, or on how education institutions are being run. Education on environment and sustainable development mostly takes place in few and discrete lessons, and detached from the rest of the curriculum. Those education institutions are few and far apart, in which pupils or students are offered organic meals, where buildings are constructed and refurbished in a sustainable fashion, and where sustainability is integrated in the general operation.

## 4. PUBLIC DEBATE ACTIVITIES WITHIN THE ECO-NET FRAMEWORK

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This year, at the UN Earth Summit on Sustainable Development, all governments of the world are to present their national strategies for sustainable development, to be framed in co-operation and dialogue with broad strata of their respective populations. Therefore, in the spring of 2000, Eco-Net set a process in motion, which in January 2001 produced the *"DenmarkDeclaration – a danish agenda for sustainable development in the 21<sup>st</sup> century"* – a popular contribution to the government's strategy work. A "National Agenda 21 Council" set up for the purpose prepared a blueprint for the declaration, which was submitted for public hearing, and which 600 individuals convened to elaborate on during "ØkoTræf2000", a four-day session organised by Eco-Net in August 2000.

*The DenmarkDeclaration* includes a section on values and visions for the 21st century, along with ten specific recommendations to our government and parliament. So far, 90 organisations (including 13 local councils) have acceded to the declaration, including some of Denmark's largest national NGOs, e.g. Friluftsrådet (The Danish Outdoor Council), Danmarks Naturfredningsforening (The Danish Society for the Conservation of Nature), Specialarbejderforbundet i Danmark (The Dan-

ish Federation of Semi-Skilled Workers) and Det Danske Spejderkorps (The Danish Scouts Association).

Recommendation 8 of the *DenmarkDeclaration* says that; *"learning about sustainability principles and practice must be made an integral part of all forms of education and creation of skills, especially in the upbringing and education of children and young people..."*

In March 2001, the Danish social democrat / social liberal government submitted for hearing their motion for a national strategy towards a sustainable development. In conjunction with a public hearing phase, Eco-Net launched their next public awareness project: *"Our Debate"*. Further to this, Eco-Net published a debate meeting manual: *"Our Sustainable Development – give your inputs to the government"*, organised a series of public meetings and set up a web site, now evolved into the portal <http://www.BaredygtigUdvikling.nu>.

The proposed national strategy of the defunct Danish social democrat / social liberal government merely mentioned the education sector in passing. Consequently, Eco-Net and the Danish Forum for Environmental Education took the

initiative in writing a hearing response, with the recommendation that the overall strategy should attach greater weight to education, and including a specific proposal. The hearing response was seconded by number of organisations and institutions in the Danish education sector. Then in June 2001, the government presented a strategy for sustainable development, *"Development with foresight – a shared responsibility"*. Even though the education field is not given the desired weight, certain improvements were entered to the final version. This version includes the statement, *"Education in the topic of sustainability carries weight at all levels of education. The vision is to enable all to broaden their knowledge of the many issues and topics involved in the debate on sustainable development at a global, regional, and local level"*. Although, in April 2002, the present liberal / conservative government presented a new, substantially revised proposal for a national sustainable development strategy, this statement of intent has survived.

All the same, it must be recognised that attempts to mobilise a broader popular debate on the coining of a national strategy for sustainable development have failed. Except for environmentalist and development NGOs, very few Danes have taken note that Denmark has now had first one national strategy for sustainable development – and then another – and what they are all about. Obviously, fewer still joined the debate.

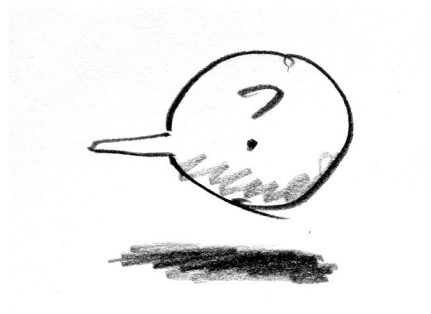
Community education and participation around sustainable development is not an event. It is a process, and a sustained, long-term endeavour is needed to achieve the necessary insight and awareness in the population. In order to bring

forward such process, Eco-Net published a debate booklet in the autumn of 2001, *"Making the path as we walk – three future scenarios for a sustainable Denmark"*. The debate booklet thematises and visualises what a sustainable development in Denmark could be about. Based on the debate booklet, Eco-Net has held scenario workshops all over the country, in NGOs, at public meetings, and at education institutions. During such workshops, and based on their critique of the future scenarios, people have formulated their own visions and suggestions for initiatives towards sustainable development – both local and national.

#### A MAJOR CHALLENGE

It is beyond doubt that mediating the vision and the issues of sustainable development presents a considerable challenge. The topic is universal, and hence boundless, dealing with complex, global relations and controversial subjects such as our lifestyle, consumption level – and our responsibility towards future generations and the earth's poor. The concept of sustainable development implies both a critique of the present and an ethical message about social equity and something as corny as solidarity – and on top of it, with someone somewhere else on the planet, and in a future epoch. It invites change, and redefining the present. At the same time there is no such thing as a scientific truth on what a sustainable development imply – or what a sustainable society look like. Hence, mediation concerning sustainable development has to evolve as a democratic discourse, the point of which is not to »sell« a preconceived solution, but to set a framework for our shared learning and quest for solutions – and to provide tools for precisely that dialogue, understanding, responsibility,

and commitment. Whether we are talking about public or general education for sustainable development, mediation therefore has to set out by creating a framework enabling a democratic, inclusive dialogue and involvement – while the framework, presentation, and pedagogy obviously have to reflect the specific target group's age and prior knowledge. Serious public and general education for sustainability can hardly evolve within the setting of traditional, sermonising one-way communication – neither in the form of environmental information nor as environmental education. This is why there is a blatant need for developing learning approaches and materials, and to provide support and in-service training for the teachers, educators and other mediators who are to attend to this great and vital challenge.



## 5. IDEAS, VISIONS AND EXPERIENCES AROUND EDUCATION FOR SUSTAINABILITY

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The following summarises the keypoints and conclusions of the thirteen contributors to the original booklet, presented as a number of statements on adult, public and general education for sustain-

ability. A list with data on the contributors are found on page 41. The statements are organised around the following topics:

- 1. WHAT IS UNDERSTOOD BY EDUCATION FOR SUSTAINABILITY – AND WHY IS IT IMPORTANT?**
- 2. SUGGESTIONS ON THE SUBJECT MATTER OF EDUCATION FOR SUSTAINABILITY**
- 3. SUGGESTIONS FOR A SUSTAINABLE PEDAGOGICAL FRAMEWORK**
- 4. THE IMPORTANCE OF THE PHYSICAL FRAMEWORK AND THE RUNNING OF EDUCATIONAL INSTITUTIONS**
- 5. HOW CAN VISIONS BE TRANSLATED INTO EDUCATION AND LEARNING TARGETS?**
- 6. BARRIERS TO THE REALISATION OF EDUCATION FOR SUSTAINABILITY**
- 7. EXAMPLES OF WHAT EDUCATION FOR SUSTAINABILITY MIGHT LOOK LIKE**



## 5.1. WHAT IS UNDERSTOOD BY EDUCATION FOR SUSTAINABILITY – AND WHY IS IT IMPORTANT?

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- *What is the essence of education, learning, and knowledge?*
- *How is this related to sustainable development – and what is that?*
- *Why do schools and educations have a particular responsibility?*

### OUR SCHOOLS AND SOCIETY REFLECT ONE ANOTHER

A changed school system will gradually engender a changed society. This precisely is why creating education initiatives to promote this vision is a key strategy in achieving the vision of a sustainable society in a sustainable world...(Troels Dilling-Hansen)

### SCHOOLS AND EDUCATIONS HAVE A PARTICULAR RESPONSIBILITY

Together with the national level, local council initiatives are decisive factors in the work towards a sustainable development. Per their work with children and young people, schools and further education and training have a particular responsibility in mediating, educating and initiating activities promoting sustainability. In this context, it is important to motivate the management level at schools and institutions and give them responsibilities. Moreover, we need community champions among teachers and educators to coin the visions of a sustainable development – to translate pretty words into action. (Anita Monnerup)

### AN EXTENDED CONCEPT OF COMMUNITY EDUCATION AND LEARNING

The concept of community education is not solely connected to the ancient, dignified adult education institutions such as folk high schools and liberal education associations. The learning concept, and also the concept of community education, is being extended to increasingly include the non-formal learning that takes place in working and civil life. (Jette Gabrieli)

**IT IS NONSENSE TO TALK OF  
A SUSTAINABLE SOCIETY FOR  
SOME, AND NOT FOR OTHERS**

A sustainable society does not emerge deus ex machina. It requires knowledge, and since it does not make sense to talk of a sustainable society for some and not for others, and since the creation of a sustainable society is a matter of public opinion, the issue is to inform and energise the population. Community education is what we need to instil the insight needed to comprehend and live sustainable lives – and continue a sustainable development. (Bjarne Ottesen)

**CONNECTION BETWEEN THE  
SOCIAL, THE CULTURAL,  
AND THE ENVIRONMENTAL**

We still have a large group of citizens, to whom active public participation is not a matter of course; the situation is that we continue polluting our environment and wasting resources, and we still need to think local and act global. There is an intimate relation between the social, the cultural, and the environmental dimensions – A society in which these dimensions and the economic sector find themselves in a dialectical and harmonious balance, and in which all citizens are active participants based on their own capabilities is what we call a sustainable society. (Bjarne Ottesen)

**THREE KEY AREAS: THE  
ECOLOGICAL, THE SOCIAL,  
AND THE CULTURAL/  
SPIRITUAL**

Together, the subject matter taught by the eco-communities forms a whole that combines into a "sustainability circle". There are three key areas: the ecological, the social, and the cultural/spiritual. Various combinations of these key areas make up the corner stones of eco-communities – and of the sustainability curriculum. (Troels Dilling-Hansen)

**SUSTAINABLE EDUCATION  
IS INTEGRATIVE**

The cornerstone of sustainability is regard for the whole, which is why there is a close relationship between sustainable education and integrative education. To us, at Aabybro Organic Agricultural College, Denmark, integrative education takes its departure from reality itself and from the individual. (Kristian Herget)

## SITUATED LEARNING

Situated learning is about creating learning that reflect each pupil's/student's learning capabilities and learning requirements, and to provide a relevant and appropriate learning environment – hence it is about building upon an the insight in an individual's pre-existing knowledge, and about creating new knowledge through active participation and the cognitive apparatus. Here subjects are placed in a mutually complementary contextuality and are prerequisite to one another. Thus, the substance of individual subjects is not an end in itself, but is also instrumental in generating new knowledge. This is precisely where community education enters the picture. When information is offered, without a cognitive formation of knowledge taking place, it will transform neither attitudes nor behaviour. At best, it will remain unrealised knowledge. (Bjarne Ottesen)

## SUSTAINABILITY IN EAST AND WEST

The Baltic 21 co-operation has shown that concepts of sustainability differ greatly. In the Nordic countries, the concept has often been closely associated with its environmental aspects, with 'greenness', with ecology in the narrow sense of the term. It is often mentioned that the Nordic populations have been force-fed with "all that ecology stuff", almost ad nauseam. Nothing of the kind is in evidence in the other Baltic 21 countries, where the case is much rather a general underexposure in terms of the sustainability concept as such. When placed on the political agenda in those countries, sustainability is mostly referred to in a broader sense, giving high priority to civic participation, equity issues, and social development. (Peter Bacher)

## GREEN PROCUREMENT BY EDUCATIONAL INSTITUTIONS ARE INTERESTING

This is not just because of it being statutory for public purchasers to include environmental concerns in their procurement decisions. It is also because educational institutions have a particular role to play as mediators, just as schools are to work with the environment and green aspects. Pupils/students are (future) consumers, so it is pertinent to draw attention to consumption, resource use, and environmental aspects as values, to be influenced by our informed choices. (Lis Husmer)

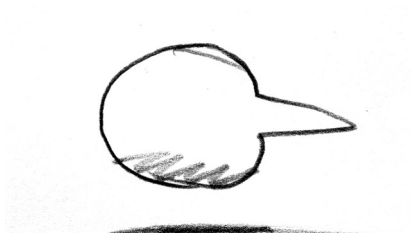
**THE ADULT EVENING  
SCHOOL SECTOR IS  
YET TO TAKE UP THE  
ENVIRONMENTAL  
CHALLENGE**

When it comes to non-formal community education, a number of positive things have happened in terms of sustainability and the environment. Quite contrarily with the 'old' general education institutions, things have been moving at a slow and sluggish pace when it comes to developing community education on environment and sustainable development. And the realm of adult evening school education is yet to take on the environmental challenge as a significant high-priority commitment.

(Jette Gabrieli)

**FOLK HIGH SCHOOLS  
SHOULD BE ACTIVE IN  
DEVELOPMENT OF A  
SUSTAINABLE SOCIETY**

Learning depends on whether the parties involved in an educational context (teachers and students) are connected – individually and interpersonally – with their common and individual spontaneous nature, meaning that they enter into character. When it comes to bringing about such existential encounters between teachers and students, the folk high school is a brilliant device. This is precisely why the Danish folk high school as an institution has outlived a series of vastly different social structures – and has been able to leave its mark on several aspects of societal development over the last 150 years. This, too, is precisely why folk high schools should also take an active role in the ever more pressing development of a sustainable society. (Bjarne Ottesen)



## 5.2. SUGGESTIONS ON THE SUBJECT MATTER OF EDUCATION FOR SUSTAINABILITY

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- *Why is sustainability more than natural science subjects?*
- *Can ecological insight and a sustainable concept of nature be created in the classroom?*
- *How can green purchasing be used in an educational setting...*

### MUCH MORE THAN NATURAL SCIENCE

A certain knowledge of nature is required in order for someone to act sustainably in today's society. This can instil an understanding of what is happening when we exploit natural resources... Yet, inclusion of the natural sciences dimension is far from enough. Conflicts of interest and action competence are also core concepts to a sustainable education. It is important to understand how man exploits nature's resources, and how we can influence decision-making processes and change our habits. This makes the democracy concept a key element.

The social dimension – e.g. taking responsibility for one another, both in our familiar setting and globally – also comes naturally to an education for sustainability. Our responsibility for present and future generations is precisely what we need to take seriously, in terms of our exploitation of natural resources and the impacts we leave on Planet Earth. In this light, it is essential to work on social relations at day care facilities and at schools and education institutions as well. Information and communication technologies offer new opportunities can help to develop a global awareness... Sensory inputs, experience, and aesthetics can also be made the basis of a sustainable interdisciplinary approach. For instance via "land art" (art in and by nature), which – by transforming nature in a simple manner – intensifies our experience of nature and causes us to perceive it differently, which in turn can make us reflect on nature and our own impacts on it. (Anita Monnerup)

**MUSIC AND CREATIVE DEVELOPMENT IS AN INSEPARABLE PART OF ECOLOGICAL ALPHABETISATION.**

Drawing, painting, music-making, dancing, and singing are particularly native to the ecological alphabetisation process. These “languages” will sensitise a child to its environment and develop bonds between individual and surroundings. (Floyd K. Stein)

**GREEN PROCUREMENT REQUIRES COMPETENCE BUILDING – AND CAN BE USED IN EDUCATION**

Realising green procurement objectives requires focus and competence building on green purchasing by educational institutions. Competence building in this area should attach importance to the fact that green procurement can be made an educational element and be used in raising action competence in both teachers and pupils/students, in terms of environmental considerations in purchasing and consumption. (Lis Husmer)

**NATURE IS THE TRUE AND FANTASTIC SETTING FOR BUILDING A HOLISTIC UNDERSTANDING**

It is vital that, at an early age, children are offered opportunity for primary, sensuous experience in nature. More than anything, what should be experienced in nature is life itself, as a magnificent, unfolded whole. Everything that was not created by man, but has a life cycle of its own. Such experience will form a backdrop to comprehending nature as a constantly metabolising system, and not just as an inert resource that we are free to manage at our own discretion... - And for learning about (and understanding) the fundamentals of life, instead of leaving them out of consideration – in the vain confidence that there is a manmade technical solution (‘fix’) to everything. If the whole day in school is spent in front of a book or a screen – and with these as the primary or only sources of knowledge – then there is really cause for concern. (Bo Bramming)

**WE KNOW IT WOULD BE FUTILE TO MAKE THE ENTIRE UNIVERSE INTO A TEACHING PROJECT...**

...whenever an earthworm pops its head out of soil with a child watching. On the other hand that does not imply that it is not important to make use of the goings-on around us, in our pedagogical endeavours towards creating a complete understanding of human life on earth. (Kaasbøl og Hansen)

**WILL WE END UP AS ECOLOGICAL ILLITERATES?**

If we fail to integrate a sustainable concept of nature in our schools, we could very well end up ecological illiterates in our own technified universe. Absurdly understanding and mastering the virtual world of the World Wide Web, yet not the natural or physical setting of our lives... (Bo Bramming)

**THE BLACKBOARD IS THE WINDOW TO THE REALM OF IDEAS AND CONCEPTS, WHILE ECOLOGICAL UNDERSTANDING IS MOST NARROWLY ALLIED WITH THE WORLD OUTSIDE THE REAL WINDOW**

A child's play rests on entireties – as does ecological insight. This makes the physical environment (nature, the playground, and the building proper) one of the most significant things we can provide for a child: namely opportunities for developing a greater understanding of ecological entireties and principles... Ecological alphabetisation in the pre-school age should be seen as prerequisite to a sustainable education in initial education. The key feature of the ecological alphabetisation process is to develop a human's capability of assessing and appreciating the environment. Evaluations that are based on the child's own relations to the physical environment. (Floyd K. Stein)

**REALITY AS A BASIS FOR THEORETICAL LEARNING**

At The Danish Organic Agricultural College, we have done a lot to transform the teaching offered, letting it depart from entireties instead of the traditional fragmentation of reality into 45-minute bits, which we then expect our students to piece together into a realistic view of the world. We use reality as a launchpad for theoretical learning. (Kristian Herget)



## PEDAGOGY VIA LIFE, DEATH, AND CYCLICITY

It is from the concepts of life, death, and cyclicity, of contexts and systems, patterns and symbioses, that an ecological pedagogy will emerge. If we restrict our ecological pursuits to the conservation of our physical nature and environment, we will end up in a blind alley of ‘watch out’s – missing out on the meta-physical, psychical, and spiritual aspects that require cognition of ‘the oneness of all things’ ... (Kaasbøl og Hansen)

## WE SHOULD NOT JUST DEAL WITH NATURE’S NATURE

Human nature is perhaps the dimension, to which we need to apply ourselves the most, making it the project of our ecological thinking – and an integral part of our mediating process. Otherwise, we will just end up with yet another consumer concept. (Kaasbøl og Hansen)





## 5.3. SUGGESTIONS FOR A SUSTAINABLE PEDAGOGICAL FRAMEWORK

- *Can lesson plans, class, and school buildings provide the framework of sustainable learning?*
- *How to intermediate perception of the entirety and connectedness of real-life*
- *Is it possible for a school to teach environment without practicing green management itself?*
- *Which role does the individual's resources and potentials play...*
- *Are we facing a shift of paradigm in pedagogy?*

**THE LESSON PLAN IS A STRAITJACKET – AND SCHOOL BUILDINGS ARE SUPERFLUOUS, AND HARMFUL**

Sustainable learning has little to do with schools in a conventional sense. Applying green topics in a school that is not in itself sustainable – in a pedagogical sense – will not do.

The lesson plan represents orderliness, clarity, and control. But it is a straitjacket that only serves to underscore the absurdity of this form of temporal arrangement: Just as you are absorbed in learning, you are interrupted. That's how immaterial whatever you were doing was, that it can arbitrarily be exchanged for something entirely different every 45 minutes...

We know that not all our students will develop like clockwork and at the same synchronised pace. And in reflexive modernity, there is no uniformity and synchronous living. Quite the contrary: individuality and asynchronous lives with great mobility and different rituals. The classic, age segregated class need to be replaced by interest-based learning communities...

The sustainable school does not primarily consist of buildings with too many students crowding in too little space. Learning can – and should – unfold in a number of learning environments: garden, library, shed, moor, refugee centre, studio, scrap yard, harbour, hot-dog stand, church, factory, office, lake, kindergarten, farm, laboratory, shop, cinema, and baker's shop. (Peter Plant)

**WE LEARN BY DOING  
– AND BY IMITATING.  
AND IN PARTICULAR, BY  
EXPERIENCING THE NEED  
TO LEARN**

– But then, how are the students to learn Danish and maths, goes the objection. By using Danish and maths. And Spanish by using Spanish. And gymnastics by using their bodies. This is no new principle: you learn by doing – and by imitating. And above all by experiencing the need to learn. – By the way, how did you learn to kiss? By attending ‘Kissing Grade One’? And the following year, you moved on to ‘Kissing Grade Two’ – with tests and marks? (Peter Plant)

**LEARNING SHOULD  
NO LONGER EVOLVE IN  
SEPARATE INSTITUTIONS**

Since 1998, GEN, the global web of eco-villages, has applied the terminology of *“Living and Learning”*, which is a learning paradigm based on an entirely new – and very old – pedagogy: We learn as we live, and vice versa. *“Learning by doing”* is another expression for the same approach. By living and participating in a community, students learn a new way of life and culture, grow individually and spiritually through meditation, by creative pursuits in the community, by combined theoretical and practical work, by being in nature, and by experiencing and learning how to implement all the elements of a sustainable lifestyle. This is a vibrant education system, stimulating personal growth and uniting global and local objectives. (Troels Dilling-Hansen)

**SUSTAINABILITY AND  
DEVELOPING LIFE SKILLS**

The topics of environment, sustainability, and globalisation could play a key role in creating realistic bonds with reality – and at the same time, they provide a perfect opportunity for developing a far more dynamic pedagogy, in which traditional subjects are not just used in qualifying for a technological society, but also in developing each student’s own life skills. (Bo Bramming)

**WE DO NOT HAVE A CUT-  
AND-DRIED ANSWER**

– a final ecological pedagogy. Alone the concept of “ecological pedagogy” presents the same difficulties, as do the concepts of eco-milk and eco-communities... (Kaasbøl og Hansen)

## **REINVENT SYSTEMIC THINKING**

We need to develop learning processes that can mediate the perception of contextuality – and of man’s existence in the world... One possible way is to resume systemic thinking, since it expresses itself through essential concepts such as life, nature, relation, and relatedness. Such systemic thinking is present in ecology, describing relations between all things – from atom to man – and how they relate to the context. The ecological system consists of life patterns – and an understanding hereof must be grounded in a different way of thinking. (Kaasbøl og Hansen)

## **CONTEXTUAL PRIORITIES IN THE PEDAGOGICAL CURRICULUM**

The ecological concepts also appear in pedagogical thinking under the heading: the relation between individual and environment. Here, the perspective on man is the relation between the ‘I’ and the world – and man is placed in a system that emphasises relatedness, context, and relation.

In the pedagogical curriculum, this materialises as a prioritisation, in which:

- context goes before content
- idea goes before fact
- question goes before answer
- imagination goes before knowledge
- learning process goes before its outcome
- quality goes before quantity in the information flow

(Kaasbøl og Hansen)

## **WE SHOULD DEVELOP AND APPLY OUR ECOLOGICAL INTELLIGENCE**

It is vital that we develop the capability to view various circumstances in their causal contexts... And how is that to be done...? (Bjarne Ottesen)

## **SHIFT THE FOCUS AWAY FROM THE CONCEPT OF THE INDIVIDUAL**

In the pedagogical discourse, our attention needs to be shifted from the concept of the individual and the narrowly defined social interest of any given society in its children (within its own ethical and cultural confines), and towards a far more comprehensive understanding of each individual’s place in – and relating to the world as a universal ecological system. (Kaasbøl og Hansen)

**DEPART FROM THE  
RESOURCES AND  
POTENTIALS OF THE  
INDIVIDUALS**

A lot of energy has been spent trying to upgrade people's qualifications based on specific social norms, instead of departing from each individual's resources and potentials. Thus, education for sustainability is not just a matter of promoting sustainable development in society, but should just as well aim to provide each person with resources that will lead to a lasting social commitment. (Ditte West)

**ORGANIC FARMING OR  
OTHER SUSTAINABLE  
INITIATIVES CANNOT  
BE TAUGHT THE  
CONVENTIONAL WAY**

The general carving-up of reality into topics, subject to individual exams, as opposed to the real world around us, just does not make sense. So there is no getting round a radical revision of pedagogy paradigms and physical frameworks at a number of Danish education institutions. (Kristian Herget)

**SUPERSTRUCTURE  
OR ADDITION TO ANY  
PEDAGOGICAL METHOD**

To my mind, a sustainable or ecological pedagogy and education should not be seen as a replacement for something else. In the present context, ecological pedagogy is referred to as a kind of superstructure or addition to any pedagogical model or method. It becomes manifest through attitudes, values, and views that will colour any activity we care to engage in.... (Floyd K. Stein)

**WE ARE FACING A SHIFT  
OF PARADIGM**

To our minds, it is beyond doubt that we are facing a shift of paradigm, a new understanding of man and universe. (Kaasbøl og Hansen)

**MAKE ASKING QUESTIONS  
THE VALUE BASIS OF  
PEDAGOGY**

This implies that we need to raise issues that strike right into the fundamentals, e.g. what kind of entities are life, nature, and humans? These questions need to be introduced into pedagogical thinking and to be made the basis of our pedagogical activities. We have to make asking questions, rather than answering, the value basis of a different approach to thinking pedagogy. The question is our common property – the answers belong to each of us... (Kaasbøl og Hansen)

## THE PROJECT-ORGANISED APPROACH TO LEARNING

At Aabybro Organic Agricultural College, we make great use of the project-organised approach to learning, since this form of education allows students to work on the things that interest them, and at their actual level of proficiency. This serves to create far more motivation in the students, and hence far quicker learning. At the same time, students are trained in solving problems independently, instead of waiting for an educator to provide an answer. (Kristian Herget)

## CROSS-DISCIPLINARITY AND PARTICIPANT GOVERNANCE ARE KEY ELEMENTS

The target of disseminating environmental education to all professions is in good keeping with teamwork in compulsory education, where teachers co-operate to cover a range of subject areas, and with the project approach, key elements of which are cross-disciplinarity and participant governance. These are also vital elements of education for sustainability. (Anita Monnerup)

## ENVIRONMENTAL SUBJECTS WITHOUT ECO- LABELLED PAPER?

Students are taught environmental subjects; yet, in many places, there is no evidence of low-energy bulbs, eco-labelled paper, or ecological meals in the canteen. It can be hard to take environmental education seriously, if education institutions themselves are not making an active endeavour to respect the environment wherever possible. (Lis Husmer)

## ACCORDANCE BETWEEN WORDS AND ACTIONS

It is important, in our every doing, that there is accordance between words and actions. We try to build up sustainable everyday routines, and we are working to develop communicative competencies based on a positive view of others. Former course participants have told us that they appreciated the experience of actions behind words... Thus, our participants sow little ecological seeds wherever they get to work in the future. (Ditte West)

## 5.4. THE IMPORTANCE OF THE PHYSICAL FRAMEWORKS AND THE RUNNING OF EDUCATIONAL INSTITUTIONS

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- *What do green procurement and green management mean to education institutions?*
- *How do architecture and planning the physical environment weigh in?*

### GREEN BEHAVIOUR IN SCHOOLS – IN- AND OUTSIDE THE CLASSROOM

“Greening education” is also relevant in relation to materials selection and resource consumption as well as to construction works. Similarly, different materials and primary products for e.g. for the use in needlework and domestic science can be used and analysed from environmental perspectives. More generally, a school’s procurement, consumption and waste disposal should obviously be in keeping with environmentally correct behaviour – also when taking place outside the classroom... Green procurement by schools can be included as a topic, to be worked on in various ways with a view to promoting an overarching dialogue between management, students, and school boards.

(Lis Husmer)

### THE DEVELOPMENT OF SUSTAINABLE ATTITUDES AND VALUES IS SUPPORTED BY THE PHYSICAL ENVIRONMENT

The development of sustainable attitudes and values is supported and encouraged by how we organise ourselves, including our physical environment. Rooms and utensils have always been designed and developed to serve the specific requirements of specific pedagogical attitudes and values. (Floyd K. Stein)

## THE LIVING HOUSE IS INSTRUCTIVE

A building should be viewed and planned as a living organism, with an inner and an outer zone – with organs, respiration, a need for warmth and a particular area (organ), which is the zone right inside and right outside the “skin” (climate shield/facade/roof). Every time I see how ingeniously birds have put themselves up on the outer surface of the house, I get new ideas on how we could also cultivate this field – how we could design the climate shield, our third skin...

The sources of heat are also the life-giving energy of the house, and thus more than just technical fixtures. The children can also perceive them as such. The pulse of energy – a floor or a wall with warmth inside it – let children feel that the house is alive. They can comprehend how the house changes with the seasonal changes... The “respiration” of the house has to do with ventilation, indoor climate, heating, materials selection, and cleaning. The facade should be able to breathe like a frog. Air exchange should take place by natural ventilation, which a child will feel directly with the body...

The house plays with the water, as do the children. Where the water comes from, and where it is taken, can be the most exciting part of a house. We can collect rainwater in different ways and use it over and over again. Water is the basic element of countless processes... In addition, plants and animals in the food chain can be essential parts of the organic arrangement of the house and the site. This in particular is important in urban residence areas where the food chain and man’s dependency on nature’s cycle is more invisible. Cultivated areas in various zones out-of-doors and indoors, e.g. in the greenhouse, should form part of a building’s design, and composting is one of the funniest and most instructive activities for children (and others!) to watch and play with.

A greenhouse is an intermediate climate zone in the house, located between indoors and outdoors. The room is primarily heated by the sun, yet you can stay protected from wind, rain, and the most biting cold. In the greenhouse, you can enter into a “dialogue” – or play with – natural elements, such as earth, water, air, or with processes such as growth and decay, all the year round. (Floyd K. Stein)



## 5.5. HOW CAN VISIONS BE TRANSLATED INTO EDUCATION AND LEARNING TARGETS?

- *Examples of stated learning aims and objectives concerning the principles and practice of sustainability*

### INFLUENCING ATTITUDES IS A GOAL

The juvenile administration of Albertslund municipality, has an environmental action plan with the following objectives:

- making schools and institutions as energy and resource economic as possible
- making energy and resource economy, and environmental issues in general, into integral parts of play and education, in order to influence attitudes by children and adults, thus increasing their environmental awareness
- that children and adults develop action competences by acquiring knowledge of environmental issues, making balanced decisions and being aware of their scopes of action regarding such issues. (Anita Monnerup)

### SUSTAINABILITY ALSO MEANS DEVELOPING HUMAN RESOURCES AND COMMUNICATIVE COMPETENCIES

I find the following objectives, which form the pivot of the day-to-day work of 'Open Road', to be of essence to education for sustainability in a broader sense:

- physical environment and everyday activities reflecting a consistent position on the issue of sustainability
- an education that, per its choice of methods, emphasises environmental considerations
- the development of human resources that leads to a lasting societal commitment, both professionally and individually
- the development of communicative competencies
- an education institution that is integrated in the community around it, and trying to influence it by mediating and producing high-grade products. (Ditte West)



## A NEED FOR LIVING-AND-LEARNING NETWORKS

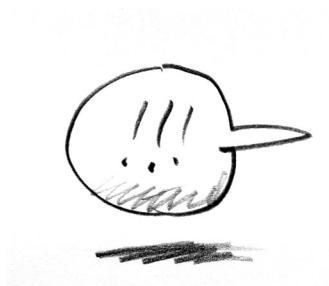
LØS, the Danish Association for Eco-Villages has coined the following educational requirement:

- a new living-and-learning education, with some kind of modular organisation
- education modules, credited by existing education institutions
- a network connecting eco-communities and education institutions home and abroad
- local networks including school, local community, farms, and eco-communities.

Perhaps, for a start, our education could be organised within the framework of a folk high school where everything, from modules to extended nine-month courses, including a study period abroad, could be realised fairly easily – and actually in conjunction with existing folk high schools. The eco-communities could be used as a form of trainee and visiting facility. (Troels Dilling-Hansen)

## THE NEED FOR BRIDGING BETWEEN NGOS AND THE EVENING SCHOOL SECTOR

In our experience – if we are to start up a qualitative and quantitative development that matches the Agenda 21 challenge to public education (also in adult evening school settings), a bridge-building endeavour is needed between the evening school universe and environmentalist/development NGOs. The professional and ‘contentual’ development potential resides in the environmentalist and development NGOs, while the domain of adult evening education has potentials for underpinning public relations work and for strengthening the pedagogical aspects of mediation via optional in-service training offered to educators, and via experience-gathering and sharing. (Jette Gabrieli)



## 5.6. BARRIERS TO THE REALISATION OF EDUCATION FOR SUSTAINABILITY

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- *What are barriers to sustainable learning?*
- *Can and will teachers teach sustainability?*
- *Is it necessary to target attitudinal change in schools?*
- *Does anyone care to learn about sustainability in evening school?*

### HARD CONDITIONS FOR INTEGRATIVE CONCEPTS

There is a divide between philosophy and science, between mind and brain, between common sense and vested political interests, and finally between different science faculties. Accordingly, building up and enlarging the dimension of sustainability is an intricate matter. (Bjarne Ottesen)

### TEACHERS PREJUDICED; – ENVIRONMENTAL EDUCATION ONLY FOR NATURAL SCIENCE TEACHERS

We have trouble persuading teachers without a natural science background to take up environmental education. This barrier needs to be broken, since education for sustainability encompasses natural science, social science, and humanities subjects – which is why we must work to extend environmental education to all these professional groups. (Anita Monnerup)

### RELUCTANCE TO DELIBERATE ATTITUDINAL AND FORMATIVE EDUCATION

There is a widespread resistance against deliberate attitudinal and formative education – and a lack of support from colleagues, parents, and school managements in coining a policy to challenge our ”consumer outlook of life”. (Bo Bramming)

**COMPETENCY  
DEVELOPMENT AT THE  
COST OF INSTILLING A  
SUSTAINABLE CONCEPT OF  
NATURE**

Day-to-day education teeters between formative education and competency development. The formative tasks in primary school comprise learning the set of political and cultural values, by which a given society navigates. Here we find society requiring an education that is not just for people's working life, but also for life as such – including culture and democracy. Per their subjects, the competency development tasks of education embody the skills and competencies to be acquired by each student in order to manage in a modern society. Economic globalisation, and the globalisation in information and communication technologies, has considerable bearing on these tasks. They mostly represent so-called 'hard' and measurable values. There is the problem that schools are under increasing pressure to undertake an ever-growing bulk of competency developing activities. How are they to fit them in? At the cost of formative tasks? Alternatively, are students to spend more hours in school? The measuring- and learning-product-oriented pedagogy will cause schools to return to a subject-segregated reality, thus stifling opportunities for the students to develop actual life competencies. A potential cause for concern: Will this generate far more structure than actual substance? In addition, when time is at a premium, we typically find that students are left to derive their own cultural and political values from everything they have been taught. However, in the absence of a community to metabolise with, the value formation tasks in education are left in a difficult spot. A dialogue is all-important when it comes to forming a responsible concept of nature – especially if this is to be concretised and translated into action. (Bo Bramming)

**SUSTAINABLE PEDAGOGY  
– MORE THAN AN  
ECOLOGICAL CONCEPT?**

A culture with a century-long tradition of confounding the learning process with the learning of subjects and education technology could easily reduce the ecological aspect to knowledge disciplines and curricula. In a society and a culture that has transformed something as self-evident as ecology into just another consumer concept – ranging from eco-milk to eco-communities – creating a pedagogical thinking beyond the conceptual level can appear to be a near-impossible task. (Kaasbøl og Hansen)

### **OBSTACLES TO EXPERIENCING NATURE AND LEARNING ABOUT SUSTAINABILITY**

The lesson plan is a bind – and the older the students, the harder to find time and opportunity to move into nature. There is a lack of education material with a serious and rather more concrete approach to sustainability – and there is a lack of optional in-service courses for teachers in the field – e.g. courses in sustainability and globalisation. (Bo Bramming)

### **EVENING SCHOOLS HAVE AN IMAGE PROBLEM**

In the evening school universe I have often been met with the attitude that "Environment and sustainability – we already tried that, but you see, nobody signs on..."

Now, the issue is not dealt with just by offering a few more or less desultory courses or lectures on environment and sustainability, alongside the vast array of hobby-oriented recreational offers. That lacks power of persuasion. A targeted PR effort is needed in order to reach out to the potential target group. For years and years, evening schools have failed to join the public discourse to any appreciable extent. This has created an image problem. Those interested in environment and sustainable development simply do not expect to find any relevant courses in an evening school programme. There is a sore need for massive and targeted development and pilot work in the evening school sector. That goes for their PR work, and for the content, organisation, and framework of their courses.

(Jette Gabrieli)

### **CULTURAL AND PSYCHOSOCIAL BARRIERS TO BE OVERCOME**

It is important to understand that if we wish to persuade participants to step inside an evening school on subjects of sustainability, there are a number of cultural, social, and psychological barriers to be overcome. Among the more conspicuous are:

- consumerism
- a bustling and stressful everyday life (for most)
- widespread fear and frustration vis-à-vis problems of the environment – and hence an inclination to repress them
- the force of habit – change can be perceived as a menace, thus generating feelings of insecurity and opposition.

**SUPPORT FOR COMMUNITY  
CHAMPIONS AND  
EXPERIENCE GATHERING  
ARE NEEDED**

Our own experience from two terms of well-attended "Green University" courses in 1995 demonstrated that targeted PR, action-mindedness, a high professional and pedagogical standing, and stimulating physical environments are important keys in an effort to overcome these barriers. (Jette Gabrieli)

One who followed the 'greening education' campaign from close quarters holds that – faced with their stand-offish or outright negative colleagues and un-committed managements, many community champions found themselves unable to keep the green banner flying. If the pretty phrases of the HAGA Declaration are to translate into action, there is a dire need for a whole-hearted and consistent support to community champions from national quarters – both practically, with funding for pilot and development work, and in terms of legislation. Finally, it is paramount that funds be set aside for a targeted effort to create a viable network and efficient experience gathering, so we will not have to waste precious resources on reinventing sliced bread.

(Jette Gabrieli)



## 5.7. EXAMPLES OF WHAT EDUCATION FOR SUSTAINABILITY MIGHT LOOK LIKE

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### ENVIRONMENTAL EDUCATION NETWORK

Albertslund municipality has established an environmental education network, with ongoing experience sharing and discussion of environmental education. The web generates educational projects on e.g. renewable energy, resources (waste, water, and electricity), building fascines, and cyclical gardens at the individual schools. ([Anita Monnerup](#))

### INDIVIDUAL LEARNING PROCESSES

The type of learning advocated here used to exist in Denmark, but has now been discontinued by the government: *The non-curricular youth education*. Here, a tutor would assist the student in organising his or her own 2- or 3-year learning programme under a general heading, in which several forms of learning would combine into a whole: school, traineeships in Denmark and abroad, own project and volunteer work. The known schools formed points of support en route, while the anticipated individual learning was not upheld by a school's logic and synchronous plan, but instead by the needs of the individual. Beautiful and sustainable! – And the students? – They became competent individuals – and with life competency, at that. ([Peter Plant](#))

**PARTICIPANTS RUN  
ECO-CAFÉ AS PART OF  
INDIVIDUAL EDUCATION  
PROGRAMS**

**WE HAVE AN ECOLOGICAL  
HOUSEHOLD – AND  
STUDENTS RUN BOTH  
FARMING OPERATIONS AND  
SCHOOL**

Our participants join in the running of our eco-café, and thus experience that their effort is appreciated, and they find that they help to produce and supply a quality product that they can be proud of. This enhances their opportunities – and interest – in engaging in a societal issue that no one today could or should fail to relate to. Topics such as ecology, choice of primary produce, resource consumption, nutrition, and food hygiene are parts of the individualised education programme worked out for and with each participant. Staff behaviour in terms of water and electricity use is very much in focus, and we have as many resource-saving devices installed as our economy allows. ([Ditte West](#))

At Aabybro Ecological Agricultural College, topics such as waste separation, energy consumption, recovery, diet and eco-construction are integrated via different projects, though perhaps even more so through the daily practice of the school, where we try to keep a constant focus on solutions chosen.

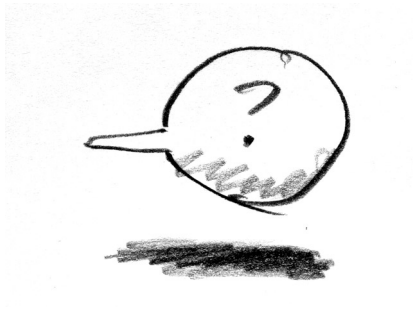
Naturally, we try to eat 100 per cent organic, but also wish to have maximum self-sufficiency. We therefore have a varied livestock, and our own vegetable production, to cover – as far as possible – the school's requirements. Students take part in tending both livestock and vegetables – actually those who chose to specialise in vegetable production answer for the production. Our kitchen submits a list indicating how many tons of which vegetables they want, and the students convert these wishes into a field layout, purchase seed, establish the vegetable plots, and take care of weeding. The students also harvest, and finally they help prepare the meals. Thus, they are involved from planning until the crop has been eaten and the scraps fed to the hens.

The school also tries to maintain the ideal of each individual being valuable, and of making room for all. We do so in part by giving all users of the school a serious shared responsibility in day-to-day operations. The school is run by a flat management hierarchy, in which a weekly joint meeting of all students and staff help to run the school and draw up its development prospects for the future. ([Kristian Herget](#))

**INDOOR RAINWATER  
STREAMLET AND BUILT-  
IN BIRDS' NESTS IN THE  
FACADE**

In the "Klokkeblomst" kindergarten, we built in nesting boxes in the very facade. Using a wooden auscultation tube, the children can listen to the birds from the inside wall of the house... They also have a glazed rainwater streamlet that they can walk on... Another kindergarten wanted all runoff from the roof to pass right through the centre of the building, so we could literally stand below a waterfall when the rain fell heavily.

(Floyd K. Stein)





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## LINKS

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This discussion booklet

<http://www.SustainableDevelopment.dk>

Agenda 21 – Chapter 36

<http://www.un.org/esa/sustdev/agenda21chapter36.htm>

The Haga Declaration

<http://www.ee/baltic21> (choose: sectors/education)

Baltic 21E

<http://www.ee/baltic21>

The Denmark Declaration

*- a danish agenda for sustainable development  
in the 21st century*

<http://www.DanmarksDeklarationen.dk>

The Kolding Manifesto

*- should the simpletons save the world, since the  
eggheads won't? - on technology, democracy,  
and sustainability*

<http://www.eco-net.dk/ENGLISH/manifesto/index.htm>

Eco-net

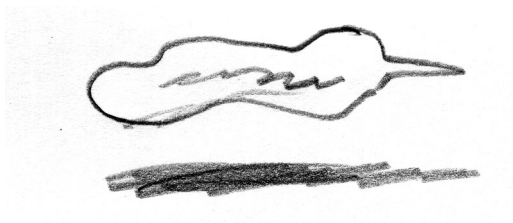
<http://www.eco-net.dk>

The Danish 92-Group

<http://www.92grp.dk>

The Danish Council for Adult Education

<http://www.dfs.dk>





Extracts from the danish discussion booklet;  
»Sustainable is more than able - a discussion paper  
on adult and general education for sustainability«

