

**EDUCATION FOR SUSTAINABLE DEVELOPMENT –
INVESTING IN THE FUTURE**

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Abstract

The UN decade for Education for sustainable development (2005-2014) is of great significance for schools. Highly specialised projects are being developed in line with the programme.

A sustainable development is “one which corresponds to the requirements of the current generation without endangering the ability of future generations to satisfy their own requirements and to choose their lifestyle”, as defined by the World Commission for the Environment and Development under the leadership of the former Norwegian Prime Minister Gro Harlem Brundtland in 1987. Social justice, ecological compatibility and economical efficiency are equally-ranking objectives of the concept (“Sustainability Triangle”).

A garden is designed according to the principle of sustainability: other than the current crop, the next crop rotation is always in view. Long before the classroom, it was already the most important place of learning.

A school garden offers a wealth of impressions and possibilities. That is why a school garden must be just as much of a given as a chemistry or music room; a “green classroom” is a central place of learning and experience.

In the garden, people discover themselves as part of nature. Only those who perceive the great variety of types, their beauty, but also the mutual dependence of living beings on one another, are ready to appreciate and protect this variety. The school

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garden can make an important contribution to responsible conduct with the natural world and the teaching of values.

In the garden, children learn to wait patiently, to accept that development needs time, that not everything is possible immediately, and that not everything can be switched on and off by the click of a mouse. The garden is an important corrective to modern technologies, it “slows down”, cares for the oases of calm and concentration.

The school garden teaches children that healthy food such as vegetables, salads, fruit etc. need time and that their production is connected with work; but also, that effort pays off and that the products can be prepared in the school kitchen or bought at the weekly market.

By working in the garden, other abilities and competences than those in the classroom are assimilated. The school garden is a place of interdisciplinary learning and different competences can be advanced.

Schools are facing new challenges. In classrooms, children from many different countries meet; language skills vary and many cultural traditions must be dealt with. By working in the garden, language plays a subordinate role and the garden can provide an impulse to make contact with different cultures regarding vegetables or fruit and their production.

Introduction

The UN defines the term “sustainable development” as a form of development, which is appropriate for today’s generation and at the same time does not endanger the possibilities for future generations to choose their own lifestyle to satisfy their needs. The World Commission defined this term for Environment and Development in 1987 under the leadership of the former Norwegian Prime Minister Gro Harlem Brundtland. The coequal goals of social justice, environmental compatibility and economic performance form the triangle of sustainability.

The AGENDA 21 emphasizes the necessity of involving children and youth in the implementation of the programs that pursue the goals to maintain the living standards and life quality on earth for future generations, to counteract the continuing deterioration of the environment, to promote an increasing improvement and to assure the sustainability of natural resources. Children are “*very perceptive advocates for protecting the environment*”: their participation in implementing the programs is “*decisive for the long term success of the Agenda 21*” (Chapter 25). The interests of the children *must be taken into full consideration in the participative decision making process. (Ibid)*

Governments are recommended to develop procedural mechanisms that will assure their participation in the process.

I would like to offer you six different perspectives of the role that gardens could play to promote the development of healthy children and youth and to relay to you why the German Horticultural Society is a strong advocate of school gardens.

In the cultural history of Europe, gardens have incorporated two important elements, which are preeminent for healthy human development:

- for centuries medicinal herbs and
- highly nutritional plants have been cultivated and harvested.

Now the spread of knowledge pertaining to the cultivation and use of plants and herbs is no longer a primary issue and much has been and will be lost for the next generations. For that reason we advocate and promote the spread of school gardens and the qualification of teachers for this task as a contribution to sustainable development

Now I will try to describe to you where we see the educational and learning opportunities for children and youth in school gardens.

School gardens are essential for children. I advocate garden work for schoolchildren because I am convinced that their physical and mental development is dependent on their contact to nature and especially on their involvement in gardens.

It is surely not a coincidence that for our “classical” educators- Comenius, Rousseau, Pestalozzi and Fröbel - outdoor settings such as gardens were central places of learning. Teachers are often compared to gardeners who shape their pupils by accompanying and guiding them in nature.

The above-mentioned educators agree: learning in and with nature is different from classroom study and is essential for the development of children.

1. The work in school gardens is necessary because generally parents and grandparents no longer can be garden mentors for their children.

The classical educators took for granted that children would have on-going contact with nature. The parents and grandparents lived with and from their gardens and the children participated in the work. Today children lack this contact with nature and for that reason, it is necessary to create educational situations to remedy this.

In many schools, the work in school gardens is not a priority and is seldom in the curricula.

The German Horticultural Society advocates the qualification of teachers for school gardens through continuing education courses as well as the inclusion

of garden work in the curricula. A “Green Classroom” should have the status of a regular classroom, and be supplied with teaching and learning material. So far, the resonance to our initiative has been positive, which gives us reason to hope that our efforts will be rewarded. The present political agenda for education which would make use of schools (school buildings) for learning and recreational activities in the afternoons is a suitable platform for establishing mandatory school gardens and qualifying courses for teachers.

We often hear the argument that due to lack of employees and financial support, it is difficult to implement a garden program. However, when one considers the benefits of a hands-on biology class wherein the children are in direct contact with the earth, the plants and animals in contrast to technological courses with expensive equipment, this argument no longer applies. I do not in any way deny the importance of teaching communication technologies and strongly advocate their use in combination with garden programs. This does not contradict the fact that all schools should be supplied with the necessary materials and teacher training for school gardens. The consequences of adhering to a mere theoretically based biology curricula are dire: our children and society in general will pay a high price for our negligence in reforming present educational policies.

In order to promote garden work in schools, the German Horticultural Society has established a nationwide study group, the Bundesarbeitsgemeinschaft Schulgarten (BAGS); this group seeks to bring together dedicated teachers as the coordinators of garden work in all the German states. Furthermore, it seeks to engage specialists in universities, governmental ministries and organizations in formulating concept papers that support the establishment of school gardens and continuing education courses for teachers.

The presence of school gardens should be just as normal as chemistry labs and music rooms; they are “Green Classrooms” which offer a host of educational possibilities.

2. Experiencing oneself as a part of nature in the garden

The object of nature studies is to engender within the children a sense of wonder for the diversity and beauty of the environment. The underlying thesis is that children and adults must first appreciate the richness of the natural world in order to become advocates for it.

The childhood impressions made about nature play a large role in the formulation of resulting adult attitudes. A psychologist in Hamburg, Dr. Ulrich

Gebhard describes in his book “Kind und Natur’ (“Child and Nature”) how it is absolutely important for children to develop personal relationships with animals and plants before the cutting off period of puberty when they are no longer as open for nature subjects. Because only that which we know and love will we protect and maintain, it is important to make use of this window of time in childhood in order to lay the foundation for a lifetime. *“At least a partial identification with nature is necessary, in order to truly advocate for its preservation on a long term basis.”* (Gebhard). If Gebhard is correct in his analysis – and much speaks for his theory – then it is clear that by the time children finish grade school, they should have been introduced to the natural world and become enthused about it in order to become strong advocates for it as young adults and adults. One problem is that so many areas of our environment have been so altered that children consider them to be “normal.” *“Those who have always played on asphalt play grounds will hardly be upset when the forest die.”* School gardens make important areas of experience accessible to children.

The Agenda 21 emphasizes that children and youth should be included in the consultation and decision making processes. If the goals of Agenda 21 are to be implemented, it is necessary to teach children that the resources of the earth are not infinite, that sustainable practices are important in the interests of future generations and that it is a prerogative that we reduce our impact on the environment. It is important to teach children ethical values pertaining to coexistence or in the words of Albert Schweitzer to teach “Respect for life.”

Working in School Gardens can be an opportunity for learning responsible treatment of th environment and life principles.

3. The training ground for the five senses is in nature.

The experiences that the children gather in nature are important for their physical and mental development and well-being. Natural settings are a gold mine of fragrances, colors, forms and tastes. Children can best train their senses of sight, smell, taste, hearing and touch when in natural settings; because these capabilities of perception are not generally encouraged and exercised, they are increasingly dwindling. The development of a healthy human being is however, dependent on the development of the five senses.

In an environment that is rich in diverse stimulus, a child will have the necessary ingredients for psychological and mental development. For children it is important to return to a familiar environment, which at the same time constantly offers new stimulus. Natural settings offer just this: continuity and con-

stant change. A tree and a hedge stay rooted in the ground, while at the same time changing their foliage from month to month, from season to season.

Children no longer play in the woods, the fields or empty lots, but on bare playgrounds that have then been furnished with mechanical play equipment. When there are no trees, hedges and bushes, children play hide and seek between parked cars. Natural settings for play are a scarce commodity.

City living with modern technology offers children little stimulus for the senses. On the other hand, natural settings and gardens are a haven of stimulation for the five senses. Developing and nurturing our senses lays the foundation for intellectual and social skills. The concept of grasping is twofold: one can understand a concept and one can take hold of an object. For children and adults as well, that which they can hold on to, they can better understand.

Using the senses, experiencing the world around us forms memory and then knowledge that we can turn to in other situations. These experiences then become the foundation for our adult life. Thus it becomes clear how important it is for children to train their senses at an early age, exercising the brain processes through appropriate stimulation.

Meadows, woods and gardens are natural training centers for all the senses. In our organized world, children need “time and land reserves” set aside for developing sensual perception.

4. As gardeners, children learn how to wait, to be patient und persevering

When we observe children and notice with how much perseverance and intensity they repeat a process, then we become aware how important it is that they are allowed to have time and take time for their activities. Children need a “Time Reserve” wherein their five senses can develop. Their senses need tender loving care, allowing them to truly perceive incoming information. We know that children can “turn off,” refusing to absorb information, so engendering perception is necessary for child development. In the garden, they learn to wait patiently, to accept that it can take time for things to happen, that not everything appears instantly with the click of the mouse. They experience first hand the meaning of the African proverb: “Pulling on the grass won’t make it grow faster.” It is important that children in our hectic society learn to appreciate the garden as a place to come to their senses.

Having exposure to natural settings is an immensely necessary corrective to the world of modern technology. Communication technology accelerates life

processes; garden work decelerates them. It demands patience, the ability to wait and persevere. Activities in nature, particularly in the garden, which offset activities with the rapid communication systems, become increasingly important. They lead to the discovery of the value of slowness, which lead to calmness, reflection and regeneration. They create oases of peace and quiet in a frantic world.

Gardens need time to “come to flower”: we design and arrange them, and at the same time they form us; we enter into a permanent relationship with them. Gardens demand discipline and responsibility from us, calling for our attention also at times when we are not in the mood to give it. Just a week of neglect during a moist summer calls for tangible repentance paid by double the amount of labor.

Gardens are a training place for discipline, responsibility, perseverance and patience.

5. In the garden, children learn where high quality foods are produced.

The ongoing discussion concerning issues of health has placed another aspect of garden work into the limelight. People have become aware that not only beautiful flowers grow in the garden, but also high quality plant foods: leafy and root vegetables as well as fruits and beans. Not only does garden work play a part in health due to the physical activities, but also because of the fresh produce, that is pesticide free. Gardeners can happily reap top quality food products directly before consumption, preserving the nutritional value of the food. Slowly but surely, people are becoming aware of how privileged those people are who have their own gardens and truly know if the products are organically grown. Gardeners have always known how delicious their fresh garden products are, but now more and more people are becoming aware of the value of serving fresh and healthy vegetables and salads to their family and guests; these products are considered to be true delicacies.

In school gardens, children learn that top quality products need time to grow and that they must invest their labor in producing them. They also learn that it is worth the time and effort because of the resulting high quality of the products. Because of this, school gardens contribute immensely to a healthier society.

6. School and Exercise

The health of children in industrial nations often jeopardized due to too little exercise and a sugar and fat based diet: they are often overweight. The long periods of sitting in classroom are detrimental to their health. Athletic sports and garden work offer the possibilities of exercise. In contrast to sports, which often take place in gymnasiums, garden work is always an outside activity. Garden work is exercise in the fresh air where the children can tank up on oxygen. Besides having the advantages of physical training, the children reap tangible results in the garden: flowers, vegetables, herbs and berries, etc. Work in the garden is less competitive than athletics and the children can share their garden products with each other, learning generosity. Garden work is not a matter of competing to win over fellow classmates, but of working together for results.

Besides these advantages, other capabilities can be developed while doing garden work – the fruits of the children’s labors are not ego-supporting trophies and certificates but delicious garden products.

School gardens offer exercise in the fresh air; they are outdoor fitness centers with natural premiums and bonuses.

Conclusion

School gardens are important places for children to gain experience and to learn. They offer unbelievable possibilities for educational activities. Children can gather knowledge and gain life skills there. They are an excellent place to practice sustainability and for that reason, they are gaining more recognition. That is why we say, school gardens are essential for the educational process.

Perhaps one day the words of E. Schwab, an educator and proponent of school gardens one hundred years ago, will come to pass: “There will be a time when the entire world of education will look back and wonder how public schools and educational institutions ever existed without school gardens.”

Literature cited

Gebhard, Ulrich. 1994. *Kind und Natur; Die Bedeutung der Natur für die psychische Entwicklung*. Opladen: Westdeutscher Verlag.