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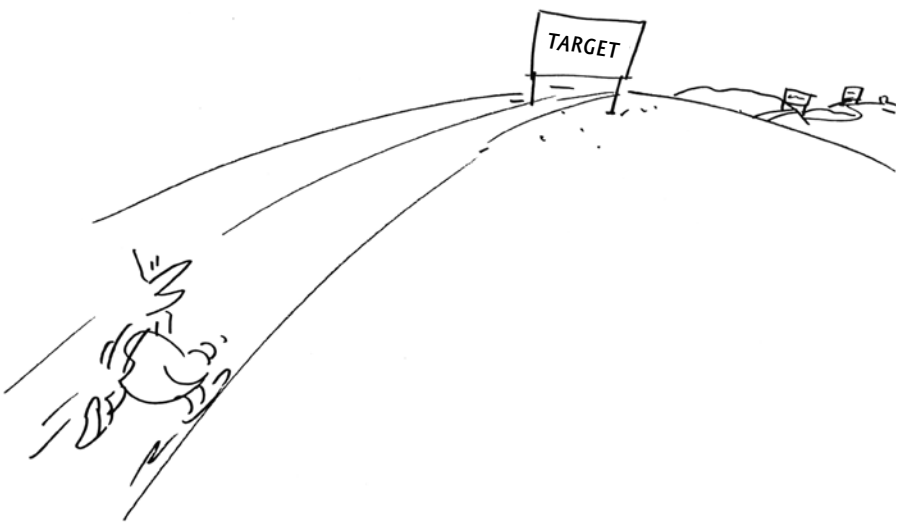
Learning to shape the future through education for sustainable development

An educational guide towards changes in primary school

"Our biggest challenge in this new century is to take an idea that seems abstract—sustainable development—and turn it into a reality for all the world's people."

(Kofi Annan, former UN Secretary-General)

FAR-SIGHTED THINKING (ACTING)



Introduction and Acknowledgement 2

Chapter 1 The basis of an education for sustainable development 4

1.1 Why an education for sustainable development in primary schools? 4

1.2 Where should the journey lead to—what should pupils learn? 7

1.3 As teachers, how does one find topics? 14
1.3.1 A complex problem is at the centre p.14
1.3.2 Examining the choice and orientation criteria p.15

1.4 To which didactical principals are the lessons orientated? 18
1.4.1 Vision orientation p.20
1.4.2 Connected learning p.21
1.4.3 Participatory orientation p.22
1.4.4 Action and reflection orientation p.24
1.4.5 Accessibility p.25
1.4.6 Linking factual with social, self-referential and method-orientated learning p.27

Chapter 2 Implementation of an education for sustainable development: Concretisation of ESD based on the theme "Toy" 28

2.1 Synopsis of the series of lessons 28

2.2 Selected views on the implementation of the lesson sequence 33
2.2.1 Connections p.33
2.2.2 Reflections p.35
2.2.3 Ideas of justice p.36
2.2.4 Visions p.38
2.2.5 Decisions p.40
2.2.6 Encouraging transfer p.41

Chapter 3 Planning lessons about ESD 42

3.1 Specific planning aspects for ESD lessons 43
3.1.1 Specifics about condition analysis p.43
3.1.2 Specifics about analysis of content matter p.44
3.1.3 Specifics about course planning p.44
3.1.4 Specifics about the general objectives p.45

3.2 Check list for planning ESD lessons 46

What else can be said—an epilogue 49
References and websites 50
Glossary 53

Introduction and Acknowledgement

"There is no such thing as universally accepted truths, there are no recipes to communicate, but it is important to show all participants the possibilities that exist, to pass on all the connections/networks available and, on this basis, to work on concepts for a just development. Feeling more responsible for a fair future—that is the most important aim of all."

This is what a primary school teacher said after the presentation of a workshop on "Education for a sustainable development".

With the present publication, we would like to point out how education for a sustainable development in primary school can evolve and be applied. Based on concrete examples taken from classes, important elements will be put forward and we will describe how primary school children can be brought, at their level, to analyse complicated subjects successfully within education for sustainable development during their studies. The aim of this brochure is to encourage and motivate our readers to get involved with the concept of education for sustainable development and apply it at primary school level. For a comprehensive, systematic presentation of the theoretical background of ESD see the publications listed in the bibliography.

The brochure is the result of an international cooperation between coordinators responsible for the Transfer-21 Programme and those in charge of the Swiss research project "BINEU" on education and sustainable development in primary school levels (2001–2007).

Transfer-21 Programme
This brochure completes the series of materials for primary schools which have been developed within the framework of Transfer-21. The discussions with Christine Künzli David and Franziska Bertschy from Switzerland, but also with other colleagues from abroad (Laurence Guérin, Harry Hendertink, Piet von der Ploeg, Sigrid Pirker, Robert Wells) and last, but not least, the intensive discussions in the "AG Grundschule" (primary school workshop) of the Transfer-21 Programme have encouraged us to conclude the series of brochures for primary schools with the following question: Which skills should be acquired in primary school within the framework of education for sustainable development? This also includes the following questions: What didactic principles are to be applied? How does one find adequate subjects?

We know that with the considerations and presentations at hand, all has not been said and done. Education for sustainable development in primary school has only been systematically included during the last four years within the framework of the Transfer-21 Programme. Until a few years ago, one was not sure if and how one could apply education for sustainable development in primary school. The subjects seemed too complicated, the methods used too ambitious in order to apply the knowledge acquired in secondary school to primary school. But in the last few years, on account of the numerous positive teaching experiences, we realised that the application of education for sustainable development in primary school is essential.

With the Transfer-21 Programme, we were able to reach about 10% of the primary schools in the participating German Federal States (Bavaria, Berlin, Brandenburg, Bremen, Hamburg, Hesse, Mecklenburg-Vorpommern, Lower Saxony, North Rhine-Westphalia, Rhineland-Palatinate, Saarland, Saxony-Anhalt, Schleswig-Holstein and Thuringia). This is quite a considerable success for a project, but given the importance of ESD, it is merely the first step.

Research Project BINEU

The different classes described in this brochure were developed within the framework of the research project "Education for a sustainable development: Didactic concept and implementation in class". This project was financed by the Swiss National Fund and by the Teacher Training Institute in Berne and was carried out by the Inter-Faculty Office of Coordination for General Ecology (IKÄO) and the Institute for Pedagogy (Department for Educational Psychology) of Berne University. The cooperation with those in charge of the BLK Programme Transfer-21, and thus of the publication of the present brochure, enables us to provide our interested readers with the theoretical basics developed, the materials compiled by the teaching staff as well as the multifaceted experiences the teachers acquired through the ESD implementation.

This brochure is not a catalogue of pedagogic recipes—which would not meet the requirements of an education for sustainable development. With this brochure, we would like to give an impulse to reflect on one's work, and at the same time offer concrete help in finding a modern educational concept and implementing education for sustainable development in class.

We would like to express our gratitude to the pupils and teachers (in particular Lotti Burkhalter, Regula Hänni, Catarina Jost, Rita Keusen, Daniela Morel, Ursula Schneeberger, Maria Schwendimann), the members of the "AG Grundschule" (primary school workshop) of Transfer-21 and those who supported the Transfer-21 Programme in the German Federal States, as well as the participating school directors and all our extracurricular partners from Switzerland and Germany. With this brochure, we would like to provide you with a tool for enabling the sustainable education of our pupils.

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Chapter 1

The basis of an education for sustainable development

1.1 Why an education for sustainable development in primary schools?

Considering the pressures that are put upon schools and teachers, the question arises to what extent it is justified to demand from teachers the application of ESD. Aren't they already burdened enough with the imparting of basic skills such as reading, writing and arithmetic? Isn't the limit of what is bearable already exceeded with the daily class timetable such as tests, social tasks and all the numerous other things which must be mastered in everyday school life?

In spite of all existing demands, the question whether ESD should be offered in primary school must be answered with a clear "Yes." School classes should enable the children to acquire the necessary skills for a better future in a well-functioning society. A positive future, though, depends on sustainable development and on the ability of people to take part in the planning and organisation with regard to the development of society. Also, it has been demonstrated that ESD helps to focus on acquiring relevant educational competences (Künzli David 2007; Rode 2005), to connect various objectives from different interdisciplinary areas of education and thus to avoid dissipating one's energies.

Various studies present a gloomy picture of earth's present state—and the future forecasts are no better. It is highly probable, as relevant international reports on the subject suggest, that the climate change is man-made. The CO2 output from power stations, slash-and-burn clearance and transportation brings about dramatic climate changes worldwide. In European countries, North America and Asian countries, so much is consumed that this level could not be maintained worldwide. In German-speaking countries, for instance, the per-capita consumption is four times higher than the resources that would be at our disposal on a global scale. If everyone wanted to lead the same lifestyle, we would need four earths. This negative balance could be continued indefinitely: decreasing biodiversity, poor social conditions, child labour exploitation, denied access to education (especially for girls) in the so-called Third World countries indicate a development which is not sustainable. When we want our society to keep on standing up for social justice and humane living conditions, we will not be able to continue with our present models of economic development and with the way we treat our natural environment and its resources, as we can not neglect the consequences that our behaviour will have on today's and tomorrow's generations. The prevailing forms of energy generation, of production and distribution of goods, along with many of the technologies used, put mankind and the environment at risk. From a global perspective it is evident that working conditions, the way of dealing with people in need as well as policy-making in many cases lead to an unequal distribution of life chances and to a disproportion between rich and poor, between First, Second and Third World.

The United Nations, with its concept of sustainability, consciously counters these gloomy future prospects and current development trends with an optimistic vision of societal development, which can be considered possible with the appropriate changes in society (Hauff 1987, XII and XIV et seq.). At its core, the concept of sustainability includes the question, which future we want for the world and for society—without denying or blocking out the serious developmental and environmental problems of our times. What changes is the perspective of the basis on which the recommended actions can be elaborated: these will not be defined as a doom scenario, but rather will direct themselves towards a vision of what is desired for the future. One can aim at a development, "where present needs are satisfied without the risk of future generations being unable to satisfy theirs." (Hauff 1987, p.46) The realisation that economic, socio-cultural and ecological problems cannot be overcome separately, that only a complete overall view is adequate, is the central element of the sustainability concept. Socioculturally, equity and equality for all mankind are aspired for, as well as the chance for leading a fulfilled life. From the economic side, it comes to securing prosperity for mankind and to increasing it in order to meet their basic needs. After all, with regard to the ecological dimension, the main objective is to safeguard the survival of life on earth as well as the natural resources. In short, one aspires to an ecological, socio-cultural and economical compliance, where the natural, moral and essential basic needs are secured permanently (IDARIO 1995). This concrete concept of sustainable development should, in principle, result from a process of participation; that is with as many individuals or groups of people as possible.

Education is of great importance for the implementation of sustainable development. Besides creating access to education for all and passing on cultural techniques, it is, in particular, necessary to impart to young people competences that will enable them to comprehend the idea of sustainability with its specific demands and challenges, and to take part in the planning and organisation of sustainable development (cp. Di Giulio, Künzli 2006). This is what is suggested, for example in 2007, through the recommendation of the Permanent Conference of German Federal State Ministers for Education and Culture (KMK) and the German UNESCO Commission (DUK) when referring to "ESD in school": ESD's objective is to enable pupils to take an active part in a compatible ecological, economically efficient and socially just environment and to consider, under its worldwide aspects, democratic basic principles and cultural diversities.

Education for sustainable development

- is not merely directed at protecting the environment from damages or preserving nature, but is also directed at development and changes;
- is not only prohibitive or austere but is also tempting—it calls for creativity and activity;
- does not only stir up fears but points out perspectives as well;
- is not confined to ecology but includes economy and politics, too, and takes culture into consideration;
- does not stick to local perspectives, but operates on a global frame of reference;
- is interested in analysing social relationships and development alongside the action in one's own everyday life. (Huber 2001, p.78)

Within the framework of the BLK programme "Education for sustainable development", the concept to acquire 'Gestaltungskompetenz' or 'shaping competence' was developed and put to test.
In the research project "Education for sustainable development: Educational conceptions and transposition in school curriculum", a similar competence model was defined and substantiated as a series of lessons with the help of qualified primary school teachers. The term "shaping competence" describes the ability to apply knowledge about sustainable development and to recognise problems of unsustain-

able development. This means being able to draw conclusions from present-day analysis and from future studies on ecological, economical and socio-cultural development and their interdependence and to take decisions based on these elements, as well as to implement them jointly and politically. If the aim for "shaping competence" is really to be achieved and be effective, it is crucial that the first essential steps are already taken in primary school.

At first glance, it seems to be quite a challenge and the question arises whether primary school children could or should already tackle these questions on society, in the way they are addressed in an ESD unit. Rotthaus (2002) assumes that the concept of education being a protected period has been largely exceeded. "On the contrary, children are being confronted very early with (unresolved) adult problems (…) (they) are overwhelmed with an abundance of contradictory views and opinions, which forces them into taking decisions. They must, at a very early stage, assume responsibility to choose an adequate perspective and deduce the appropriate actions from it." (p.36) The results of a research by Sohr et al. (1998) indicate that "maintaining the illusion of a 'holy' world" is disorientating and impedes development (p.231). Therefore, the question is not whether children should be confronted with problematic situations, but rather in what way such topics should be introduced and discussed in class and which means for coping should be offered to children. On the whole, it would surely be counterproductive if schools—as the main institution capable of choosing specific problems in class and offering coping strategies—would be denied to broach the issue of social injustice. The examples in this brochure, as those in other publications for primary schools, show that these requirements can be met without asking too much of the children.

1.2 Where does the journey lead to—what are pupils supposed to learn?

The aim of ESD is to enable pupils to take part in the process of sustainable development and to put them in a position where they are able to make complex decisions and to reach well-founded positions. In addition, they should be conscious of the importance of sustainable development and they should recognise the fact that we are all responsible when it comes to socio-cultural, economic and ecological development. This aim will be called "shaping competence" and it relies on bringing together various sub-competencies. For the lessons, these sub-competencies must be shaped into learning objectives and be differentiated with regard to the school level and the selected topics. To the question where this journey should lead to, i.e. which competences the pupils should have acquired by the end of their compulsory schooling and the secondary school II, the theoretical work, from which these competences are derived from and grounded on, is already available (cp. de Haan 2008, Bertschy et al. 2007, Künzli David 2007). Where the journey begins has yet to be made clear. To the question, can the first steps to "shaping competences" be taken in kindergarten or primary school, respectively, there exists no systematic description of these competencies, but only first thoughts and, in particular, the result of promising examples of adapted lessons for this purpose.

We would like to share with you these thoughts and explain, as an example of learning objectives, with the "Apple" theme (for 2nd and 3rd class in Swiss school system), how sub-competencies at primary school level can be applied in a concrete form. Therefore, we would like, through an example, to introduce you to the competence concept of ESD and at the same time, we will show you that education for sustainable development in primary school is not only practicable, but also attractive, especially for the pupils.

The following text was written by the 2nd grade children of a Swiss primary school (as team work) within the framework of an ESD class. As a start, we have chosen this text for you in order to show you what is possible in primary school through ESD. In the following table, we will show which learning objectives have been aimed for in this case and also what the background was for children writing this text. In the table, these learning objectives have been related to the superordinate aims/competences of an ESD unit.

The apple customer, the apple farmer and the apple tree do not all share the same interests.

I am an *apple tree* and in my treetop, there is lots of room for animals. When many animals live in my branches, I am never bored. The arrival of parasites also brings the arrival of useful organisms. It is bad when poison is sprayed over my treetop. People should be happy that so many animals live in my branches.
I am the *apple customer*. I wish to buy a beautiful, juicy apple. I wish to buy an apple without flaws. I wish to buy an apple without wormholes. I wish to buy an apple that is not too expensive. I wish to buy a Swiss apple.
I am the *farmer*. On my apple tree, only beautiful apples should grow. I would like to sell a lot of apples. I must earn money. I cannot get a good price for an apple with wormholes. I cannot get a good price for an apple with flaws. I would like to use less poison.
We must look for a *solution* which is good for all. The farmer grows many apple trees. One apple tree he leaves unpruned. On this apple tree, crab apples grow for the insects. The farmer sprays the other apple trees with biological products. The farmer collects money for a protected area. People can donate money. The protected area includes a camera and also a noise alarm. When the camera detects a parasite, the alarm goes off. The parasite leaves. He can live on the apple tree that has been left unpruned.

The present document, which defines the objectives of ESD, is based upon two competence models with similarities, but also with differences. One comes from Bertschy et al. (2007) and the other one, with its sub-competencies, from de Haan (2008). In this chart, we have tried to interlock the two models. You can find out more on the following site:

www.ikaoe.unibe.ch/fprschung/bineu/index.html
www.transfer-21.de/daten/texte/grundschule_veraendern.pdf

Concrete learning objectives from the lessons with the "Apple" theme for 2nd/3rd class	**Shaping the chosen sub-competencies**	**What should the pupils be able to do when leaving school?** Reference to sub-competencies
The pupils understand that local decisions can have effects on the consumption of apples not only locally, but also in a global context.	They can differentiate between development at local, national and global levels and they identify the interdependences among these levels.	The pupils can critically assess the idea of sustainability as a desirable and important objective in the development of society, as well as the alternative conceptions in the development of society. Their perception goes beyond the local context and horizon and they are able to take into account a global perspective when taking a decision.
The pupils can justify their own ideas about justice when distributing the profits from the apple trade. The pupils are conscious that all human beings on this earth have the same right to a fulfilling life, in which basic needs are secured.	They can discuss different ideas about justice and the legitimacy of needs.	Sub-competency II: Open-minded observations Sub-competency VI: To be just and show solidarity
The pupils realise that the various ways of producing and selling apples have different ecological, economical and socio-cultural effects (whether local or global).	They know the relevant ecological, economical and socio-cultural mechanisms on local, national and global levels and are aware of their interrelation.	The pupils can assess their own visions as well as those of others, but also assess current development trends in relation to sustainable development. They can discuss interdisciplinary problems about unsustainable development and understand its consequences.
The pupils know that there are different types of apples in the shops as well as different ways of transporting them. They are aware why apples are imported from abroad and know the positive and negative effects that trading of foreign apples, for example, has on different stakeholders and on nature.	They know the reasons as well as the consequences of actual trends on the development of society and can discuss the advantages and disadvantages that may arise from them for different stakeholders, for nature and for mankind.	Sub-competency I: Far-sighted thinking Sub-competency VII: Reflection on lifestyle and models

Concrete learning objectives from the lessons with the "Apple" theme for 2nd/3rd class	Shaping the chosen sub-competencies	What should the pupils be able to do when leaving school? Reference to sub-competencies
The pupils recognise the interests of the different stakeholders in connection with apple consumption, production (for example standard and half standard apple trees) and trading. They know that on this subject, there are no easy recipes that can bring only benefits to all sectors (ecological, economical and socio-cultural) and for all stakeholders. The pupils can describe the different interests that are under consideration with reference to apple production and trading. At the end, they are able, from the different interests, to describe the conflicting aims.	They are able to distinguish between conflicting and harmonious aims, between relevant targets in relation to the idea of sustainability, and between the interests of the communities and those specific to the stakeholders.	*(cont.)* They are able to distinguish between conflicting and harmonious aims, between relevant targets in relation to the idea of sustainability, and between the interests of the communities and those specific to the stakeholders. Sub-competency I: Far-sighted thinking Sub-competency VII: Reflection on lifestyle and models
The pupils know that when it comes to the production of apples, (in part unwished for) decisions have side effects.	They can assess and comment on ecological, economical and socio-cultural effects that result from decisions and modes of behaviour on a local and global level as well as on future generations.	
The pupils understand that the perspectives of different stakeholders must be brought together in order to reach fair decisions when it comes to apple production, trading and consumption.	They understand why information on the various subjects and perspectives concerning the different stakeholders must be brought together so that well-grounded decisions may be reached with regard to sustainable development.	The pupils can reach well-founded decisions, despite conditions of insecurity, opposition and incomplete knowledge, that meet the requirements for sustainable development. Sub-competency I: Far-sighted thinking

Concrete learning objectives from the lessons with the "Apple" theme for 2nd/3rd class	Shaping the chosen sub-competencies	What should the pupils be able to do when leaving school? Reference to sub-competencies
The pupils understand that different groups of individuals as well as non-human life forms depend on the apple tree and that sometimes their interests, to some extent, differ from one another. To the question "what is a good apple" the answer will be different according to their respective perspectives. They recognise that information can fluctuate, can be temporary and that one is allowed to make mistakes.	They recognise the temporal as well as the technical limitation of truth and knowledge and they accept that. They recognise that people inevitably reduce the complexity of the world and they can, at the same time, assume different perspectives.	*(cont.)* The pupils can reach well-founded decisions, despite conditions of insecurity, opposition and incomplete knowledge, that meet the requirements for sustainable development. Sub-competency I: Far-sighted thinking
The pupils understand that they themselves observe the world from a given point of view and from that, they make an assessment (for example what is important when buying apples) and are ready to place this in relation to others and to question it.	They can assess the range of their own knowledge and are ready to place and to question their own opinions in relation to those of others.	
The pupils know essential aspects of the "Apple" theme which will be affected by human decisions (e.g. means and methods of transport, plant protection, growing methods, species grown).	They can differentiate among the various aspects in relation to sustainable development, which can be affected by individuals whether alone or in group or through a third party, and they can also differentiate among legitimate issues.	The pupils can assess and express clearly to what extent they themselves can have an influence, directly or indirectly, on development. Sub-competency V: To plan and to act

Concrete learning objectives from the lessons with the "Apple" theme for 2nd/3rd class	Shaping the chosen sub-competencies	What should the pupils be able to do when leaving school?
The pupils know that they themselves as apple consumers have an influence on sustainable and unsustainable development respectively, as well as on different stakeholders.	They recognise relevant possibilities to steer the development of society towards sustainability, that are available to individuals and the collective.	*(cont.)* The pupils can assess and can be articulate about where and to what extent they themselves can have an influence, directly or indirectly, on development.
The pupils are able to critically examine their own wishes and interests in respect to their consumption of food. The pupils can describe and assess their influence as apple consumers on apple production, that is they can speculate which effects their own actions as well as those of their immediate neighbourhood (parents' house, school, region) have when it comes to apple production and commerce.	They can assess where and in what way they themselves can make a contribution to the development of society with regard to sustainability. They can estimate the possible consequence of this influence, and relying on it, decide whether a corresponding action is worthwhile.	
The pupils themselves are able to obtain information by specifically interviewing professionals (e.g. organic farmers, apple wholesalers) as well as consumers. They can integrate the informations thus obtained and use them to make accurate buying decisions.	They can look at the various aspects of the desired sustainable development, as well as the relevant information from the different subjects.	The pupils are able to get information about sustainable development from different sources, and to use these facts efficiently to make decisions in connection with sustainable development.

Reference to sub-competencies

Sub-competency V:
To plan and to act

Sub-competency III:
Interdisciplinary work

Concrete learning objectives from the lessons with the "Apple" theme for 2nd/3rd class	Shaping the chosen sub-competencies	What should the pupils be able to do when leaving school?
The pupils can work out a common notion from their own ideas and those of other pupils on the future with regards to apple consumption and production.	They can express which suppositions determine their own ideas on the community's future and they are able to identify and to designate the relevant common interests and differences compared to the ideas of others, as well as to question theirs critically.	The pupils can work together to create visions with regard to sustainable development and to conceive steps to implement them.
Through their own ideas about the future, the pupils can differentiate between their own interests and those of different stakeholders with regard to production, trading and consumption of apples. Moreover, they are able to estimate whether their own ideas about the future put the interests of all or the interests of individual stakeholders in the foreground.	Through their views on future projects, they can differentiate their wishes and interests as well as the private interests of others from the common good.	
The pupils know there are different ways of making decisions inside groups and they are ready to accept a decision reached within a group.	They are ready to accept decisions for the benefit of the common good, even when it goes against their own interests and aims.	Together, the pupils are able, as a group, to negotiate decisions with others with regard to sustainable development.

Reference to sub-competencies

Sub-competency IV:
To inform and to cooperate
Sub-competency V:
To plan and to act
Sub-competency VIII:
Reflect on lifestyle and model

Sub-competency IV:
To inform and to cooperate

Concrete learning objectives from the lessons with the "Apple" theme for 2nd/3rd class	Shaping the chosen sub-competencies	What should the pupils be able to do when leaving school? Reference to sub-competencies
The pupils are able to look for a win-win solution for the apple producers, apple consumers and for non-human life forms.	They know strategies and methods and how to deal with conflicts of aims and interests in a sensible way.	*(cont.)* The pupils are able to negotiate, as a group, decisions concerning sustainable development with others. Sub-competency IV: To inform and to cooperate
The pupils recognise the pros and cons of growing standard trees and half standard trees and can, as a group, give reasons what kind of tree they would like to buy.	In the course of discussions, they are ready and able to justify their own opinions, even when they differ from others, and to defend them in a constructive way.	
The pupils are ready to listen to the arguments of other children about buying decisions and to confront them with their own arguments.	They are ready to look at arguments of others objectively and, in this way, to confront them with their own and to examine them afterwards.	

Planes

Use of water

Quality of life

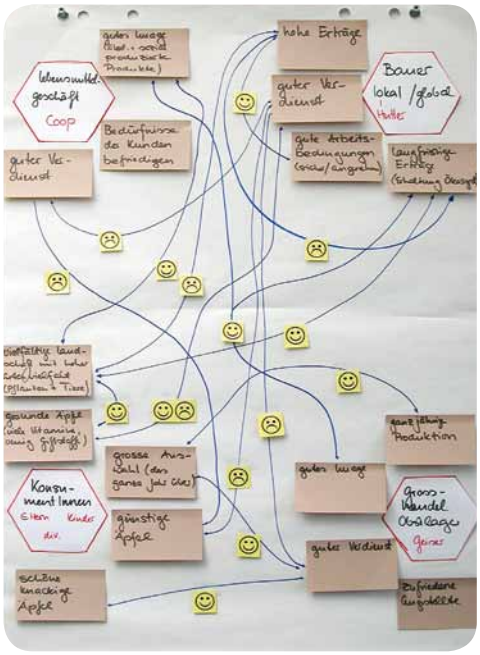
Frogs

Chocolate

Toys

1.3 As teachers, how does one find topics?

On what contents, or subjects, can the learning objectives of ESD be elaborated and achieved? There are numerous potential teaching contents. However, the selection does not take place arbitrarily. Not all subjects or contents are equally suited to achieve the learning objectives.



1.3.1 A complex problem is at the centre

The contents that will be chosen for the lessons must have bearing on sustainable development and its essential activities and interests for mankind (e.g. consumption, health, mobility, etc.) and be important to the pupils' daily routine.

As a first step, a complex problem for the lesson will be defined based on a human activity or a human interest.

Planning work for the "Apple" theme: The central point is the discussion with stakeholders, their interests as well as the multiple connections among them.

Examples for complex problems are:

- Theme: Apple / Human activity: Nutrition
  What is a "good" apple? Apples from South Africa or from Switzerland or Germany, respectively?
  Apples grown on standard trees or half standard trees?

- Theme: Bear, wolf, beaver and others / Human interests: Safe settlement areas, preserving biodiversity
  Should bear, wolf, beaver, etc. be re-introduced?

- Theme: Quality of life / Human activities: Life, work, culture
  Is town X a town where living conditions are good? Which criteria are decisive?
  When, taking into account sustainability, should one live in the city or in the country?

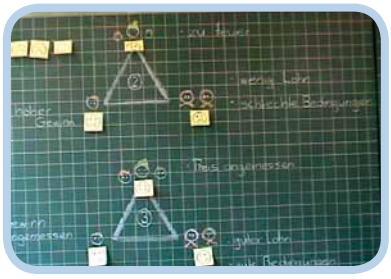
In the next step, the complex problem of choice or organisation criteria will be examined.

1.3.2 Examining the choice and orientation criteria

Stated below in note form are the choice and orientation criteria for lesson contents on the "Apple" theme.

Criteria for choice and orientation of the content:

-Local and global dimensions
Is the content appropriate to make a connection between local and global facts and actions evident?
With the "Apple" theme, local and global dimensions as well as their interconnections can be made evident, e.g.: domestic and imported apples are consumed—productions and transport conditions are varied—influence of the consumers' behaviour on apple import.



-Long-term consequences and changes in the spheres of action
Is the content suitable to make fluctuation in the spheres of action with regard to changing needs evident? Is the content suitable to discuss the consequences of past and present decisions on future generations? Who makes the decisions? Are different future ideas conceivable?
Changes: e.g. extensive farming of orchards, lower-grade crops increasingly replaced by higher-grade ones, apples available all year round, but also trend to (half) ready-made products or towards consumption of older types of apples, etc.
Consequences: For example, the consequences on future generations, with regard to the changes described above, could be discussed.

The two children show the different ways of transporting apples at home and abroad. Subsequently, the consequences will be discussed in class.

Future concepts discussed socially: e.g. conserve biodiversity (keeping standard trees and their use as living space), reduce the CO_2 output (increase the costs of transport for imported apples or cut down on imported products), maintain the economic livelihood for farmers (domestic and third-world farmers). As to the views mentioned, different ideas for future development are possible.

-Socio-cultural, economical and ecological aspects

Is the content suitable to make the three aspects of sustainable development evident when it comes to joint social interests? Inside these three aspects and between these dimensions and joint social interests, can harmonising aims and conflicting ones be detected? In class, it's a question of working out stakeholders' opposite and common interests with one another and in relation to joint social interests.
Harmonising and conflicting aims: The retailer is, for example, interested in selling attractive looking apples at a reasonable price. The consumers have the same interest. These interests can be in contradiction to those of the producers. The apple producers would like to obtain a good profit with their crops and perhaps, at the same time hold on to the living space "apple tree" or "meadow orchard" with its biodiversity. The interests of the retailer can correspond to those of the producer when he intensifies the growing methods (lower-quality fruit trees and use of insecticides), but this can have a negative effect on the living space of the "apple tree" or "meadow orchard". It is also possible that the interest of the apple producers on preserving the ecological balance coincides with the interest of the consumer. The joint social interests can correspond with the stakeholders' interests or can be different.

-Based on a wider and more varied information

On the whole, the theme and its aspects must rely on wider and more varied, but scientifically secure information. Results of the latest research must be taken into account. This information must be made clear in the lesson material.
With the theme "Apple", for example, it is about knowing the pros and cons of standard or half standard apple trees, about pest control and its different consequences, or about the storage of apples.

Other criteria for the content orientation

-Reflection on consequences

Exploring the main and undesirable secondary consequences of decisions or reactions.
Main and secondary consequences: For example, spraying the apple trees results in the retailer being able to offer a better-quality apple. On the other hand, the spraying has negative effects on the biodiversity. To replace standard trees by half standard ones and to spray the apple trees allow for the sale of a greater number of seemingly attractive-looking and low-priced apples, but it also means the possible loss of customers. During certain months, apples are imported from remote countries—low-salary countries—and as a result, customers can buy these fruits all the year round at a relatively low price. Importation of apples rises because the possibility of eating apples at any time will become an expectation. But at the same time, better cooling methods for the storage of domestic apples are being developed.

-Present-day and future consequences

Making present-day and future consequences transparent for the pupils, creating links to their own living environment.

Present-day consequences: The pupils have, for example, as consumers of apples, an influence on the buying habits of their parents. The choice of apples can influence production and transport conditions.

Future consequences: Later as adults, they are responsible for their buying habits, which can again have varied consequences.

-Models and transfer

During their school life, pupils will be able to acquire practical knowledge and the capacity of making judgements from selected examples. In particular, the capacity of making judgements must be made evident; it must be acquired and must be applied to new situations. In this way, the contents dealt with during the lessons will make the link with subsequent learning processes. The pupils should not be left to discover on their own that certain aspects of the subject are fundamental for other subjects. As teacher, one cannot rely on their ability to apply an acquired knowledge to another situation. The transfer capacity is very demanding and therefore must be practised on every subject.

On the theme "Apple", the basic mechanisms, such as the changes in the eco-system or the different modes of transport for goods, should be thoroughly discussed. Also, it is possible to discuss different ideas of justice or equity. The theme "Apple" is an example that can be applied to other consumer goods. One can adapt it, for example, to chocolate or clothes.

With the example of the chocolate rabbit, the transfer has been stimulated to another field of action: the children talked about the stakeholders and their interconnections which they then visualised.

Recurrent theme aspects:

With each subject (bear, apple, etc.) a few of the following aspects will be addressed in complex or less complex connections: climate change, ecological resources (e.g. biodiversity, water, raw materials), technology, production, commerce and distribution, consumption, justice beliefs, fair trading, health, globalisation.

1.4 To which didactical principles are the lessons orientated?

In the following text (first as an overall view, then one by one), how do arguable didactical principles relate to the objective of ESD—the acquisition of shaping competence?

Didactical principles are guidelines which guide the teaching content and the teaching organisation. They show teachers what they must aim for when lessons with ESD in mind are proposed and carried out, i.e. when one aims at shaping competence. Consequently, orientation is central in respect to chosen didactical principles when it comes to ESD lessons. The following specific and general didactical principles play an essential role in ESD.

Specific didactical principles of ESD

The specific didactical principles are such that they are characteristic of ESD.

- Vision orientation: The lessons are aimed at a desired plan for the development of society and not a disaster scenario.
- Connected learning: Interconnectedness in the fields "local—global", "environment—economy—socio-culture" and "present-day—future" is implemented in class in a clear and instructive way.
- Participatory orientation: The pupils take part in selected decisions which concern the child alone or the class as a whole, and they share the consequences of these decisions.

General didactical principles of ESD

The general principles are such that they play a role in many other subject areas. The following principles listed here are very significant for ESD and to some extent very demanding in their adaptation to these educational fields—for this reason they are listed here.

- Action and reflection orientation: In class, a succession of being engaged with the subject and reflecting on it takes place. This leads to increased knowledge.
- Accessibility: The demanding contents of the lessons will be made accessible to the children.
- Linking factual with social, self-referential and method-orientated learning:
  Learning objectives in social, personal or methodical fields will be acquired through examining the factual issue and will not be targeted in separate lesson units.

As defined by ESD, the above-mentioned principles can, only by combining them, develop the pupils' impressions. Only then can we speak of ESD, when the specific and the general didactical principles lead to a series of lessons in relation to higher competences (to be compared to the checklist on p.46 and following pages).

"The didactical principles have become guidelines for me when preparing my work."

"The children can already work out the facts quite well, so that there is hardly ever 'the' right opinion, or for example 'the' right decision."

"Since I have tackled education for sustainable development, I find I now dare, in class, to approach the complexity of events and life more consciously."

"The connected learning, the vision and the participatory orientation have helped me find a new way to give lessons. My aim is, in the long term, to adjust the lessons to these criteria."

"The didactical principles have put many of my thoughts into words. I am now aware of the many unconsidered learning principles and I deal more confidently with crucial points of pedagogical and didactical points of view."

The "Apple King" supports the children in the development of visions.

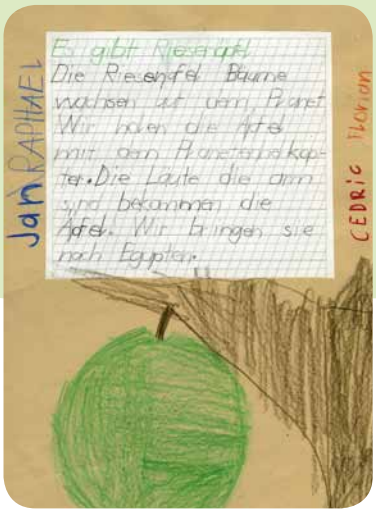
1.4.1 Vision orientation

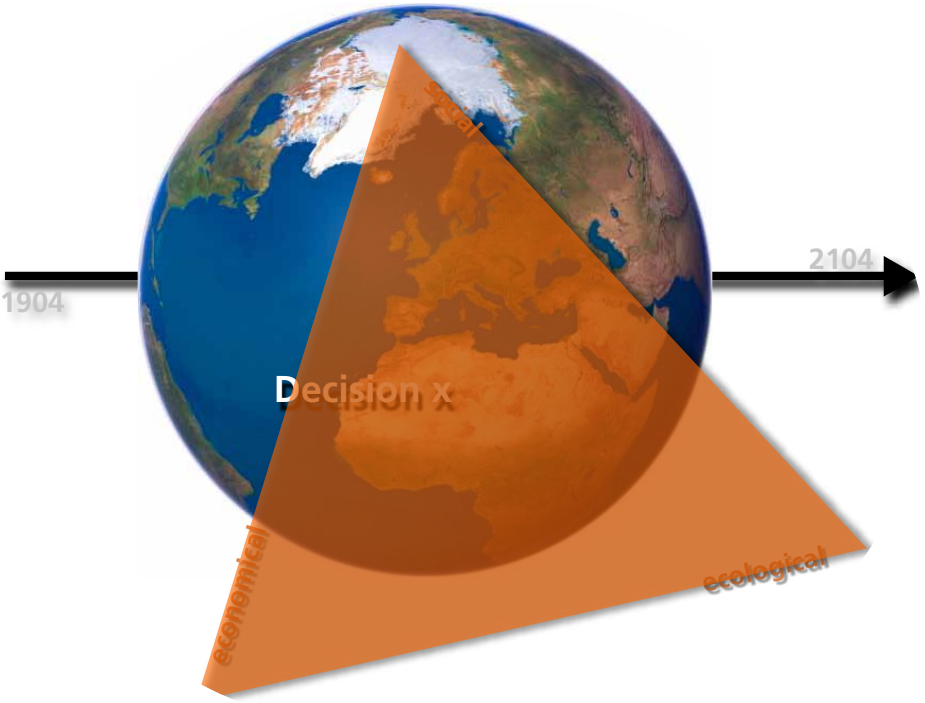
The lessons are aimed at a desired plan for the development of society and not a disaster scenario.

"What kind of future do we wish for the world and for society?" This question is at the heart of sustainable development. Consequently, sustainability is an optimistic concept—it concerns the development of a vision for society's future in which it will be possible for present-day as well as for future human beings to lead a good life. This optimistic approach must also determine the ESD lessons—therefore, it is orientated towards a desired model of the future, towards a vision. In this way, it will be possible for children to have a more positive, a more optimistic approach to the development of society; thus, at the heart of ESD, there is neither a social problem nor a disaster scenario.
The fundamental question is no longer, "What do we have for present-day problems and how can we solve them?" but rather, "What are our wishes for the future, what future is possible and how can we achieve this desired future?" Yet, this does not mean that social problems will not be considered. In the analysis of the visions, social problems will be discussed, but also present-day potentials. However, the emphasis on problems has another background and purpose: the pupils set themselves specific themes with their own future models and then, separately, those of others. They question the realisation of visions and taking this into consideration, they examine together joint social aims.
However, the development of visions will frequently be hindered because of familiar thought patterns and implied presumptions. People have ideas of how the world functions: they interpret news in light of their subjective beliefs. In the end, what is unusual or not in accordance with their own beliefs, will be labelled as "foolish" or "impossible". Because of that, original ideas and suggestions will often be dismissed and sensible solutions will be discarded. However, in order for ideas for a desired future not to be lost because of "false" assumptions or blocked through our usual thought patterns, it is often helpful, for this reason, to employ methods which will encourage innovate creative ideas and solutions (e.g. creative techniques).

"For a week and a half, we have worked with the children on visions. It is fantastic! I would never have believed it. It took courage to let go. In fact, I remained more in the background and the children have done it all by themselves. It was incredible!"

Creativity exercises on the basis of the picture "Giant Apple" by René Magritte.





1.4.2 Connected learning

Interconnectedness in the fields "local—global", "environment—economy—socio-culture" and "present-day—future" is implemented in class in a clear and instructive way.

The lessons of ESD are multi-perspective and inter-perspective. The subjects of the lessons will be highlighted from several perspectives (stakeholder or field perspectives) and they will be put into relation with one another. It is not just a question of passing on isolated facts but rather to stimulate system thinking. Only these connected sources of information allow people to acquire well-founded opinions concerning sustainable development.

Human actions, decisions or visions are the starting point of networks. As a result, main and secondary consequences as well as calculated and non-calculated ones will thereby be taken into consideration. Considering consequences takes place with help from the following fields:

The connection of "present-day and future": What impact will our decisions have on today's and on the next generation?
The network of ecological, economic and socio-cultural dimensions: Is our decision compatible with important economic, ecological, socio-cultural and general social ideas? Which competing and corresponding interests of stakeholders are to be found?
The local and global connections: What impact will our decision have on people in my neighbourhood, in other countries, on public welfare?

In class, the connections of the different perspectives (field or stakeholder perspectives) must be explicit and instructive. The lessons should enable the pupils to approach networks and, at the same time, should give them assistance. It must not be assumed that the pupils are able, on their own, to link together information from different subject matters or to link together the viewpoints of different stakeholders.

The connections between the different "inhabitants" of the meadow orchard will be made visible through thread nets.

The pupils should themselves become aware of their own viewpoints with regard to the theme, but they should also be confronted with other perspectives. Discussion with unfamiliar perspectives always leads to feeling unsure of one's own position. Because of this, it is of utmost importance to find a balance between affirming own ideas and this feeling of insecurity.

"What I find remarkable with sustainable development is that pupils learn to think in an interactive way. That they become conscious that their actions and behaviour can have consequences on the environment and on fellow human beings."

1.4.3 Participatory orientation

The pupils take part in selected decisions which concern the individual child or the class as a whole, and they share the consequences of these decisions.

The capacity of people or groups of people to participate in social development is a central principle in the idea of sustainability. Young people must be enabled to actively take part in the social processes. For this, the essential competences must be built up through carefully thought-out participative experiences. However, in this connection, it must be made clear that participative experiences gained in class cannot be easily transferred to social processes. Individual classes, however, offer a secure space and within this framework, participation can be practised, the most important points being clear binding structures, rules, expectations and obligations. These are negotiated with the children and for these also, the children accept responsibility.

"I believe that the children feel that they are taken seriously. They have the feeling that they have something to say. We have more serious conversations and I entrust them with more responsibility when finding solutions to conflicts."

By planning and implementing these lessons, the essential question is, where and how, during class, can the children actively participate or co-decide. The pupils' involvement can find its expression in different and strong ways (from just listening to opinions to co-determination or even self-determination) and refer to different fields, for example: what is being learnt, how is it learnt, how long does it take to learn it, and with whom. However, within the framework of ESD, it is essential that participatory orientation is not merely reduced to aspects of social learning and with it, the social dimension. Questions on control, power, social organisation of interests and, for example, social community life must be explored. Furthermore, decisions taken will be reflected upon, especially concerning sustainable development.

The children have put the exhibition stands together by themselves. After the exhibition, they made comments on the event.

"We think differently from grown-ups. That was evident at several exhibition stands."

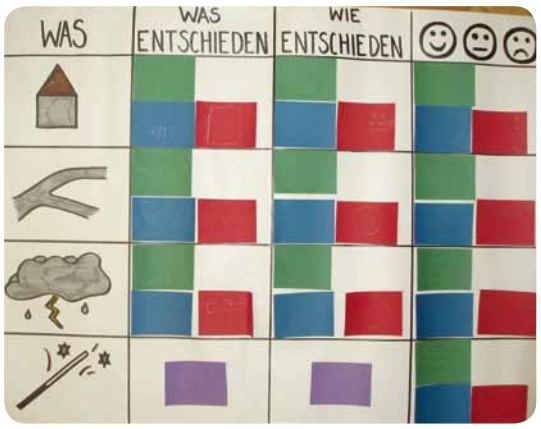
"We like it when we can help and decide for ourselves. We have thoughts, too!— Yes, but you can only decide when you know a lot about something."

"The grown-ups think almost in a way as if they kept their hands before their eyes."

1.4.4 Action and reflection orientation

In class, a succession of being engaged with the subject and reflecting on it takes place. This leads to increased knowledge.

The pupils are capable of increasing their knowledge by being engaged with the subject and the subsequent reflection on the experiences they have made. Reflection on experiences is essential, because knowledge does not appear by itself just by doing. During the lesson, the activity should not become an end in itself. Learning processes remain in the foreground; the activities must encourage, assist and stimulate these learning processes and the children should be made conscious of this through reflection. For the acquisition of social competences it is, for example, not enough just to allow the pupils to take part in several work groups. Pro-social behaviour will not be encouraged only through the experience of working in groups. However, this type of experiences shapes the basis for reflection. A sensible sequence in doing and reflecting is therefore essential. To work on reflection, different well-tried methods exist, e.g. learning journal, work survey, class conferences.
Being engaged with the subject is often also useful and possible outside the classroom. In general, learning possibilities outside the school walls ought to be sought out only when it is thereby feasible to improve the quality of the learning processes.
Within such learning arrangements, the pupils can, to some extent, provoke something in their local environment: For example, the pupils can contribute their perspectives and take part in community projects (e.g. redesign of the village square), or concrete activities can result directly from the lesson process (e.g. a letter to the local administration with a request for measures to control traffic around the school premises). However, this "becoming active" in local affairs does not constitute a part of ESD. Furthermore, the initiative should always come from the children because ESD is not about encouraging children to change their local environment in a, by grown-ups (e.g. the teacher), predetermined way.



The children made decisions with reference to the theme "Apple" and reflected on them afterwards.

"By being engaged in education for sustainable development, I have realised how important it is to give the pupils time to think over what has been learnt and to express their own views. It is worthwhile to give them this time."

1.4.5 Accessibility

The demanding contents of the lessons will be made accessible to the children.

In its essence, the didactical principle to accessibility implies the following questions: How can we make the subjects approachable, so that the pupils can grasp and understand them? In fact, this is for ESD a demanding question because we must render complex and abstract contents accessible.

Through the didactical arrangement of the lessons, the teacher must make the content, which bears a relation to their present-day and future life, accessible to the students, that is, the knowledge must be of importance to the pupils in their present-day and future life. For this access to be successful, the children's experience range, prior knowledge and actual values must be taken into consideration. At the same time, one must bear in mind that it is also the school's duty to initiate questions and aspects of knowledge that would not, by themselves, attract children's attention. The access can also be successful, when, through class, experiences are made possible and, in the end, the learning content will build on these experiences. Experiences can, for example, be acquired through visits to stakeholders who are relevant to the subject. To include experiences in lessons means making them apparent and communicable, so that they can be used when engaged in the learning content.

Experiences are not only made possible through direct, physical engagement with an object, but can also be imparted through media. With the communication, what can be decisive is less the spatial proximity, but more the mental one. In this context, it is also possible to show young pupils global interrelations and to arouse their interest in them. The local neighbourhood, through idea and experience, is not the only thing accessible to primary school children.

When lessons are based on experiences, it can also make contradictions obvious. Thus, for example, the buying behaviour of one's own family might not coincide with the buying behaviour considered by the children in the class as to what is desired for the future. The awareness of differences can not and shall not be hindered. However, an important condition for a positive learning process is the discussion of such contradictions.

With a puppet show (finger puppets), different stakeholders and their interests were made accessible to the children.

1.4.6 Linking factual with social, self-referential and method-orientated learning

Learning objectives in social, personal or methodical fields will be acquired through examining the factual issue and will not be targeted in separate lesson units.

Skills and proficiencies in social, personal and methodical areas will always be acquired through concrete situational learning contents and will not be easily adapted to other situations or subjects—learning is always specific, i.e. tied to the contents, and never universal.
The ability, for example, to take part, in a constructive way, in decision making requires therefore concrete contents. One can not be trained to do so with any—unspecific—material. Hence, this competence could be, for example, practised in a game with the theme "Planning an ideal residential area". Afterwards, it is important to stay with this example, think about the game from the perspective of the higher aims of social development. Therefore, during class, social, self-referential and method-orientated learning must be integrated with the factual learning.

The factual learning always takes place in a social context with specific educational methods. It is important that the teacher incorporates this context and the use of methods when phrasing the learning objectives, and by doing this consciously connects social, personal and methodical learning with factual learning.

In a play, the children delved into chosen conflicts of interests between producers and retailers. At the same time, the teachers pursued objectives in the area of social and self competence.

In chapter II, we would like to illustrate the basis of ESD discussed in chapter I with a practical example. The example chosen concerns the lesson with the theme "Toy" for 2nd/3rd class.

Chapter 2

Implementation of an education for sustainable development: Concretisation of ESD based on the theme "Toy"

2.1 Synopsis of the series of lessons

Stating the problem
Starting point for the lesson with the theme "Toy" was the following complex question (to be compared with the explanation on p.14 for the choice of contents from ESD):

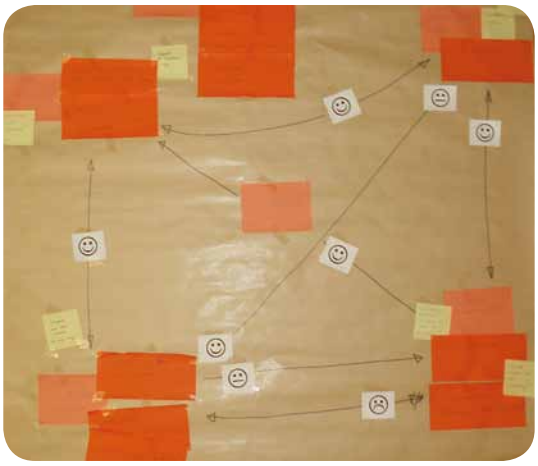
What is a "good" toy?

Learning objectives
In the discussion for the content or subject (to be compared to orientation criteria for lesson contents on p.15 et seq.) and with the priorities of ESD in mind, the teachers defined the following learning objectives for the lesson:

The pupils
… are aware of their own standards in judging toys and are able to give reasons for these criteria.
… know the trade routes for toys as well as the business interests of department stores.
… can decide for themselves when choosing a toy and give good reasons for this choice.
… can assume the perspective of the sales manager of the toy department.
… know the situation and the interests of Chinese migrant workers and can point out the positive and negative aspects of this situation.
… recognise the consequences of their buying habits on the manufacture of toys with regard to different stakeholders and can assess these consequences.
… know the adults' criteria when evaluating toys for children.
… are able to assume the perspectives of adults when assessing toys for children.
… know how plastic is produced and what from.
… recognise with the help of future concepts that there are different perceptions and no universal answers.
… can make relationships among the different stakeholders evident and discuss them.
… know the pros and cons of plastic or wood toys respectively.
… know that there are no generally valid criteria for "good" toys, but that opinions depend on the different interests and perceptions.
… can define and give reasons for buying criteria due to skills learned.
… can develop visions for toy production, toy trade and toy consumption.
… can apply the information they have learned from the theme "Toy" to the theme "Easter chocolate bunny" with regards to the interdependence of stakeholders.

Analysis of content matter guided by stakeholders
An important step in the teachers' planning was the stakeholder-guided analysis. Guided analysis of content matter by stakeholders is part of the teachers' examination of the theme's different aspects and takes place in parallel to the definition of learning objectives. The following illustrations describe an important result of the analysis of content matter of the theme "Toy".

Through the stakeholder-guided analysis, a blackboard picture was produced in the course of the lesson and with its help, the different connections were made evident.



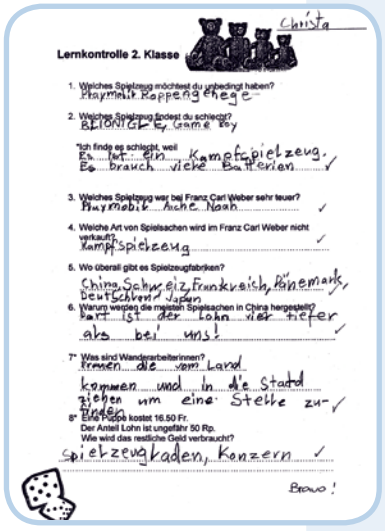
Planning results of the stakeholder-guided analysis: The relevant stakeholders and their interests as well as their mutual dependences.

The course of the lesson sequence
Introduction: The child and its toy
The meaning of game/playing: Set up a new circular game. Discussion about when one can say that it is a game. The children formulate a definition for the term "game".
Different ways of playing: Know the different ways of playing and learn to differentiate – circular game, board game, playing with a toy, etc.
Compare one's own playing behaviour to that of others: When, how, how often and with whom do I play? Complete a questionnaire about games. Reflection: Where are the similarities/differences between children? Compare game and time budget.
Discussion about games in 20 years' time: What if we were not allowed to play, what would it mean for me personally? How should it be in 20 or 30 years' time? The discussion will be led by a child.
Connection poster first stakeholder: Interests and needs of the stakeholder "the child".

The toy department of the department store
Preparing a visit to a toy department in a department store: Through individual assignments, the children describe what interests them and what they would like to see. As a group, the pupils put together the interview questions for the sales manager (in particular about the function and the interest of the toy trade, but

also about other areas of particular interest to the children). In assembly, the interview questions are put together and finalised.
In role plays, the children practise the interview with the toy department's manager and they try to put themselves into his or her position and thus express his or her hopes/hypotheses.
Visit to the toy department: Discussion about their own needs. In groups, the range will be examined under different criteria (with a work sheet): What would I absolutely wish to buy and for what reasons? What would I never wish to buy and for what reasons? What would I buy for 30 Swiss francs or 20 euros respectively, and for what reasons?
Conduct the interview with the manager of the toy department (each child reads aloud one of his or her questions prepared for the interview and takes notes of the manager's answers).
Evaluation of the visit: Reflection on the needs of the children—discussion in assembly: What do you observe? Which toys were chosen above all others? Which ones dismissed? On what grounds? Is there a difference between the choice made by girls and the one made by boys? Why?
Evaluation of the explanations of the toy department's manager, practising changing perspectives: Role play of the interview situation: Children acting out, in turn, the part of the toy department's manager. Discussion about what new ideas have been won, what findings have been confirmed or refuted.
Connection poster other stakeholders. New stakeholders are added to the connection poster (from production and trade): The interdependences of the stakeholders are reviewed. Parallel and opposite interests are incorporated with arrows and smileys.
Reflection on the visit as well as on new conclusions: Writing a reflection report (excursion report): What have I learned? How difficult/easy was it for me to choose a toy? Why? Did I like the excursion? What have I learned?
Exchange of the results in assembly.

The assessment requires the children to show their acquired network knowledge.


Christa

Lernkontrolle 2. Klasse

1. Welches Spielzeug möchtest du unbedingt haben?
Playmait Puppenhaus

2. Welches Spielzeug findest du schlecht?
Bionicle by Lame Toy

Ich finde es schlecht, weil
Es ist ein Kampfspielzeug.
Es brauch viele Batterien ✓

3. Welches Spielzeug war bei Franz Carl Weber sehr teuer?
Playmobik Arche Noah ✓

4. Welche Art von Spielsachen wird im Franz Carl Weber nicht verkauft?
Kampfspielzeug ✓

5. Wo überall gibt es Spielzeugfabriken?
China, Schweiz, Frankreich, Dänemark, Deutschland, Japan ✓

6. Warum werden die meisten Spielsachen in China hergestellt?
Part ist der Lohn viel tiefer als bei uns! ✓

7* Was sind Wanderarbeiterinnen?
Frauen die vom Land kommen und in die Stadt ziehen um eine Stelle zu finden ✓

8* Eine Puppe kostet 16.50 Fr.
Der Anteil Lohn ist ungefähr 50 Rp.
Wie wird das restliche Geld verbraucht?
Spielzeugkaden, Konzern ✓

Bravo!

Made in China

Introduction to toy production in China: The teacher talks about the working conditions in China. Video "Toy production in China": Working conditions of migrant workers, "Fair Play" campaign. Read leaflet "Made in China". Group discussions followed by a discussion in assembly.
Connection poster other stakeholders: New stakeholders are added to the connection poster (migrant workers, toy factory): The interdependences of the stakeholders are reviewed. Parallel and opposite interests are incorporated with arrows and smileys.

Monitoring the learning objectives of "Made in China"

Reflection on the sequence: Discussion in assembly and in groups: What now? What happens when we don't buy any toys from China? Advantages—drawbacks. Do we have the possibility to buy toys with the "Fair Play" label? What do we need to be happy? Are children in the USA (with 260 euros or 430,00 Swiss francs worth of toys per year) happier than children in Africa (with 1,20 euros or 2 Swiss francs worth of toys per year)?

How do adults choose a toy for a child?
Expectations/knowledge regarding criteria of adults for buying toys: Role play: What criteria do grandparents, parents have when it comes to buying a toy for a child? Evaluation of the role plays, reflection on the supposed criteria of parents, grandparents, godparents etc.
Interviews with adults: Prepare in groups the interviews with parents, grandparents, godparents. Each child carries out an interview with an adult.
Reflection on the results: Make a list of the criteria of each protagonist and compare them with one another. Discussion in assembly: What stands out? Why is that so? What did we expect, what surprised us?
Connection poster other stakeholders: Role and interests of adults who buy toys, add to the list and highlight connections to other stakeholders.

Production of plastic toys
Importation of plastic: Introducing the theme "Plastic" with the help of texts, work sheets, experiments and video sequences. How is plastic? What is plastic? Where does plastic come from? From crude oil to toy.
Production of plastic toys, using the example "Lego".
Reflection on the sequence: Discussion in assembly and in groups: What would happen if we no longer buy plastic toys? What would our children's bedroom look like if there were no plastic toys?
Assessment "Plastic".

Repairing toys, recycling
Preparing the excursion: Presenting a toy recycling workshop, where unemployed job hunters work and are able to obtain further qualifications.
Excursion: Guided tour through the workshop. There, the children will learn, among other things, what it means to be unemployed, will see the different products that are being repaired, realise that not all materials can be repaired easily, and that second-hand toys are cheap to buy.
Evaluation of the excursion: Discussion in groups about the information obtained during the visit. Learning journal: The children write down the most important findings from the visit and describe the pros and cons of what the workshop can offer when compared to the toy department of the department store.
Connection poster other stakeholders: New stakeholder "Recycling workshop" is added to the poster. Clarify and discuss the connections to the stakeholders that are already known.

Closing interrelations and transfer
Preparing a "pro and con" role play (in the style of a Swiss television programme) to the theme "Plastic toys—advantages and disadvantages": In groups, the children prepare arguments for the different roles (stakeholders from the connection poster). What would it mean for individual stakeholders when no one buys plastic toys?
In assembly, the pros and cons of the groups are then critically discussed and completed.

The teacher presents the principle of the television programme. Distribution of the roles of the different stakeholders on the podium, assignment of different roles for "viewers in the TV studio" (the children who have no parts to play on the podium will be divided into two groups [in favour of and against plastic toys] and be employed as active viewers who will also be included by the TV presenter. Important insights from the sequence planning are included on the connection poster.

Acting out the role play: The role play is acted out before parents and relatives and filmed. The teacher will be the presenter. Parents and relatives can take part in the discussion as "viewers in the TV studio".

Reflection on the role play: Each child, in the role of stakeholder, reports back on how he/she felt as stakeholder X. The rest of the pupils report back on which argument has most impressed them and why.

Reflection on their own buying habits: Each child defines what is important for him/her when buying a toy next time—in addition, a reading board will be created.

In groups of three, the children talk about the different proposed remarks for buying toys, they select the one that seems best for them and present their reasons for this choice in front of the class.

Recapitulation of the interests and interdependences of stakeholders and defining a vision: In groups, as an exercise to recap and to increase their knowledge, the children discuss the following questions: "What would happen if we were to give up plastic toys?" "What would it mean for each specific stakeholder on the connection poster?" Gather information and discussion in assembly.

Working in twos, the children define wishes and rules, with reference to the individual stakeholders, for fair trading and a just and measured production (all will be noted on small cards). In assembly, ideas will be exchanged and if required, they will be discussed. The small cards will be attached to the respective stakeholders on the connection poster.

Transferring ideas: In groups, the children try to transfer the information gained in the discussion about the theme "Toy" to the "Chocolate bunny" theme. As a first step, the relevant stakeholders and their connections are defined and put onto a "concept map" (based on the same principle as the connection poster). Each group presents its concept map to the class. Subsequently, discussion about the question, "What if there were no chocolate bunnies?"

Reflection on the learning process: From their point of view, the children comment on a sheet of paper to what extent they have achieved the learning objective of the lesson.

Conclusion of the lessons with a wall journal: The children create a wall journal about the following two questions: "What did you like best about the subject 'Toy'?" "What is important for you to know?"

The representative of the Lego Company pointed out the advantages of plastic toys.

Recurring points during the course of the lessons

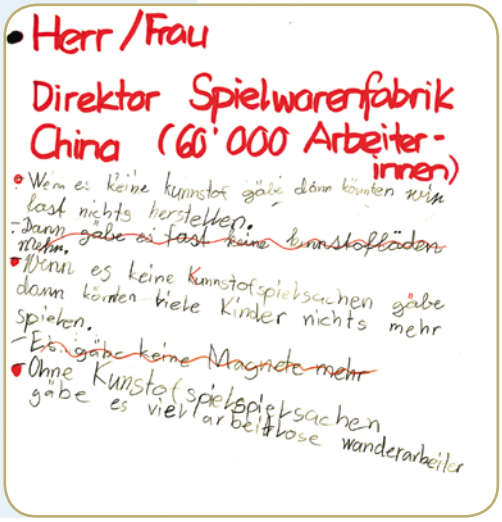
The interactions with one another, the distribution of tasks, the manner of coming to decisions and the quality of the results from teamworks were regularly discussed and reflected on with regard to changes. Regularly, the learning process was reflected on and recorded in an exercise book. During the course of the lessons, each child presented his or her favourite toy and gave reasons for his or her choice. Afterwards, the quality of the presentations was discussed in assembly. During the course of the lessons, parlour games were also played on a regular basis. They were explained and guided by a child. In each case, not only the game itself but also its direction were talked over by the children.

The children prepare themselves for their role play by writing down their stakeholders' arguments.

2.2 Selected views on the implementation of the lesson sequence

2.2.1 Connections

The lessons regarding the theme "Toy" orientated themselves on stakeholders that were relevant for this subject. Highlighting the different stakeholders' perspectives constituted the thread of the lessons. The children analysed different roles (e.g. consumers, manager of a toy department, director of a toy factory in China, adults [parents, relatives] etc.) and their interests in relation to the theme, and learned to put themselves in the stakeholders' place and also to argue from their point of view. During the lessons, the teachers even dared, with success, to explore with the children the global connections of the themes. The production and business conditions inland and abroad were discussed. Then, the situation of Chinese migrant workers was also explored: This part of the theme seemed to fascinate the children. Dealing with the stakeholders and exploring their interests took place during actual encounters, but also in the class room with various materials and through tutorials. Every new stakeholder was added onto the blackboard with their interests and would be brought into relation with the already known stakeholders in the form of a net, that would grow continuously. Thus, during the course of the lesson, the different compiled elements of the theme were brought into relation to each other. The acquired knowledge was needed regularly to throw light on



the economical, socio-cultural and ecological, as well as local, global and future consequences of decisions for the different stakeholders. Positive and negative consequences had to be considered carefully in order to make knowledgeable, reasonable and fair decisions. Towards the end of the lessons, a role play was performed to deepen the knowledge about different implications from certain situations on the different stakeholders. Following the role play, the children had to define their own criteria for buying toys and justify them.

In groups, the children put forward arguments in favour of or against buying plastic toys.

During the role play, the children discussed the pros and cons of plastic toys. The children pointed out connections and conflicts of interests.

Made in China

Whether in Switzerland, Italy or in the US—everywhere you'll find the same Barbie dolls, Playmobil and Fisher-Price toys. 7 out of 10 toys are made in China.

There are about 9,000 toy factories in China with a total of 3 million employees.
There are factories with 1,000 workers and others with 60,000. Such factories are as big as a small city.
Toy companies from all over the world have their toys produced in China because of the low salaries and the cheap production costs.

In China, millions of workers move from the countryside to the city. They are looking for work. They are very often young women (16–30 years old). They are called migrant workers.
Better a badly paid job than no job at all, they tell themselves and get a job at a toy or a different factory with a poor wage and without a contract.

From June to October, when production for Christmas is in full swing, they often work 14 hours a day, regularly 7 days a week. (Here, 8 hours are normal.)

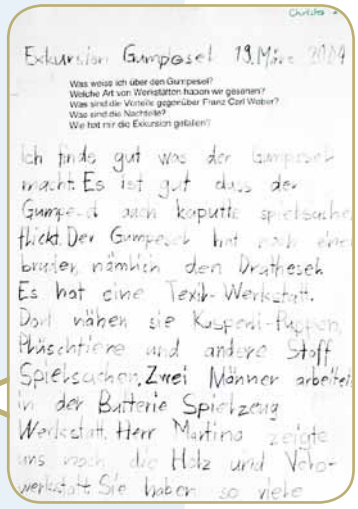
This sign means: This toy was produced for a fair wage and fair work hours. (Bear picture)

Short account of a learning sequence to the theme "Toys—made in China"

The teacher gives an account about working conditions in China.
Addition to the network on the blackboard: The migrant worker as stakeholder and his interests are added.
Working in groups of two: Inform each other about what was heard.
Unclear points or questions, which arise during the work in pairs, are clarified in assembly.
A video film follows about the working conditions in a Chinese toy factory and the fate of the migrant worker. Edited by MISEREOR: "That must change—Toy production in China" (2003). Duration: 14:30 minutes.
The teacher sums up the most important information. Questions about the film are discussed in class.
Further addition to the network on the blackboard:
The interests of the migrant worker will be brought into relation with those of the other stakeholders.

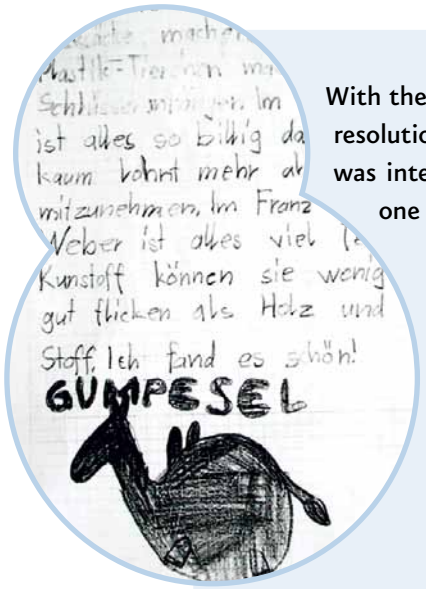
2.2.2 Reflections

The lessons with the theme "Toy" were characterised by regular reflections based on the experiences made. These experiences were discussed and processed through individual work, team work or in assembly. In this way, the acquired knowledge was made clear to the children and could be verbalised. In their own role as "toy consumer", for example, the children were compelled to explain their own tastes and needs. The excursions to the different stakeholders of the toy business were fully prepared: The children had to exchange their knowledge, define their expectations with regard to the roles and interests of the stakeholders and write down questions which they would like to ask. Following the visits, a series of varied evaluations took place. On one hand, the arguments of the stakeholders were written down and thoroughly analysed (e.g. in role plays), on the other hand, they were set against the children's expectations and previous knowledge, and new insights were talked about. The individual insights were recorded in a learning journal kept by the children during the whole project. Furthermore, the children also attempted regularly to reflect new findings onto already known stakeholders.

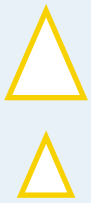

Exkursion Gumpesel 19.Mär
Was weiss ich über den Gumpesel?
Welche Art von Werkstätten haben wir gesehen?
Was sind die Vorteile gegenüber Franz Carl Weber?
Was sind die Nachteile?
Wie hat mir die Exkursion gefallen?
Ich finde gut was der Gumpesel macht. Es ist gut dass der Gumpesel auch kaputte Spielsachen flickt. Der Gumpesel hat noch eine bessere, nämlich den Drathesel. Es hat eine Textil-Werkstatt. Dort nähen sie Kasperli-Puppen, Plüschtiere und andere Stoff Spielsachen. Zwei Männer arbeiten in der Buttonie Spielzeug Werkstatt. Herr Martina zeigte uns noch die Holz und Velowerkstatt. Sie haben so viele

However, reflections took place in connection with the social learning objectives as well. For example, teamwork would frequently be reflected on in relation to conditions for success or failure. On the basis of concrete experiences in group decisions, the different ways of making decisions were talked about (e.g. majority decisions, consensus decisions, chance decisions, etc.), systematised and defined in the form of symbols.

With the help of a role play, the interview with the department manager was reflected on. The children played in turn the role of the department manager.



With the help of these symbols, the pros and cons of different ways for conflict resolution were discussed—also in relation to different decision situations. It was interesting that many groups of children chose consciously and explicitly one of the discussed ways when it came to decision making.



Pointing out the different ways for resolving conflicts encourages the children to reflect on group decisions.

Different ways of finding solutions in conflict situations

Solutions	Symbols
Vote	
Count	
Drawing (name tags, roll the dice, rock-paper-scissors, draw sticks, even-uneven numbers)	
Order	
Discuss until everyone is happy	win-win-win
Define criteria	
Competition	
Concede	

2.2.3 Ideas of justice

During the lessons with the theme "Toy", the pupils were again and again encouraged to examine the question of what they judge as just or unjust. By exploring the subject of toy production conditions or opportunities for migrant workers to earn money, the children were made conscious of their ideas of justice. The starting point were their own experiences (what have I experienced as just or unjust) in their everyday life or experiences enabled by the lessons (cp. the exercise "What is fair?"). Their own experiences were reflected on with regard to different solution possibilities and ways to decide. For example, an argument situation, which a child described, was discussed in class: How else could the dispute have ended? What are the possibilities to resolve the argument? Which of the possible solutions and ways of deciding seem to you, in this instance, the most sensible and why?
In class, for different conflict situations, win-win solutions (solutions from which all participants would derive a profit) would be looked for. This experiment showed that win-win situations are neither always possible nor always reasonable. The information gained from these reflections, from one's own experiences, were subsequently transferred to the theme "Toy".

Exercise "What is fair?"

On two sides, there are different materials ready for the fabrication of a toy (e.g. a toy car). The distribution of this material is unfair: On one side, there are many attractive materials, on the other side, there is little and rather ordinary material. The class is divided into two groups. Each group is assigned one side of the material. The rule is that each group should only use the material supplied to them.

In groups, the children discuss which situations they have found to be unfair.

Following the exercise, the results were examined and assessed. A class discussion (or also a group discussion) that reflects on the exercise takes place: Was I happy with the distribution of material? Was the distribution just? Are there other situations where "materials" are unjustly distributed; perhaps in connection with our subject "Toy"? What would be a fair distribution? Are there different fair distributions? What are the criteria that make a distribution "fair" or "unfair"?

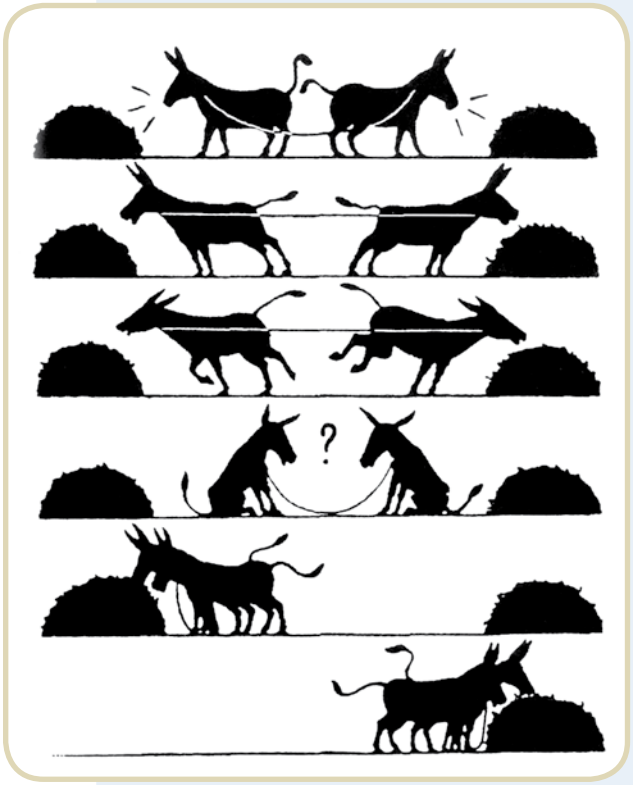
Exercise "Two donkeys"

The children learn through this exercise that there are different types of solutions to problems (win-win, win-lose, lose-lose—cp. matrix below). The children are divided into groups. For each group, there is a set of the donkey story (without the last two pictures).
To begin with, the class talks about the donkey's problems and how they emerged. In groups, the children discuss how the story could evolve. The children are encouraged to find as many different solutions as possible, and to test each solution for its pros and cons. It will then be discussed how the donkeys could possibly come to each solution (the stronger one has won, the hungrier of the two has convinced the other…). Afterwards, the last two pictures are revealed. The different solutions developed by the children are entered into a matrix.

	Donkey 1 wins ☺	Donkey 2 loses ☹
Donkey 1 wins ☺	Win-win ☺☺	Win-lose ☺☹
Donkey 2 loses ☹	Win-lose ☺☹	Lose-lose ☹☹

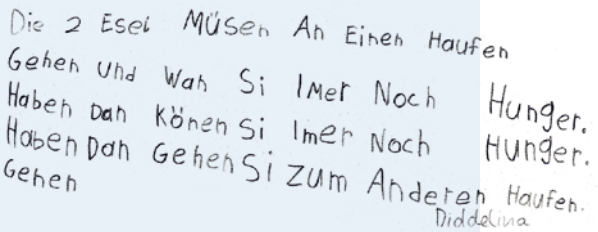
The matrix is then transferred onto different conflict situations: first on conflict situations from the children's everyday life, then ones related to the subject. In the lessons with the theme "Toy", the matrix will include the corresponding conflicts among stakeholders. The teachers will describe different conflict situations and the children look for as many solutions as possible, for the different types of solutions: When is it, for example, a win-win situation?

	Toy consumer is happy ☺	Toy consumer is unhappy ☹
Toy manufacturer is happy ☺	Win-win ☺☺	Win-lose ☺☹
Toy manufacturer is unhappy ☹	Win-lose ☺☹	Lose-lose ☹☹



The conflict of interest between the two donkeys. Source: Pike, G., Selby, D. (Toronto 1999). The global classroom. Book 2, p.59.

A child's example of a solution for the donkey story.



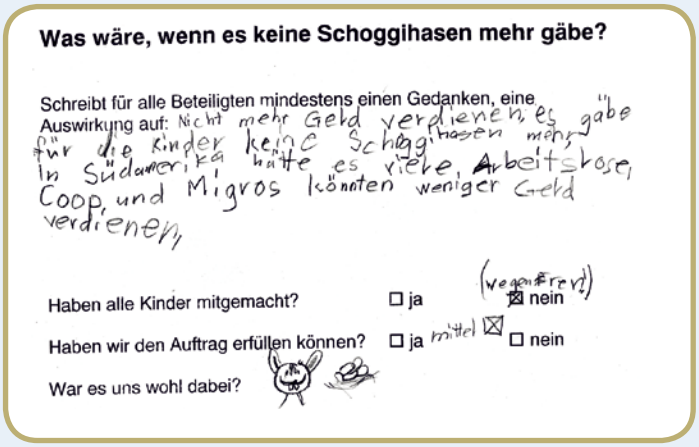
Teamwork on the theme "How should the production and consumption of toys evolve in the future?"

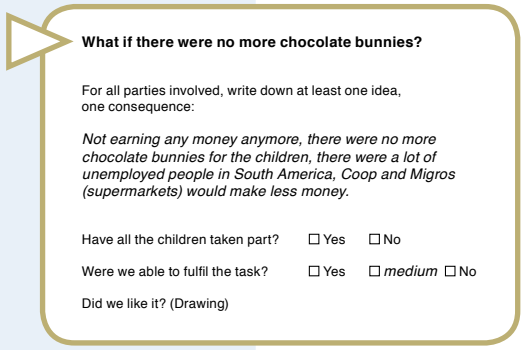
2.2.4 Visions

In principle, the lessons with the theme "Toy" orientate themselves towards a desired development of society. The lessons are focused on sensible toy consumption in the future (and therewith production and trade) and possibilities for the pupils to act in the near future. Ideas for the future were developed together and discussed in class: The pupils examine, for example, the scenario if there would be no more toys made from plastic. This notion was examined regarding its consequences: economic, socio-cultural and ecological consequences, consequences on local and global levels, consequences for the future.
In class, different creativity techniques were used to inspire innovative ideas and solutions. After all, in order for ideas for a desirable development of society not to fail due to "false" presumptions or be limited because of familiar thought patterns, it is essential to use exercises that stimulate creative thinking.

Exercise "What if…?"

With the exercise "What if…?", the teacher or the children pose a "What if…?" question. The children try, individually, in groups or in assembly to put themselves in the situation and to find answers. The following and similar questions are possible: "What if there was no school? What if you woke up tomorrow as a cat?" With this exercise, assumptions and familiar thought patterns can be removed and the consequences must be considered. The aim of this exercise is also to confront the children, in a playful way, with the fact that decisions or circumstances have long-term and unwanted effects as well.
In the lessons with the theme "Toy", the teacher encouraged a discussion on the following questions: What if we were not allowed to play anymore? What would that mean for me?
A child from the class leads the group discussion. Another one takes care that everyone can speak and take part in the conversation. The teacher itself also takes part in the conversation in the same way as the children.





The children were asked to assess consequences of "What if…?" situations. Subsequently, each group was asked to reflect on the learning process in relation to social objectives.

Examples of answers from the pupils to the question:
"What if we were no longer able to play?"

It would be boring.
We would have to dream up imaginary games in our heads.
If one were no longer allowed to play, one would not be able to become clever.
We would all be tensed up.
Then, we would only dream at night and let our imagination run wild.
Playing is also thinking.
It's possible that we could get headaches, pains of some sort, we would have to go to hospital or we could even die.

During the interview with the department manager, the children acquired background knowledge about the toy trade.

2.2.5 Decisions

Throughout the lessons with the theme "Toy", the pupils were encouraged to reach their own decisions either individually or as a group. Shaping sustainable development implies that one's own considered and substantiated decisions can be negotiated with others. Because of this, the children had to, during class, examine toy production, trade and consumption through secured background knowledge. Moreover, the different perspectives of the stakeholders were made clear to the children, based on which they were able to make decisions and justify them.

Learning sequence visit to the department store

Preparing the interview with the manager of the toy department.
Excursion to the department store.
Task: Answer questions in pairs (cp. work sheet). Children elaborate decision criteria and choose a toy.
Interview with the toy department manager: Each child asks one of the prepared questions.
Back in the classroom: The answers of the manager are written down. The children present to the class the toy they would have bought and give reasons for their choice. The common decision criteria are written down.

Visit to the department store _____

By _____ on the _____

If I were allowed to choose something, I would choose _____

_____. It costs _____ SFr.

I like it because _____.

If I had 30 Swiss francs, I would choose _____

_____.

I like it because _____.

_____.

I would never buy this toy _____.

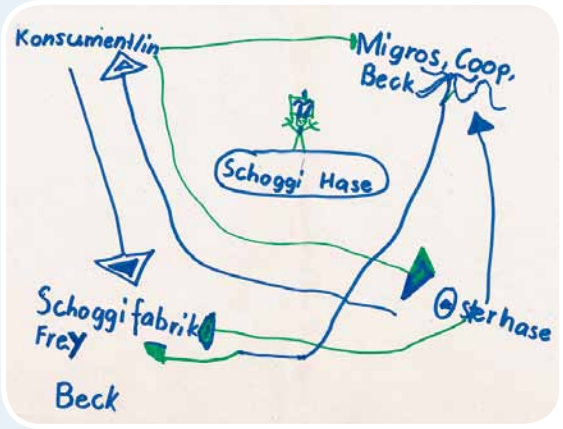
I don't like it because _____

_____. It costs _____ SFr.

At the end of the lesson, the different decision criteria of the children were put together.

2.2.6 Encouraging transfer

Because of the fact that the transfer of knowledge acquired from a situation or a theme doesn't automatically happen, the teachers were keen to make the children aware of how exemplary the subject "Toy" is, and to make sure that they are able to use their gained knowledge for other subject areas.
The teachers would consciously guide this transfer. Hence, at the end of the lesson series there was a transfer phase, during which the children had to transfer their knowledge onto the theme "Easter chocolate bunny" and collect the results on a concept map (cp. glossary). The children were asked to consider to what extent the stakeholders' net would change if they were to put "Chocolate bunny" in the middle instead of "Toy". In assembly, they gathered first ideas, experiences and facts about the "Chocolate bunny" theme. Following that, the children tried in groups to write down the different stakeholders and their dependences in form of a concept map. The groups presented their results in class and the teachers supported them by making inquiries and short additions.



On their concept map, the children specified what were, for them, relevant stakeholders and the dependences between stakeholders.

The term "Toy" was replaced by the term "Chocolate rabbit" for the transfer phase.

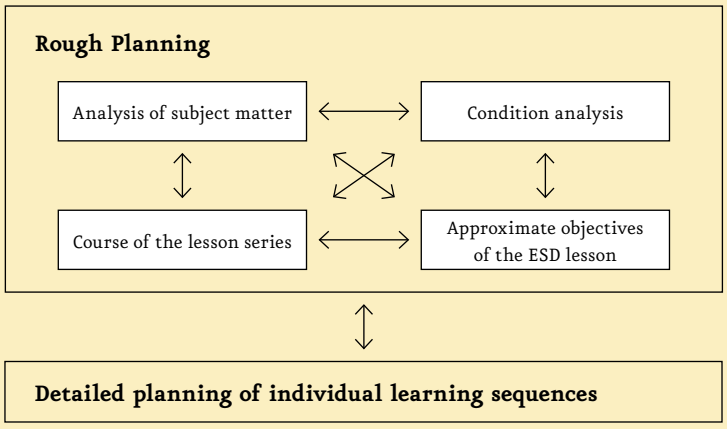
Chapter 3

Planning lessons about ESD

Education for sustainable development is being applied in primary school classes within the framework of general studies. Depending on the lesson contents, it can include other subjects (interdisciplinary).

The planning of the lessons about ESD does in principle not differ from those of other subject areas. But certain specific aspects need to be emphasised, aspects which will be pointed out further on below. The planning of the lessons is divided in a stage of rough planning and then detailed planning. With the rough planning, the focus is on one hand on the subject of the lesson and on the requirements for ESD lessons (e.g. knowledge and previous experiences of the pupils with regards to the lesson content). On the other hand, the course of the series of lessons and the approximate objectives of the ESD lessons are specified. With the detailed planning, the individual learning sequences are prepared in detail. Lesson planning is not to be understood as a clear linear sequence of predetermined steps which can be dealt with one after another, but rather as a process, in which each individual element can influence and involve each other (see figure below).

Planning a series of lessons: elements of the planning and mutual connections



Next, the specific planning aspects of ESD are highlighted. At the end of the chapter, a check list allows to conceive and examine the planning work with regards to the requirement of ESD.

3.1 Specific planning aspects for ESD lessons

3.1.1 Specifics about condition analysis—Analysis and assessment of the different conditions under which the ESD lessons can take place

-General conditions
Which stakeholders and which of their interests are familiar or close to the children?
Which possibilities for the lessons with the theme X are offered by the school, the municipality (e.g. local politicians interested in the theme)?

-Possibilities to participate
In which areas of school is it possible for an individual child or the whole class to take part?
Which methodical possibilities are conceivable for the individual child or the whole class (e.g. class council, suggestion box)?

-Curricular
Which wishes of ESD are supported by the curricular? Changing something is often also a risk. Changes are always easier, if the lawmaker supports the project, or eventually even insists on it. Within the national regulations, references to ESD lessons can be found. At this point, we can quote, as commendable, the school law text of the state of Baden-Württemberg. Similar texts can be found in other school laws in German-speaking regions: "Primary school is the common basic level of the educational system. It imparts basic knowledge and basic skills (…) the practise of behaviour patterns in social life as well as the encouragement to strengthen the ability to create creative expression (…)." (General statements for primary schools in Baden-Württemberg, school law § 5). The tasks of primary schools are as follows: "Primary school (…) stimulates the different talents of the children (…) stimulates the awareness for elementary, technical, economic and ecological connections and educates them to be responsible where nature is concerned, continues the numerous learning processes started in pre-school age, strengthens the ability to create and creative expression (…)."

-School profile
One possibility for a school to distinguish itself is to gear towards sustainable development. The involvement of a school, as an institution, with the concept of sustainable development results in an abundant scope of possible lesson contents and participative possibilities for pupils, that can be included and reflected on in class.

3.1.2 Specifics about analysis of content matter—Presentation and analysis of lesson contents

With the choice of lesson content and its analysis, the selection criteria and the orientation criteria are fundamentally decisive.

-Complex questions
Is there a complex central question which requires bringing together elements of knowledge from different subject fields?

-One's own vision concerning the lesson contents, the teacher's ideas about the future of society
What is my/our personal vision of sustainable development regarding the lesson contents (desirable future)? Which development do I/we expect for the future (probable future)? Which alternative development is possible from my point of view (possible future)?

-Further possible analysis instruments: Stakeholders' perspective and strategies for sustainability
Stakeholders' perspective
Do the lesson contents make it possible to present different stakeholders' perspectives? Can the conflict of interests and dependences among stakeholders be explored?
Strategies for sustainability
Because of the analysis of the lesson contents on the basis of strategies for sustainability, the potential of the theme will be made even more evident. With the help of strategies of the sustainable concept, traditional primary school subjects such as agriculture nutrition, consumer education or seasons will be reinterpreted (cp. with the strategy models in glossary and *www.bpb.de/publikationen/NQTCH5,0,Nachhaltige_Entwicklung.html*, p.2).

3.1.3 Specifics about course planning

The course planning offers an overview about the development of the series of lessons. In the course planning, the teacher decides about the section contents, the time frame and, in rough outlines, the teaching and learning arrangements. Specific elements for the course planning of a series of lessons with ESD are stated below.

-Accessibility
By what means could subjects be made accessible to the children? For example, visiting a stakeholder, experiments, excursions etc. Which stakeholders and which ones of their interests are known or close to the children? Which connections arise from current local, national or global events (e.g. traffic planning project)?

-Choice of methods
In principle, many methods are suitable for lessons with ESD in mind and it is naturally recommended to have at one's disposal a large repertoire of traditional and innovative methods. The big variety of methods for enhancing shaping competence is to be used sensibly. A characteristic of appropriate methods is that one finds criteria of the learning form "Situated learning". Situated learning is applied learning, lifeworld-orientated and self-directed (*cp. glossary*).

In practice, the following has already been proved efficient: learning stations, excursions, study trips and other forms of field work, experiments, learning with the help of simulation games, scenarios and simulations, workshops and conferences about the future (*cp. glossary*).

-Visualising networks and correlations
The networks and correlations must be visualised interdependences of human acts pointed out in class (e.g.: When I buy an item—apple, gym shoes etc.—other people earn money). The visualisation can be implemented with help of a blackboard drawing or a textile panel.

-Reflection time during the course of the lesson
One's own actions and acquired experiences are reflected on during the lessons. Reflection periods can be methodically carried out in the form of rituals, such as group or class discussions led by a presenter.

-Choice of the learning environment
The learning environment plays an extremely important role in order for the learning to be efficient and effective. The learning environment is always selected according to the learning objective and the content aspect. As a starting point, the chosen problems and situations should, whenever possible, be close to reality. Furthermore, the acquired knowledge should also be usable. It is a question of situated learning and the knowledge thus acquired should find its use in other contexts and in other problem situations. The problems and tasks should be approached and worked on from as many different perspectives as possible. The variations in aspects, in methodical approaches and in experience backgrounds allow for flexible use of knowledge and finding one's own learning paths.

-Pupils' visions
The students can express their ideas about the future with regard to the lesson content, e.g. with the help of drawings, stories or role plays.
Furthermore, an examination takes place about future visions (one's own or those of others, development trends). The visions are scrutinised and common visions are developed. This examination can take place, for example, through team work with, as objective, common ideas on the future. Another possibility consists in the teacher asking questions about sustainability. (Is it fair for other people, what does it mean for animals and plants?)

3.1.4 Specifics about the general objectives

-Laying down the general objectives
By examining competencies and aimed objectives respectively, which general objectives can be defined for the chosen lesson content?

-Educational goals achievement monitoring
First considerations about how the general objectives or certain objectives can be monitored.

3.2 Check list for planning ESD lessons

1. Examining the choice and its orientation	Agreement High	Partial	Little
Does the theme imply a central, local or global problem?			
Has the theme long-term consequences? Can changes be made evident because of changing needs?			
Can the socio-cultural, ecological and economic dimension be demonstrated by the theme?			
Is the theme based on a wide and differentiated knowledge?			
Will the main and secondary consequences of decisions be explored?			
Will the theme's present and future consequences be outlined?			
Will the essential insights be highlighted and applied to new situations?			

The indicated competences and sub-competencies listed below are not identical but have a lot in common. They come from two different competence models (de Haan 2008 as well as Bertschy et al. [2007]). This checklist is an attempt to bring together the two models.

2. In the series of lessons, the following ESD competences will be worked on:	Sub-competency	Agreement High	Partial	Little
The pupils can critically assess the idea of sustainability as a desirable objective of social development, as well as the alternative conceptions of social development. Their perception goes beyond the local context and horizon and they are able to take into account a global perspective when deciding.	Sub-competency II: Open-minded observation Sub-competency VI: To be just and show solidarity			
The pupils can assess their own visions as well as those of others, but also current development trends with respect to sustainable development. They can consider interdisciplinary problems about unsustainable development and understand their consequences.	Sub-competency I: Far-sighted thinking Sub-competency VII: Reflect on lifestyle and models			
Despite conditions of insecurity, opposition and incomplete knowledge, the pupils can reach well-founded decisions, that meet the requirements for sustainable development.	Sub-competency I: Far-sighted thinking			
The pupils can assess and express clearly to what extent they themselves can have influence on developments, directly or indirectly.	Sub-competency V: To plan and to act			
The pupils are able to get information about sustainable development from different sources and to use these facts efficiently to make decisions in connection with sustainable development.	Sub-competency III: Interdisciplinary work			
Working together, the pupils can come up with visions regarding sustainable development, and conceive steps for its realisation.	Sub-competency IV: To inform and to cooperate Sub-competency V: To plan and to act Sub-competency VII: Reflect on lifestyle and models			
Working together, the pupils are able to negotiate decisions regarding sustainable development.	Sub-competency IV: To inform and to cooperate			

3. The series of lessons orientates itself on educational principles.		Agreement High	Partial	Little
Vision orientation	Can the pupils develop and express their ideas about the future? Is the framework given in order to examine the pupils' ideas about the future critically?			
Connected learning	Are different perspectives on the theme made possible for the pupils? Are the interrelations which exist among the elements of the theme explored and visually presented?			
Participation orientation	Are the pupils able to participate and co-decide in class?			
Action and reflection orientation	Can the pupils examine the theme actively and subsequently reflect on the experiences made?			
Exploratory learning	Can the pupils discover information by themselves and solve problems by themselves?			
Accessibility	Are the pupils' knowledge and experiences taken into consideration at all times? When accessing abstract and complex facts, are concrete experiences possible?			
Linking factual with social, self-referential and method-orientated learning	Can the pupils, while exploring a subject matter, acquire at the same time self-competences as well as social competences?			

What else can be said—an epilogue

Education for sustainable development is a motivating concept, dealing with questions which have to do with one's own life and are significant both for present action as well as expectations and wishes one has for the future.

Summing up, one can say:
When it comes to education for sustainable development (SD), the main issues are:

- about "as well as", and not "either or" or "right and wrong" respectively;
- about development and reflection of visions with regard to SD;
- to therefore abandon familiar mental patterns;
- about being able to asses coherent information and knowledge (with regard to sustainable development);
- to learn about perspectives and interests of different stakeholders and to integrate them when finding solutions;
- about negotiating win-win or consensus solutions;
- about being aware the impact one's own behaviour has on other people, in particular worldwide impacts; and
- about reflection on experiences made and on one's own opinions with regard to sustainable development.

We hope, dear readers, that this brochure will encourage you to reflect on your previous work and that the lesson models will inspire you to implement education for sustainable development in your lessons and at your school.

Geseko von Lüpke wrote in a text about the alternative Nobel Prize:
"The sustainable world, which, despite increasing destruction of basic needs, grows around the planet, has long since developed its own network which consists of thousands of knots." (Lüpke 2007, p.6)

Would it not be an extremely worthwhile task for primary school to engage itself in that direction, to become itself such a knot? To direct one's own lessons and one's own school towards education for sustainable development and thus, to become oneself part of this network.

Changes often take place first in a personal environment; then, seeking the public, one finds partners. If you wish to find someone to talk to, to exchange ideas, then feel free to contact us.

We wish you success.

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Websites

The following links contain further information that is of interest for the planning and the carrying out of ESD lessons. The chosen websites offer concrete material for ESD, as well as a collection of innovative methods or background information regarding ESD and sustainable development respectively. In addition, websites which treat relevant subjects for ESD have been included (e.g. nutrition, mobility, climate etc.)

- *www.bne-portal.de*
  On this website, one obtains information about themes and stakeholders, teaching and learning materials, competitions, events and implementation of the UN-Decade "Education for sustainable development".
- *www.blk21.de and www.transfer-21.de*
  Homepage of the BLK Programme "Transfer-21" on education for sustainable development with extensive materials ("workshop materials"), compiled within the BLK Programme and many conceptual texts relating to the theme.
- *www.dekade.org*
  German homepage of the UN-Decade "Education for sustainable development 2005–2014"
- *www.dekade.ch*
  Swiss homepage of the UN-Decade "Education for sustainable development 2005–2014"

- *www.umweltbildung.at/cgi-bin/cms/af.pl?navid=1*
  Austrian portal for environmental education and education for sustainable development. Contains a multitude of material and information about ESD: historical facts, current trends, methods etc. about education for sustainable development. A rich source for interested primary school teachers, too.
- *www.nachhaltigkeit.aachener-stiftung.de/2000/Definitionen.htm*
  Dictionary about sustainability: Users will find a respectable glossary.
- *www.umweltbildung.ch*
  Homepage of the Swiss national department for environmental education (Swiss Foundation for environmental education). The department offers, among others, media for environmental education and courses within the teacher-training. For ESD lessons, information about numerous themes relative to ESD are of interest.
- *www.eine-welt-netz.de*
  The portal "One-World-Internet-Conference" (EWIK) for global learning is considered as the main starting page to global learning in the German-speaking regions. Behind it, there is an association of organisations and institutions, which, over the internet, make offers for development-orientated education. Here, one finds also lesson materials about themes that are suitable for ESD lessons (e.g. "Footballs"). However, they must be adapted in parts to suit ESD requirements.
- *www.globales-lernen.de*
  Homepage of the global learning department of the Hamburg institute for teacher training and school development. Here, one finds information about themes that are suitable for ESD lessons (clothes, water, flowers, chocolate, tourism, nutritional trends, etc.)
- *www.friedenspaedagogik.de*
  Homepage of the Tübingen Institute for peace pedagogy.
- *www.weltinderschule.uni-bremen.de*
  Homepage of the "A world in school" project which is orientated, among other things, to lesson materials specific to primary school and secondary grade I. For the ESD lessons, the varied information about themes relative to ESD is of interest (football, paper, sugar, cocoa, baby food, rain forest, orange juice etc.).
- *www.globaleducation.ch*
  Homepage of the Swiss national department for global learning, supported by the Foundation for Education and Development. The department offers, among other things, lesson materials and projects, but also courses, modules and advice for global learning within the teacher training. For ESD lessons, the varied information about themes relative to ESD is of interest (such as water, coffee, migration, tropical oil, child labour, etc.).
- *www.mobilspiel.de/Oekoprojekt./inhalte.html*
  The website is a rich source for ideas. It offers material, information, references, project ideas, etc. relative to ESD and to other types of environmental education.
- *www.learn-line.nrw.de/start.html*
  One of the most extensive collections of methods in the German-speaking region.

Glossary

Agenda 21
During the UN conference on environment and development held in 1992 in Rio de Janeiro, Agenda 21 was passed by 178 states. This specification sheet for the 21st century describes the essential principles and an action programme for a global implementation of sustainable development. Political development and environment problems are seen to be linked and governments are bound to realise, through national programmes, the principle of "sustainability", that is to direct their politics toward a long-term, stable development in order to secure the basic needs of mankind, animals and plants on all continents now and in the future.

BLK "21" Programme – Education for sustainable development.
The State Commission for Educational Planning and Research Funding was, until the end of 2007, the permanent discussion forum for all Federal Government- and Laender-related questions about educational system and research funding in Germany. The BLK "21" Programme – Education for sustainable development was started with the objective of putting education for sustainable development systematically to test in general education schools, and in this way, to take the idea of sustainability to schools and to generally improve the quality of lessons. Around 200 schools from 15 states took part in the project and provided a considerable amount of materials and concepts, as well as building networks. This programme was promoted by the State Commission between 1999 and 2004.

BLK Programme Transfer-21
From the 1st of August 2004, the BLK Programme Transfer-21 picked up the results of the BLK Programme "21" – Education for sustainable development and would like to include these in the general education schools. The focal points of the work are:
(1) Expansion by integrating 10% of all general education schools, (2) Developing lasting advice and support structures, (3) Extensive training for disseminators, (4) Expansion to primary schools and full-time schools and (5) Integration into teacher-training (phase 1 and 2).
The panel for educational planning of the States Commission for Educational Planning and Research Funding (BLK) financed the programme from the 01.08.2004 to the 31.12.2006. As from the 1st of January 2007, the States that took part are funding the project.
Since the federalism reform in Germany, BLK Programme Transfer-21 is known as Programme Transfer-21. The programme ends in July 2008.

Competence model for ESD
The explanations in this educational guide are based upon two competence models with similarities, but also with differences. One comes from Bertschy et al. (2007, *www.ikaoe.unibe.ch/forschung/bineu/index.html*), the other with its sub-competencies comes from de Haan (2008, *www.transfer-21de/daten/texte/grundschule_veraendern.pdf*).

Competencies
For Weinert, competencies are "the, with individuals available or acquirable, cognitive abilities and skills to solve certain problems as well as the herewith linked motivational and volitional (deliberate) and social willingness and capacities to use solutions to problems successfully and responsively." (Weinert 2001, pages 17–32) Next to pure cognitive capacities, this definition also includes the affective willingness. What identifies individual competences are a) the netlike interaction of "knowledge, skill, under-

standing, ability, action, experience and motivation", as well as b) the reference to results, that is the mastering of concrete demanding situations and the actual performance rendered (cp. State Institute for School Quality and Education Research in Munich, 2006).

Concept map
A concept map is an "information map". The purpose of the information map is to structure information about a theme or a phenomenon, to describe relations between important aspects of this information, and to visualise the view of the author on this particular theme or phenomenon. Concept maps are made up of terms that are usually enframed. With reference lines, the relations between the terms are identified and the lines labelled (Novak & Canas, 2006).

Education for sustainable development (ESD)
ESD brings environmental education and education related to development politics (global learning), as well as other significant interdisciplinary educational subjects (peace pedagogy, democracy pedagogy, consumer education, mobility training) together in one concept. Lesson contents are conceived, which build on the life and the experiences of children and young people and which should lead them to global connections and network structures.
For this reason, new didactical approaches are necessary, through which pupils take part in the planning and the choice of themes (participative education) and learn how to, with the help of others, develop solutions in terms of sustainable development. The objective is the development of shaping competence, a competence packet which enables children and young people to cope with complex tasks and problems now and in the future.

Future conference
It is a method which enables a lot of people and groups to consult about objectives and procedures and to reach consensus. The institution or situation that is to be changed is discussed as a whole. The focus is primarily on the future rather than on problems. It seeks similarities instead of dealing with conflicts. The work takes place in small self-directed groups and the measures will only be planned when the consensus about the future has been reached. As a rule, one will look first at the past, then the present, after which one defines what one wants to achieve, and then consensus is reached. Finally, action planning takes place.

Future workshop
The method should stimulate one's imagination, in order to arrive at new ideas or solutions for social problems. As a rule, the future workshop can be subdivided into four phases: criticism, imagination, utopia and realisation. A future workshop is best suited for participants who have little experience in the process of creative decision findings. However, the method calls for an intensive preparation and supervision by trained moderators.

Shaping competence
Shaping competence is the objective of education for sustainable development. To possess shaping competence means having the abilities, skills and knowledge to implement changes in economic, ecological and social dealings without it being merely a reaction to pre-existing problems.
(More on: http://www.transfer-21.de/index.pjp?p=222)

Situated learning

This is not a learning theory, more a theory of learning environments, whereby knowledge results from the interaction between the child and the situational context (learning environment). Therefore, learning happens through activities of the individual in socially organised activity structures. Situated learning also means to tie in with previous knowledge and experiences as well as the daily situation of the students.

Strategies for sustainable development

They were born out of the ecology spirit of the 1990s. The emphasis is placed on the attention paid to consumption of resources and defined pollution. One must distinguish four strategies:

The efficiency strategy aims at the efficient use of natural resources through changes in production, sales, consumption and waste disposal methods.

For example, the need for a well-lit work place can also be achieved by energy-saving light bulbs or by redirecting daylight. Many primary schools already have a tradition of themes concerning the protection of resources.

The consistency strategy focuses on establishing consistent (nature-compatible) material flow. Being consistent with resources and ecosystems means to deal in harmony with the capacity of the ecosystem: to bear in mind the natural time span of nature's cycles and its capacity to regenerate itself. As a teacher, having this strategy in mind, one will become aware of the importance of seasonal and regional products in connection with, for example, the energy consumption (strawberries in winter!), and in view of the present overfishing in the oceans, scientifically consider the question: "What do fishes need in order to survive?"

The permanence strategy aims at increasing the life-span of goods.

Therefore, considering how resources, which are necessary for the manufacture of goods, can be used over a longer period and in a more intensive way. Even primary school children understand that, for example, toys can be used together, repaired instead of thrown away, or can be given away.

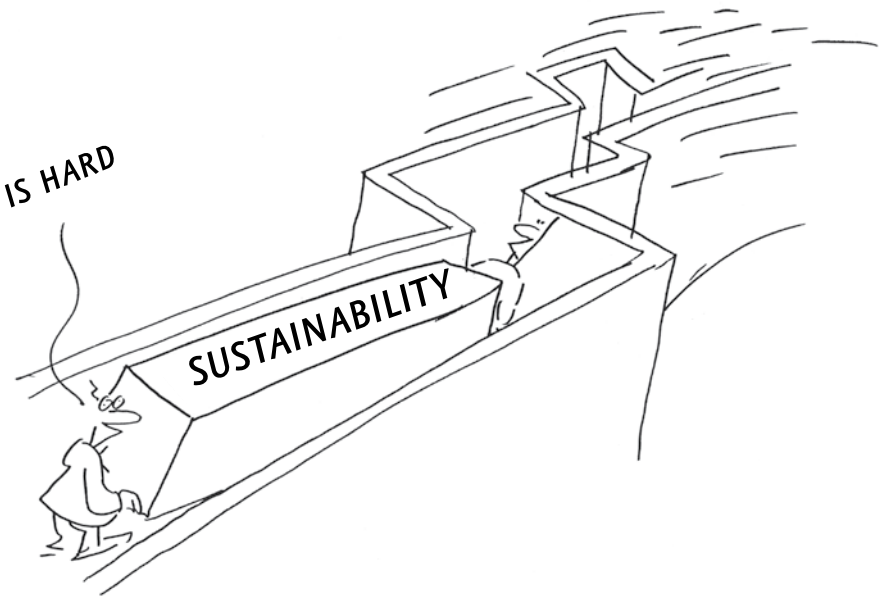
The sufficiency strategy places its emphasis on promoting a shift in people's consciousness (e.g. "A good life instead of possessing a lot") and asks the question, "How much is enough?" That does not mean going back to the stone age, but it does mean abandoning what is dispensable or unnecessary. While investigating the ecological rucksacks of T-shirts, plastic toys or jeans, one can already in primary school ask the question of how much one needs of it. Toy-free days can be the first experience and insight even for children in nursery schools. Another example is the more frequent use of public transport instead of one's own car.

Sustainable development (SD)

What does one understand by sustainable development? The discussion is ongoing. The so-called Brundtland report of the world commission for environment and development had already given a definition which has met with approval: SD is understood as a development which meets the needs of today's generation without endangering the possibilities of future generations to satisfy their own needs and to choose their lifestyle. Therefore, development is sustainable, when it is on the long term environmentally safe, socially compatible and economically acceptable and when it encourages the participation of socially important groups. The demand to uphold this development in the long term concerns all countries and people. The possibilities for coming generations are not only threatened by destruction of the environment but also by intolerable social conditions (child labour, child poverty, denial of education, unemployment, inadequate health policy, etc.), as well as by an economy that exploits nature and humans.

Sustainable development is less a programme closed in on itself, but much more a social search, communication and creating process. What one must understand specifically by sustainable development is politically controversial, but the main elements are:
Ecological, economical and socio-cultural aspects are regarded as cross-linked.
Sustainable development strives for intragenerational (equitable distribution among today's living generations, North and South, poor and rich) and intergenerational justice (balance between today's and future generations).
Sustainable development is directed at the satisfaction of mankind's basic needs (global orientation).
Sustainable development is a process which can only be advanced by the participation of many people.

UN-Decade "Education for Sustainable Development 2005–2014"
On the recommendation of the world's summit about sustainable development in Johannesburg in 2002, the UN has proclaimed the years 2005–2014 world decade "Education for Sustainable Development". UNESCO has been asked to act as the lead management. In Germany, the German UNESCO Commission was given the task of coordinating the national activities. For support, the Commission appointed a national committee, where important social groups and institutes as well as representatives from various educational fields and stakeholders connected to education for sustainable development are represented. Global learning, next to environmental education and other learning fields, is included, as essential area of education for sustainable development, in the German national action plan and therewith in the Decade's catalogue of measures.
(More: *www.bne-portal.de/*)
The national action plan in Germany focuses on four strategic aims:
(1) Further development and concentration of activities, as well as extending the transfer of good practices
(2) Networking stakeholders
(3) Improvement of public perception
(4) Reinforcement of international cooperation



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Cartoons: pfuschi-cartoon.ch (U2, p.6, p.56), Religious Society of Friends in Britain (p.38)

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Translation: Marie-Josée Guérin

Editorial office: Petra Thoms, Berlin

Graphic design: www.bert-odenthal.de

Print: www.argus-werbeagentur.de

Federal Ministry
of Education
and Research

Promoted as a programme of BLK (Bund-Länder Commission for Educational Planning and Research Promotion) by the Federal and Länder governments during the period from August 1, 2004 to December 31, 2006

Nachhaltigkeit lernen
Weltdekade der Vereinten Nationen 2005–2014
Bildung für nachhaltige Entwicklung
UNESCO
Ein Beitrag zur Weltdekade

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