

Contents

1. About this project – “In and Out”	3
2. Diversity of learning environments	6
Bridges between formal, non-formal and informal learning environments	
3. European diversity of formal and non-formal cooperation	10
3.1. The relationship between the formal and non-formal learning environments in Denmark.....	11
3.2. On the situation of formal and non-formal learning in Germany – a brief overview	14
3.3. Formal and non-formal sectors in Romania.....	17
3.4. Cooperation between the formal and non-formal organizations in the Educational area in Sweden.....	21
4. Didactical approaches	23
4.1. Outdoor Learning.....	24
4.2. Progressive education and Danish „Udeskole”.....	26
4.3. Place-based concepts.....	29
5. Final remarks	31

1. About this project – “In and Out”

By Karen Barfod

Learning and education in a broad perspective is a lifelong, never ending process, which must be seen to include almost all aspects of life. As we send our children to school, we suppose that they learn the curriculum to be used for the rest of their lives. As life has many facets, and will lead the child down still unknown paths, the school must prepare the child well. Lars Owe Dahlgren (Dahlgren, 2007) explains how learning in authentic environments leads to valuable qualities in the learning process. Academic skills have often to be re-contextualised to be usable, where the knowledge has to be used elsewhere and in other contexts to the one in which it was learned. Using authentic objects and places can direct the learning towards a more holistic learning, with interconnected sensory impressions, instead of a fragmented approach. In this project, we try to support the curriculum by developing learning activities and cooperation outside the classroom, and we try to make the formal and the non-formal learning environments pull together in the learning and educational process of the child.

We focus on the cooperation between the formal and the non-formal professions to strengthen the educational value of field trips and learning outside the classroom. During the project period, the two main target groups, teachers from the formal sector as well as guides and youth workers from the non-formal sector, have been working together and tested a foundation course and a subject related course, using the authentic settings outside the classroom as subject oriented learning arenas.

The project is granted as a Leonardo da Vinci lifelong learning project, building on the experiences and results from the Socrates project “OutLines”, www.outdooreducation.dk.

Outdoor learning, and learning outside the classroom as curricular components

Using learning arenas outside the classroom is a well known pedagogical tool in building a varied and sustainable education. It is shown to enhance learning outcome, motivation, physical activity and social behavior among pupils and students (Fägerstam, 2012, Mygind, 2007). Learning outside the classroom has many faces, from excursions to monuments and natural sites over adventure trips to fieldwork and community based development projects (Rickinson et al, 2004). But in European educational systems today learning outside the classroom is mostly understood as an appendix to conventional learning, randomly added to areas traditionally linked to the outdoor setting, such as environmental education or personal development. In this project the concept is defined as moving regular curricular-based education and learning activities to various locations outside the traditional classroom in all subjects.

Most of the outdoor practices in primary and lower secondary school systems tend to focus on environmental, social and personal development aspects in the pupils general education, and is often limited to school subjects related logically to the outdoors, such as physical education and wild life nature activities. Going outside can offer possibilities in many aspects of the School- based curriculum. It is not only about changing the room and leaving the roofed settings – it also implies changes in teachers’ role and learning styles. In the traditional setting inside the classroom, most of the learning is visual and auditory. Learning outside the classroom, for example connected to nature, has the possibility to involve more senses as well as motor activity (Grønningaeter, Hallås, Kristiansen, & Naevdal, 2007; Mygind, 2007), and stimulates the learning process through the use of body and senses during the lessons. Using museums as “places of learning” also opens up an object-based, experiential, thought-provoking type of learning in which museums excel (Hein, 1998). As the teacher shifts the closed ceiling to the open air, he can also shift his mind and the biased expectations upon his role. The change of room can liberate the class from its sedentary school day, driven by its own inner scheduled logic, to a more flexible, purpose driven learning situation.

Pupils today face a number of demands on their personal and academic skills. As future citizens they must be able to creatively identify and solve problems yet unknown (Schirp, 2008). Outdoor learning – here understood as “out of the classroom learning” offers didactic possibilities for pupils to develop their skills and to find information from diverse sources. Outdoor learning means working with applied knowledge through practical experience, which makes the relevance of subjects clearer to the pupil. This perceived relevance is crucial in children’s learning in science education (Millar et.al, 1998). In this context, informal settings outside school are also important arenas for activity-based learning. Museums, cultural institutions, science centres, and nature parks are open to elementary school pupils, who learn through experiments, games, and exploration. Studies have shown that these types of activities have a significant effect on pupils’ learning outcomes and problem solving skills (Falk and Dierking, 2000).

The needs for this project

Learning outside the classroom is not formally integrated in practice in European formal and non-formal educational systems and its didactic potential remains largely unexploited. One reason for this is a lack of competencies among teachers and educators, especially in subjects outside the traditional fields of environment and personal development.



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This project focuses on two interrelated needs:

1. There is a need today to further develop curriculum-related outdoor activities by also systematically improving the competence of teachers in outdoor didactics.
2. Educators in non-formal learning settings possess strong communicative skills and are competent at facilitating action-oriented learning processes. Still, there is a clear need of formal competency development for this group, as enquiries into institutions providing learning activities for elementary schools have clearly demonstrated. Training in didactics and learning theory is especially requested.

The European perspective is important, as the different understandings, interpretations and traditions in the use of the outdoors in the school systems reflect views on education. These views must be shared, and discussed, due to a more common and deeper understanding of terms in the field. As our work proceeded, we found these differences, and the similarities to be of so much interest, that they are separately described in this booklet.

IN & OUT addresses the following objectives (Application, 2010)

- To systematically develop the skills and competencies in learning outside the classroom¹ of teachers and educators in formal and non-formal learning sectors in order to integrate learning outside the classroom in the education activities in these sectors.
- To facilitate interdisciplinary exchange of knowledge and networking between the two sectors. Teachers possess strong academic and didactic skills and educators in non-formal learning settings are skilled communicators and strong in action-oriented learning. The two sectors can learn many things from each other and the project aims at supporting a synergy effect between the two sectors.

In order to fulfil the project objectives, the project has developed a further training course package, aimed at a dual target group - that will follow the course activities together:

First of all teachers at elementary schools, who need further training in curriculum-based, subject-specific use of the

outdoors as a learning environment. And second guides, communicators, youth workers, rangers etc. in non-formal learning settings² involved in action-oriented learning activities.

The course package non-formal

During the project period, we have developed, tested and evaluated a course package with 22 participants from the formal and 22 participants from the non-formal learning environment in Denmark, Germany, Sweden and Romania. Involved in these test runs were 7 experts from the project consortium and people from outside the consortium.

The course package, which is described in detail in volume 2 of these publications, consists of three parts:

- 1) A foundation course with a general introduction to the didactics of outdoor learning.
- 2) A subject-specific interdisciplinary course, integrating the subject areas Mathematics, Physical education, Science and Language.
- 3) A short written task, constituting the final assignment.

In Denmark, Germany, Sweden and Romania teachers and people from museums, national park rangers, Geopark staff and youth work have taken part in and evaluated two courses; one on the basic concepts of learning theories, and one on the practical development and presentation of subject related curriculum subject-related curriculum-based written an assignment and evaluated the course content, plan and purpose.

Grants and partners

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Partners:

- VIA University College, Denmark, project coordinator
- Philipps Universität Marburg (University of Marburg), Germany
- Linköping University, Sweden
- University of Bucharest, Romania

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1. As we grow wiser during this project, the original term "outdoor learning" in the application was replaced by the term "learning outside the classroom". As "Outdoor learning" very often connects to activities only in nature, we considered the term "learning outside the classroom" to be more precise description of our work, including both cultural and natural places

2. In this project, this rather diffuse and large group is defined by the term "educators in nonformal learning settings", as it generally captures the wealth of job types and learning activities that exist in this sector (see also chapter 2).

2. Diversity of learning environments – Bridges between formal, non-formal and informal learning environments

By Martin Linder

While growing up individuals experience a variety of learning environments in which educational processes take place. Literacy and numeracy for example are central subjects at school which are often seen as the main educational resources for the labour market. Depending on national provisions school starts in the age of five, six or seven years and lasts for almost eight or nine years. Different educational settings are experienced before, during and after schooling. Many children attend kindergarten, nursery schools or day care before schooling starts. After compulsory schooling individuals may attend vocational training or courses in adult education centres. Before, during and after schooling individuals are involved in different sports clubs, they attend courses in music or in art education or they take part in out-of-school³ youth education. Also when individuals are not at school they live in their family circle, meet with peers or they just listen to media. There are not only chronologically consecutive settings but also coexisting learning environments; educational processes take place within a multitude of settings. More or less learning happens within a complex interwoven network of different consecutive and side-by-side settings with different interconnections and transitions between them.

Thus, the learning that occurs at school is not only important for the individual and for the labour market, but also the entire scope of knowledge and experience held by an individual, irrespective of the context where the learning originally took place. For an employer it is a question of human resource management, for individuals a question of having the full range of skills and competences valued and for society a question of making full use of existing knowledge and experience.

The terms formal, non-formal and informal are often used to characterize organisational sectors of learning and to describe the learning environments. Not only in Germany but also in other countries an intensive debate about definition and terminology took place (see Overwien 2005, EDU/EDPC 2007). The overview of EDU/EDPC (2007, p. 21) points out:

“Despite the high degree of consistency, there remain different terms meaning the same thing and different definitions for the same term. This is due to the fact that several authors have tried to provide their own input into the discussion, and also mainly to the fact that the push for organising recognition of non-formal and informal learning programmes has come from the stakeholders and therefore, they all provide their own definitions according to their needs and objectives on the ground.”

The research overview and the results of national recognition and backgrounds⁴ in the following table emphasize the different understanding of this terminology by different authors: (see table 1 next page)

4. For the national backgrounds see the national studies (22 countries) from the project “recognition of non-formal and informal learning on the homepage of OECD (http://www.oecd.org/document/25/0,3746,en_2649_39263238_37136921_1_1_1_1,00.html) and FESTEÜ & HUMBERSTONE (2006) for a discussion about former soviet countries.

(Table 1: Keywords for recent definitions from the literature (EDU/EDPC, 2007, p. 3)

	Formal	Informal	Non-Formal
Coombs et al. (1973)	<i>Formal Education: in the initial education and training system</i>	<i>Informal Education: true lifelong learning process, daily experience (friends, neighbours etc.)</i>	<i>Non-Formal Education: organised but outside the formal sector; serve identifiable clientele and has learning objectives</i>
ISCED 97	<i>Formal Education: in the initial education and training system, below age 20/25</i>	<i>Informal Learning intentional, but it is less organised and less structured...</i>	<i>Non-Formal Education: Organised and sustained; all ages; within and outside education institutions; education programmes for adults (literacy...)</i>
EC (2000)	<i>Formal Learning: in education and training institutions and leads to a qualification</i>	<i>Informal Learning: from everyday situation; not necessarily intentional</i>	<i>Non-Formal Learning: alongside mainstream system of education; does not lead to a qualification</i>
EUROSTAT (2000 and 2006)	<i>Taken from ISCED 97</i>	<i>Informal Learning: intentional, less organised, less structured than formal learning</i>	<i>Taken from ISCED 97</i>
CEDEFOP (2005)	<i>Planned and intentional learning activities</i>	<i>Not planned and non-intentional learning activities</i>	<i>Planned and intentional activities, no learning objective</i>
OECD (2007a)	<i>Formal Learning: in educational institution, adult training centre or in the workplace</i>	<i>Informal Learning: from daily work, family or leisure activities. Not organised or structured. Unintentional</i>	<i>Non-Formal Learning: programmed but not assessed and does not lead to a qualification; intentional</i>
CEDEFOP (2008)	<i>Formal Learning: in a school, a training centre or on the job</i>	<i>Informal Learning: from daily work, family or leisure activities. Not organised or structured. Unintentional</i>	<i>Non-Formal Learning: planned activities but no learning objectives; intentional</i>

Some definitions are overlapping and some are contrasting, some definitions refer to 'education' and some to 'learning' or it is even a mix of both. In the context above 'education' usually has been mentioned when professionals are taking care of the intentional process. Thus, the informal sector usually is connected to learning. Only if a professional or a mentor takes the responsibility for the learning process the term 'informal education' is used⁵.

An idea of a common sense

By the Lifelong Learning Programme the European Commission has pointed out a definition based on the intentionality from the perspective of the learner⁶:

Formal learning: Learning that occurs in an education or training institution, which is highly structured in terms of learning objectives, learning time or learning support, which aims at certification and which leads to a recognized qualification. The intention of the learning process is very high from the perspective of the learner. Usually schools and universities are typical sites of formal learning processes.
Non-formal learning: Learning which usually occurs outside of the educational system and does not aim at certification. It is embedded in planned activities but in terms of objec-

tives, time and support it is also structured. Non-formal learning is intentional from the learner's point of view.

Organisations of the extra-curricular educational system in this sector offer a voluntary learning environment (e.g. youth organisations, music and art schools, national parks, sport clubs...).

Informal learning: Learning which occurs in everyday life (in the work place, in families, in recreational time, in school breaks...). It is not structured and aims not at certification. In some cases informal learning can occur with purposes, usually it is unintentional.

The distinction made by the European Commission is largely administrative. Formal education is linked with schools and training institutions, non-formal with community groups and other organisations of the extra-curricular educational system and informal covers what is left, e.g. interactions with friends, family and work colleagues.

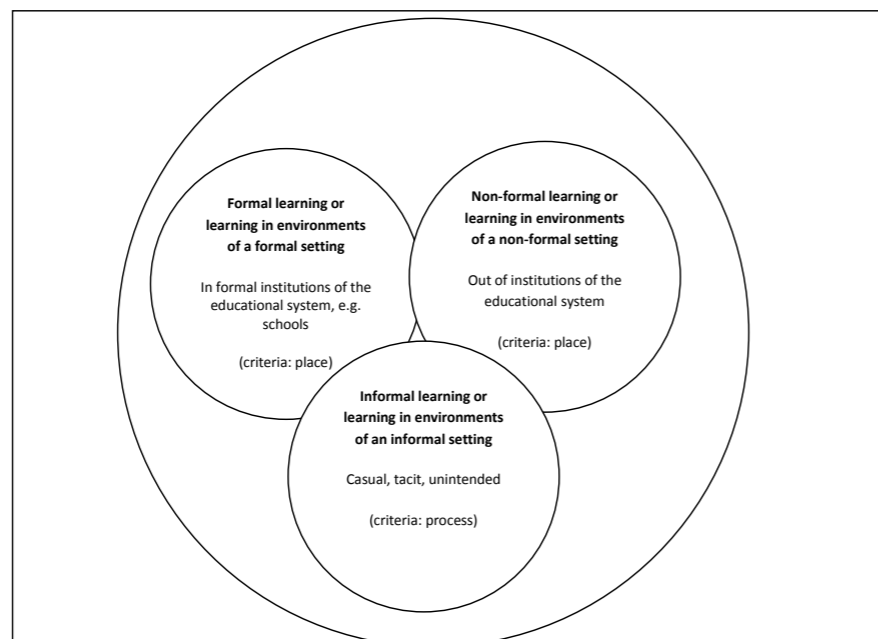
The definitions do not imply hard and fast categories. In particular, there may well be some overlap (and confusion) between the sectors.

Rohlf's (2011) points out that the terminology is largely vague. The distinction made has no objective definitions and the criteria are based on the places where learning is taking place or on the process. It is not learning itself that is formal, non-formal or informal, but the environment and the context in which it takes place. Thus, it might be better to use the term 'learning in an environment of a formal (or non-formal, informal) setting.' (See also Table 2).

5. In Germany the term 'education' is more differentiated into 'Bildung' and 'Erziehung'. This differentiation cannot be translated into English as both are included in the term 'education' Thus learning and education cannot be transferred without any problems into German language as 'Bildung' is different to the understanding of 'education' if a mentor is taking the responsibility for the learning process. Anyway it has to be scrutinised if a learner should hand off the responsibility for his learning even if he is in a formal learning environment. (see ROHLFS 2011)

6. For the following see CEDEFOP 2008

(Table 2: The dynamics of formal, non-formal and informal learning, slightly revised and translated table from Rohlf's 2011, p. 41)



As shown in table 2 there are clear points of contacts and links between formal and non-formal learning but there are no overlaps if the context (here the place) is taken as the main criteria of distinction. Overlaps on the other hand can be found between both settings and the informal learning as these processes can emerge in just these contexts.

The terminology is still largely vague and imprecise. But in a sense of realizing different approaches of learning contexts and also their tension this trisection might also be valuable. The connection of all three approaches links to a comprehensive understanding of learning and education.

The importance of non-formal learning and education Education in a broad perspective aims at a never ending open process of developing an autonomous lifestyle in as many spheres of life as possible. This includes the professional and private spheres, the participation in social and cultural life and so forth. An individual that has the capability of acting and criticizing, of self-determination and of an independent lifestyle requires more than imparting and accumulating knowledge: self-initiative and work, learning by doing and acting together with others, cultural and emotional education are unconditionally part of this broad view of education and educational processes. In the context of PISA, TIMMS and PIRLS studies which are concerned with comparing students' abilities, education has become a broad public issue worldwide. Here non-formal and informal modalities become increasingly important as education is more than schooling.

The lack of motivation of students in certain subjects at schools (e.g. chemistry, physics, maths) might describe the situation just as an example. In their research Lewalter and Geyer (2009) discuss the issue of motivation in natural sciences at schools. They argue that motivation will increase if lessons are more applied and contextual, if students experience and understand the notability of learning contexts and if students have authentic experiences while they are experimenting. Schools often do not have the resources in their learning environment due to material, time and space patterns. But non-formal learning environments like natural science museums or nature centres have more flexibility and resources to engage students and to support their interest and motivation in and outside of schools.

Festeu and Humberstone (2006, pp. 19) underline this example and point out five arguments to summarize the importance of non-formal learning:

- "it promotes the learning of essential skills and competences

- it enriches learning environments: adds values, personal experiences and critical reflection into citizenship education
- it broadens the spectrum of citizen involvement and has a spill-over effect on institutional politics
- it is a powerful instrument of social integration
- it is an effective method of communication and intervention"

With these arguments Festeu and Humberstone (2006) are describing the non-formal learning environment as an autonomous field of learning that enriches or complement formal learning environments through its emphasis on social learning, links to real-life, links to authentic experiences, links to learner orientated processes of critical reflection of knowledge and values.

Breaking down the physical barriers between formal and non-formal learning is thus the next step to enhance cooperation and synergy between the different learning environments.

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3. European diversity of formal and non-formal cooperation

By Karen Barfod

During the life of this project, it has become more and more evident that the theoretical backgrounds for using – or not using – learning outside the classroom are quite different from country to country. Based on the idea that the use of nature and other learning environments outside the classroom must be seen in the light of the time and culture the country hosting the current project, we decided to divide the theoretical background into parts used by each country.

In this part of the book, you will find articles describing the “state of art” of the cooperation between the formal and non-formal learning environments in each country. After this, every country has written down the theoretical basis for their work.

In these chapters, it will be possible to find common elements, and local texts. These different views can be shared, and complement each other into a broad and more adequate European approach on the theoretical basis for learning outside the classroom, in formal and in non-formal settings.

3.1. The relationship between the formal and non-formal learning environments in Denmark

By Karen Barfod

Denmark is mainly a flat agricultural country, with a long coastline. Copenhagen is the capital and largest city with approximately 1.3 million inhabitants. The rest of the inhabitants are spread out more or less evenly with the largest concentrations in the eastern part of the country. Denmark is ranked as having the world’s highest level of income equality, and the lowest level of corruption.

Denmark is a small and uniform country with about 5.4 million inhabitants. It has a state-level government and a local government in 98 municipalities. The public schools are under the administration of these municipalities.

School system

There are about 2,100 primary and lower secondary schools in Denmark. In the school year 2008/2009, 81% of all pupils were attending the public municipality schools, the Folkeskole, and 13% were attending private schools (approx 500 schools). Private schools can be dedicated to e.g. religious beliefs (e.g. catholic schools), language (international schools), and certain ideas of pedagogy (e.g. the Rudolf Steiner “Waldorf” schools). 4% attended the private residential schools, Efterskoler, and 1% attended special schools. The schools build on the ideas of NFS Grundtvig and C. Kold – connected to the spoken word, and to develop the pupils to be a citizen in a democracy society. In Denmark, the parents are obliged to educate their children, but not necessarily to send them to school.

The public school system covers 10 years of compulsory education (form 0 to 9), and an optional form 10. In school year 2008/2009, 53% of the pupils attending form 9 also attended form 10. Progression to the next form is usually automatic. School-leaving examinations are taken in forms 9 and 10 and the examinations are compulsory (Danish Agency for International Education, 2010). As the curriculum describes in detail matters concerning the content of the school (The Danish Ministry of Education (2012), the methods used by the teachers are free. The teacher has the freedom to choose different settings and group sizes, and without many restrictions to take the pupils outside the classroom and outside the school during the schooldays and the lessons.

The Scandinavian term “Udeskole” (“out of the classroom school”), where pupils are taught outside the classroom regularly (Bentsen, 2010) are widespread and surveys show that up to 28% of all Danish schools use “Udeskole” in one or more classes. The pupils walk out with their own teacher to get lessons or learning experiences weekly or biweekly in 3 lessons or more. All subjects can be taught but the most

common are the school subjects with the most lessons e.g. mother tongue, mathematics, history, physical education, science etc. This “Udeskole” concept is seen mostly in the private schools.

Non-formal learning institutions in Denmark

There is a huge range of different non-formal learning environments in Denmark offering educational experiences – including museums, science centres, nature schools etc. These are financed by either public or private founding or a combination, and are administrated by The Ministry of Cultural Affairs.

Museums:

In 2008 there were 121 approved museums with different areas of responsibility concerning art, culture or history of nature (science centres). 113 were governmental approved museums distributed with 75 cultural, 31 art, 2 natural history and 5 mixed museums. Besides this there are other 7 governmental museums, e.g. the National Museum. Another 600 museums of various different sizes and themes, are not approved by the government. They range from very small local and/or specialized institutions to large museums with collections of national interest.

A survey of the educational activities in government-approved Danish museums, conducted by the Heritage Agency of Denmark in 2009, showed that, even if the system of educational offers is well developed, much can still be done, especially offers from the museums to work more closely towards the school curriculum and developing the didactics of the museums. Based on this, a dissemination plan has been conducted to strengthen the cooperation between formal and non-formal educational activities.

This plan has already had a huge impact on the dissemination and the work done by the Danish museums at the level of education.

A follow-up study from April 2011 concluded an impact of the dissemination plan:

“In the educational area, there has been a development in which mediation as one way of communication has been replaced by more inclusive and co-creative processes with increased level of dialogue between the user and the museum and from user to user. The “Dissemination Plan” highlights the need for the dissemination to be oriented towards the user, the awareness of target groups and user interfaces, targeted, differentiated communication in the form of increased use of new media and increased awareness of the museum as social space. The challenge is to continue and strengthen the positive development of

extension of the dissemination plan.” (Danish Ministry of Culture, 2011) (Translated by author)

Nature Schools and rangers

Beside museums, there are about 300 nature school rangers⁷. Rangers employed at the public forests (Statsskov) are often financed by lottery money under the Ministry of Education. These nature school rangers are especially educated to take care of education outside the classroom, mostly in nature. The rangers can also be connected to science and visitor centres, offering well-tested, hands-on activities for pupils. As the rangers have very different educational backgrounds, everyone will have the same training, which is a 2-year in-service training mostly concerning dissemination and education of different target groups.

Current situation

In Denmark it is a common tradition to make day-long excursions to non-formal learning environments outside the school, often once a year or more often. The excursions can be visits at a local art museum, a science centre, a local forest and so on. At these excursions, numerous experts outside the school can be involved, e.g. guides, rangers, museum employees, social educators etc.

The aims of these excursions can be closely related to a subject, but mostly with a great emphasis on social and personal development for the pupils.

There is no tradition in using “Outdoor Education Centres” for weeklong trips or summer schools in Denmark. Most pupils attend a 2-3 day school camp (lejrskole) once during their time in primary and lower secondary school. Often these school camps are arranged and supported by the teachers from their own school, and not by professionals at the campsites.

Cooperation between schools and non-formal learning environments in Denmark

The government-supported museums are obliged to develop and announce educational proposals. These are often announced at the websites and with numerous ideas and work-pages for the visitors. Several authors (Frøyland, 2007, Hyllested, 2007) have observed that both the preparation and the post-visit work are of decisive importance for the learning effects of the visit. These parts can still be developed in the cooperation between the two target groups.

Barriers and obstacles

There are barriers from both sides, some of them seem to be common, and some of them are connected just to a single institution.

One of the main barriers is, in all its simplicity – the transportation from the schools and to the non-formal learning environments situated outside possible use of public transportation. It is simply too expensive for most of the schools to rent a bus. As many historical places, hands-on museums and places with a spectacular nature are away from the main roads, the pupils must be transported to the places.

A second main barrier can be the organizational structure of the school day. Non flexible schedules, shortage of economy and lack of teamwork can complicate the planning for the teacher, trying to organize an “out of the class” experience.

A third obstacle can be the guide or the nature interpreter’s lack of understanding of the curriculum and focus points in the school, making it difficult for the teacher to connect the learning potential of the visit to the curriculum of the school.

Example of cooperation between a private school and a non-formal learning environment – Subject: In and Out in Bronze Age

The local private school (Thyholm Friskole) is going to work with Bronze Age (1800 – 500 BC) in a 4 week long course, combining Danish, history and art- and craft in Forms 3 (10-11 years old children). They have to make their own “timeline of history” by walking backwards, each step being 100 years until they reach the Bronze Age. They read books about the Bronze Age, they will make their own rock carvings, they are told stories around the bonfire about archaeological work, try to dig into the sand (and find pearls...) and at last they plan a sacrifice at night together with their parents.



Walking through history / Rock carvings

They will also visit the local museum which has exhibitions about the Bronze Age. Before the trip the teachers call the museum and talk directly to the guide. The guide is educated and has worked as a history teacher (many years ago). The teacher explains in detail what the pupils so far have been doing and what they have been reading. On the day of the visit the pupils will see the exhibition with all the locally found bronze jewellery, but they will also try to shoot with a Bronze Age bow. The jewellery is for the neck, the arm, the belt, and still just as new, even if it is so old. Bronze is, like gold, a precious metal that does not rust, so it will stay shining and beautiful for ages.

With an engaged guide, the discussions can deal with many subjects and experiences.

Case of cooperation

The cooperation in this case is based not only on one but on many circumstances.

The teachers are very engaged, and do know a lot about the subject. They use time to contact the museum and talk to the guide, and the guide listens and adapts the educational offer to suit the visitors.

This is not a “packet” or a well described, finished course. This is a visit based on the pupil’s preconception and adapted to cover a lot of learning styles.

Conclusions

Denmark has a well-developed educational system with a lot of methodological freedom. As an economically well-developed state, there are also a lot of resources directed into the dissemination of non-formal learning environments. Even so, there is still potential in developing the cooperation between the two target groups in this project, to establish a common language and understanding of each group’s working conditions, fields of expertise and possibilities.

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7. People with a basic education in biology, geology or education, and with a 2-year postgraduate degree in communication and “ranger”

3.2. On the situation of formal and non-formal learning in Germany – a brief overview*

By Martin Linder

Since the turn of the millennium, caused by the international comparative studies in the field of schooling and especially as a result of the PISA, TIMMS and PIRLS studies⁸, there has been an intensive debate on education in Germany (see Otto & Rauschenbach 2004). This debate is conducted not only by representatives from the formal educational sector (school and vocational training system), but a broad alliance to discuss educational policy has been established involving also representatives from the non-formal educational sector, such as children and youth welfare organisations (see BMFSFJ 2002). The focus of the debate has now shifted to a comprehensive understanding of education, which takes the different requirements of place and time of children and young people into account, and which gives priority to intensive cooperation between the institutions of the two educational sectors with their different areas of responsibility.

At times, in the context of social developments, reference is made to cooperation between school and youth welfare services. Some forms of cooperation have indeed been in place for more than 30 years, but their history is a rather painful one. Social work projects are established at schools when problems with children and young people are mounting and the schools see the students' educational development at risk. This form of one-sided cooperation has made youth welfare organisations feel they are being used as 'rescue service' or 'compensatory agency', so that they have increasingly been calling this kind of cooperation into question.

The actual incidence of problems has certainly not decreased in the last decade. However, the discussion has changed from the question of, whether' to the question of 'how' - not least as a response to the legal requirements imposed by the education acts of the federal states and the national child and youth welfare act (KJHG)⁹, as well as the fact that more and more schools are developing from half-day to all-day schools. This has opened the way to the development of a multitude of concepts and projects in the cooperation between non-school educational institutions and schools (see Coelen & Otto 2008). In all federal states

the foundation for a more comprehensive understanding of education has been laid through laws and directives. All-day schools carry out their educational duties together with their non-school cooperation partners. The obligatory interlinking of all-day schools with non-school partners has effected a strong movement of youth work into the direction of schools. Providers, associations and institutions of youth education take advantage of these changes in educational policy and see it as a chance to establish stable opportunities in the educational site of the school. In the context of the federal system of education policy in Germany, the organisational conditions of cooperation vary quite a lot. Extra-curricular activities are only partly integrated into the rhythmic educational culture; in most cases they are attached to the end of the lessons as additional activities and take place in school facilities. Rumpf (2004) as well as Becker & Vollmar (2005) have emphasized the importance that different places and times have for educational processes from a pedagogical point of view and argue that school should become more open to an educational environment outside of school.

Although position papers and recommendations on the cooperation between youth welfare services and schools have been published on a national as well as on a federal state level, implementation in form of structurally embedding this cooperation has not yet been achieved in an adequate way. Due to their additive structure, projects are both developed and then offered as a service by the non-school institution or they are a service that is specifically asked for by the school or by teachers. But this way fails to develop sustainable forms of cooperation. For the purpose of local educational policy planning it is especially the local government level that is of central importance. Political measures that seem to promise success, such as the Praxis-, Koordinations- und Servicestelle Jugendhilfe-Schule (youth welfare service point for schools), which were established in Marburg in 1999, are not yet the rule. The following is an example of what the service point has achieved through its counselling.

An exemplary project¹⁰

For a number of years now, in early summer, two fourth-year classes of a local primary school have been doing a 3-day project called 'habitat woods' in a place outside school (15 km away from their school). The project is developed beforehand in talks with the class teachers. A few weeks before the start of the project the pedagogues of the service point meet pupils and teachers several times in order to introduce the planned project and to integrate the thoughts and ideas of the children into the plan.

The time spent in the woods and at the edge of the woods is dedicated especially to sensory-aesthetic experiences. In small groups pupils appreciate, for example, the noises of the woods and by reducing the scope of their visual sense (through night activities) they can perceive the rich diversity of the woods. Since these wood projects have already been prepared in their lessons, their theoretical knowledge is now filled with more life.

Part of this exposure and experience is also dealing with and reflecting upon the atmospheres created by weather and the times of the day, which are not really perceived (any more) by some children in their everyday lives (e.g. heat, cold, dampness, dusk, etc.), and which, of course, cannot be planned beforehand and are dealt with according to what is happening. In the voluntary activity of going on the 'path of lights' in the dark the children can come to grips with the unfamiliar and partly unknown and 'threatening' sides of the woods. The long talks later by the fireside in the camp or in the huts show how profound and lasting the effect of these activities is.

Besides other games and activities relating to this landscape in which groups consciously leave set paths in order to penetrate deeper into the woods, the pupils can also 'make themselves at home' in the woods. In small groups they construct comfortable sofas from dead wood and string, which can be used during their three-day project for their group reflections or just for relaxation. Thus children can themselves take possession of the diversity of the environment of the woods with their own hands. The importance the children attach to the furniture they have created themselves becomes clear when they have to be dismantled again, which can be a sad and tearful occasion. The large fire site in the camp is the central place during their stay. For one it is used to prepare meals (barbeques, stick bread), for another it is the assembly point where the children tell the stories of their experiences.

10. Slightly abbreviated example of a real cooperation project in Marburg, see http://www.bsj-marburg.de/fileadmin/pdf_fachbeitraege/Kooperationen_JugendhilfeSchule.pdf (15.07.2011)

In such evenings the group around the camp fire keeps growing. At the end, shortly before bedtime, all pupils have assembled around the warming fire, telling their stories or just fixing their eyes on the flames. Frequently, early the next morning - long before breakfast time - the first pupils stand by the fire place and prod the still glowing embers in order to get the fire going again.

Out into the woods - about the significance of outdoor experiences

The significance of primary experiences in and with the natural world for the development of children has been increasingly emphasised in recent years. (Gebhard 2001, Trommer 2009). This rising demand for primary experiences of nature is proved especially by the fact that in Germany the number of newly established wood and nature kindergartens which follow Scandinavian examples is soaring. Although this increase is often seen as a deliberate form of compensation to counterbalance the process of urbanisation of modern societies and the loss of experiences, in particular Trommer clearly exposed the environmental purposes. Becker (2005, 2007, 2008) goes beyond the subject-related approach (e.g. biology, geography) and on a structural level derives educational opportunities from sublime nature. And not least it is research projects in the field of didactics in natural sciences that strongly suggest that primary experiences in and with nature should be made available. (see Gröger 2010).

If one looks at the development of the cooperation between schools and non-school educational institutions, one can, on the one hand, find school projects that go out and seek natural spaces. On the other hand, there is a diverse range of services offered by facilities such as national parks and centres of outdoor and environmental education, which are used by schools. However, here again attention has to be called to the lack of structural foundation of cooperation projects. And also the problem of the spatial distance between formal and non-formal educational facilities must be pointed out. For the purpose of local educational policy these institutions must be located close to each other to achieve sustainability.

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* Translated by G. Vill-Debney

8. PISA (Programme for International Student Assessment), TIMMS (Trends in Mathematics and Science Study), PIRLS (Progress in International Reading Literacy Study)

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3.3. Formal and non-formal sectors in Romania

By Alexandru Andrasanu

Romania is located in the South-East of Central Europe on the lower course of the Danube river with an area of 238,391 km² (the 12th in surface in Europe) and a population: 21 504 442 persons, 54.9 % of the population lives in urban areas and 45.1 % in rural areas. The territory of Romania is organized in commune (group of villages), towns and counties. Romania has 41 counties, plus the capital region of Bucharest (National Institute of Statistics, 2011). Romania is a republic organized according to the principle of separation of the legislative, executive and judicial powers, within the frame of a constitutional democracy.

The education and training sector is managed at the national level by the Ministry of Education, Research, Youth and Sports and in the execution of its specific responsibilities, cooperates at a central level with other ministries and institutional structures subordinated to the Government and coordinates in the territory county inspectorates. The main components of the Romanian education system are: pre-school education, compulsory education (primary education and lower secondary education), upper secondary education, technical and vocational education and training, post-secondary/non-tertiary education, and tertiary/higher education. Schools are mainly public but there are also private schools, the following alternatives being accepted Step by Step Program, Waldorf education system, Montessori pedagogy, Freinet techniques, Jena Plan organized in 32 private schools. The whole number of primary and secondary schools in Romania is 4667.

Non-formal and informal education

Out of the classroom learning is a broad concept and usually refers to releasing teaching and learning from the constraints of the classroom environment and includes outdoor play, adventure learning, environmental education, expeditions, field trips, camps or didactic activities in museums. There is a tradition in Romanian educational system for such kind of activities developed both by teachers as part of their school activity or by different institutions and having teachers / students as main target groups.

In different documents and debates there are two terms which are most used: non-formal education or alternative education, which is a less recommended extra-curricular education due to its confusion with extra-curricular activities which is part of the formal education (Costea et al., 2009, Neacsu, 2010).

Non-formal Education is defined as any organised and sustained educational activities that do not correspond exactly to formal education. Non-formal education may therefore

take place both within and outside educational institutions, and cater to persons of all ages. Depending on country contexts, it may cover educational programs to impart adult literacy, basic education for out of school children, life-skills, work-skills, and general culture. Non-formal education programs do not necessarily follow the "ladder" system, and may have a differing duration (Otero et. al, 2007).

Informal education is considered to be also intentioned education but less organized and less structured and including activities that took place in broader contexts. In Romania non-formal education has a continuing development due to several factors that could be summarized as follows: (i) Development of national and European strategies and initiatives related to integrate and sustain non-formal education and lifelong learning activities; (ii) need for more direct activities connected to community needs: cultural and natural heritage conservation, education for sustainable development, eco-tourism initiatives; (iii) discrepancies between the formal educational system offer and the labor market demands; (iv) development of non-governmental sector related to different national and international funded programs; (v) non-formal education becomes a market good.

Most of the non-formal and informal educational activities we identified during the project activities relate to two target groups: teachers and educators belonging to four types of institutions: secondary schools, associations (in a broad sense), museums and protected area administrations.

Secondary schools and non-formal education

Lower secondary school (Gimnaziu) with grades 5-8 follows the 'elementary education' provided in the first four grades. The curriculum for secondary education is mainly composed by a part of the National Curriculum and a small part of the local curricular offer. The school-based curriculum is made up of one or more optional subjects and advanced study and/or extensions of compulsory subjects. Textbooks and auxiliary materials used in the classroom are those approved by the Ministry and for each subject there are a minimum of three alternative text books, one of them being chosen. Different out-of-the-class activities could be organized in relation with the school curriculum or as non-formal or informal activities in the frame of different projects, cooperation or local community initiatives. All of them are subject to official approval at different levels.

At the school level there are four types of activities related to non-formal education, as resulted from the presentations during the Foundation course in Bucharest, September 2011:

- School projects based on school contribution, sponsorship or support of local community or local institutions (Chitila School);
- Lifelong Learning Projects (LLP), financed by the National Agency for Community Programs and Training (ANPCDEFP) mainly in the frame of Comenius, Leonardo, Grundvig, Youth in Action. A general evaluation indicates that more than half of the school projects are focused on non-formal educational activities;
- Partnership projects related to initiatives of national or international associations like Eco-School program or Partnership for education in sustainable development started to be developed by European Geoparks Network (Hateg Country Dinosaurs Geopark), Scout Movement, Association for Ecotourism in Romania (AER).
- Partnership projects or activities driven by museums (National Geologic Museum, National Peasant Museum, National Village Museum), Botanical Garden, natural protected areas (Buila Vinturarita National Park Administration), associations or universities (CREDIS and Geomedia Centre from University of Bucharest).

For many teachers' non-formal education complements their work, help them to develop subjects across curriculum borders, others are searching for sharing the interest or to develop partnerships, and some are searching for a way to involve students in community problems or activities. For students non-formal education provides the possibility to learn in different frameworks, to feel free to add something to the subject or feel that their capacities are better evaluated.

Non-governmental associations

In Romania there are more than 21,000 active associations and foundations (FDSC, 2010). The main areas covered by their activity are: education, nature conservation, cultural heritage, health and social services. These associations are playing an important role in local communities initiating projects or being partners for public administrations, schools, universities or private sector. In 2010 more than 970 associations (42.36 %) have education as their main activity and more than 340 (4.8%) environmental protection and nature conservation including also education and public awareness as secondary objectives (FDSC, 2010).

Their experience and flexibility in searching for financial resources, ability to create partnerships and expertise in different fields are strong points of NGOs in development non-formal educational activities. A weak point is the need

for continuous search for financial resources in order to maintain their activity that makes them to reorient continuously their activity in order to fulfil the requirements of different funding programs. As a result their involvement in non-formal educational activities or development of new educational programs is limited in time if there are no new resources to continue. Creation of coalitions and international partnerships assure the development of long term projects financed by different donors like Global Environmental Facility Fund (GEFF) or WWF. Examples of strong coalitions are: Coalitia Natura 2000, Reteaua de Actiune pentru Clima, Coalitia de Mediu. The Association of Ecotourism in Romania (AER), an association of tour operators in eco-tourism started to develop related activities like nature conservation education, education and public awareness for sustainable development. AER in partnership with Fundatia pentru Partneriat (Partnership Foundation) is financing or developing joint projects of schools, natural protected areas and local communities such as development of thematic trails which are both educational tools and support non-formal activities.

Most of the environmental organizations are involved in non-formal educational programs like "Ghiozdanul verde" developed by the Young Ecologist Association in some schools from Iasi County or "Viitorul creste verde" of Green Revolution in Bucharest.

Scouts Romania is made of several associations and is part of the Scout Movement. The aim is to support young people in their physical, mental and spiritual development, that they may play constructive roles in society. The movement employs the Scout method, a program of informal education with an emphasis on practical outdoor activities, including woodcraft, aquatics, hiking, backpacking, and sports.

Special educational associations to be mentioned in this context are those which developed private educational programs (FDSC, 2010):

- Pedagogia Step by Step, started in 1994 (Head Start) then from 1998 Centrul Step by Step pentru Educaie i Dezvoltare Profesional . The program is present in 10 counties and Bucharest;
- Pedagogia Montessori has a tradition in Romania since the beginning of the 20th Century. After 1990 pre-school and primary schools were organized in 5 counties;

- Waldorf Pedagogy was introduced after 1990 and become an official program now more than 23 Waldorf Associations are part of the Waldorf Federation in Romania and different primary, secondary and high schools were organized;
- Freinet Pedagogy was created in 1995 and there are educational centers in five counties.

Natural protected areas

Natural protected areas in Romania cover about 18% of the country's surface. These areas are represented by 27 national and natural parks, one biosphere reserve, about 400 Natura 2000 sites and more than 800 natural monuments. All natural, national parks as well as biosphere reserve have administrations whereas most of the natural monuments have custodians. All management teams have specialists in nature conservation and education, all of them being involved in local or national and international educational projects. One example of educational activity was presented by Buila Vinturarita National Park Administration in partnership with Kogayon Association, aiming to provide basic knowledge to local pupils concerning schools in the conservation of biodiversity, through lessons and presentation in the nature and by involving them in practical activities.

Museums

Museums have a long history of educational activity and connection with the formal learning sector. The museum sector in Romania contains 400 museums and local collections organized in the National Network of Museums, constitutes a large network of varied providers giving access to stimulating opportunities for pupils to enrich and extend the more formal learning that takes place in school. During the last years there has been a growth in what has been called 'hands-on activities for children and schools', providing a higher degree of interaction with objects and materials than is generally found in more traditional museums and galleries. Children are encouraged to touch, explore, investigate and bring about change through personal interaction with objects or to create their own objects using traditional materials and techniques (tissues, ceramic, wood).

For example National Geologic Museum, our project partner, offers permanent educational programs ranging from a few hours to a few days and sometimes a field trip is included: Prehistoric alphabet, Time machine, Universe history, Shadows and stories. National Peasant Museum, Village Museum and Botanical Garden were presented during the course.

The Geopark experience as an example of good practice A new approach in outdoor education is provided by geoparks. As UNESCO Guideline states (UNESCO, 2010) "A Geopark must provide and organize support, tools, and activities to communicate geoscientific knowledge and environmental and cultural concepts to the public (e.g. through museums, interpretive and educational centres, trails, guided tours, popular literature and maps, and modern communication media). It also allows and fosters scientific research and cooperation with universities, a wide discipline of scientists and the local populace".

The geoparks developed in the last 10 years and a European Geoparks Network comprising of 50 members and a Global (UNESCO) Geoparks Network comprising of 88 members were established. The territory of a geopark overlaps an organic context of spatial and non-spatial realities. Physical structures, such as geodiversity and biodiversity, are linked to a cultural diversity and its historic evolution. In respect to that the geopark area has to be coherent from the social, administrative and cultural points of view in order to support and strengthen the local identity.

The European Geoparks are open-air museums. They constitute natural outdoor laboratories where students and teachers can investigate Earth. Besides the offered programs, the European Geoparks have the capacity and resources to develop various themes and pedagogical topics (Zouros & Mc Keever, 2008). Different out-of-the-classroom activities are initiated and developed by geopark teams: Rock detectives (UK), Georium (France), Mini georium (Greece), Rock trails (Germany), Time travel (France), Stone, Water and Ice (Burren, Ireland), Small paleontologists (Lesvos Petrified Forest, Greece).

One important educational event developed by all is the European Geoparks Week, taking place in late May and early June each year. It is a Europe-wide festival of Geoparks aimed at raising public awareness of geoconservation and promotion of the geological heritage as well as events aimed at informing the wider public about geotouristic and educational activities in geoparks.

Events are varied and include public talks, activity days for schools, guided walks, exhibitions, workshops etc. While these activities may be common geopark activities for this one week the activities are coordinated and promoted in the same week across the whole European Network. It provides the Network with the opportunity to demonstrate to our communities that they are part of a wider European Network which is promoting the idea that the sustainable use of our geological heritage can bring economic benefit to local people.

The Hateg Country Dinosaurs Geopark in Romania developed an educational package in order to support curriculum school-based development and outdoor activities. The educational package developed is comprised of two complementary courses addressed to 6th and 7th grade secondary schools:

- Discovering nature in the backyard – addressed to 6th grade students (11/12 years) and dedicated to the natural environment of the geopark, human activities related to and the role of geopark in geoconservation;
- Local traditions – addressed to 7th grade students (12/13 years) and dedicated to “heart costumes” legends, crafts, folk art and traditional activities.
- Field application experience involves direct contact with nature, a socialization process and attitudes toward local community issues. Both of them combine formal education (the courses are part of the formal curricula) and non-formal activities.

The educational objective of the package is to develop the following key competences: Capacity for applying knowledge in practice; ability to analyze the distribution and structure of a range of natural materials/phenomena at all scales in both space and time; collecting, recording and analyzing data using appropriate techniques in the field and classroom; integrate natural, cultural and economical local issues into day to day life; recognizing the moral and ethical issues of different activities related to nature.

The courses are combined with thematic trails dedicated to volcanoes, dinosaurs and butterflies, European Geoparks Week and youth camps.

Junior rangers in protected areas

The Junior rangers project was initiated in 2002 by the EUROPARC Federation in Bavaria and extended rapidly in other countries. One of the project objectives is to develop concrete nature education programmes for children and youngsters. The programme contains a range of core themes aiming to educate the youngsters about the role, values and work of the protected areas and its importance for recreation, local employment, economy and tourism. The programmes also aimed to enthuse and inspire the youngsters about the protected area and its place in their home landscape as well as providing real work experience in nature conservation (ProPark, 2009). The project objectives were implemented by ProPark Foundation in 2009, when the first summer camp was organised in Cozia National Park. Since then the model has been developed

and several parks and associations adapted the course to different areas in Romania. During the camp the youngsters have the opportunity to learn about the conservation of nature, landscape and culture, learn practical skills such as plant identification and navigation, take part in a wide range of stimulating, creative and fun activities outdoors.

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3.4. Cooperation between the formal and non-formal organizations in the Educational area in Sweden

By Eva Kätting

Sweden is a country on the Scandinavian Peninsula. The area is big, 450,295 km², but the population is quite small, only 9.3 million inhabitants. Today the population is concentrated to four big city-areas, in the south of the country. Stockholm is the capital and the biggest city with 1 million inhabitants. The north of Sweden is a mainly rural area where small villages are spread in vast areas with forests and mountains.

Although most people in Sweden live in cities they are never far from nature. Most schools, even urban ones, can reach a nature area within ten minutes and being in the nature is regarded as being of great value, especially for children.

1. The Swedish School system

From the age of 6 children have the right to start in the preschool class. The preschool class is a school form in its own right with a large element of creative work and play. The preschool class is a voluntary school form which the majority of six-year-olds in Sweden attend. The municipalities are obliged to offer and arrange the preschool class. The compulsory school consists of nine years and usually children in Sweden start when they are seven years old. Most schools are run by the municipalities but there are also different kinds of private schools. All schools are free, tuition fees are not allowed with very few exceptions. The municipalities pay the schools according to the number of pupils. Upper secondary school is not compulsory but the majority of the teenagers in Sweden attend it. The municipalities are responsible for offering education or occupation for all young people up to the age of twenty.

Being outdoors or visiting museums or nature schools are common as a part of the normal school day, especially in the primary school. Swedish teachers have a great deal of freedom to organize the education as long as they reach the goals for each subject. Many schools have also decided to spend one full day or a part of a day out of doors every week.

In the New Curriculum for the Swedish Compulsory School it is stated that:

Everyone who works in school is supposed to develop contact with cultural institution, different societies and the working life to enrich the learning environment and make sure that the pupils' choices are not limited by sex or cultural and social background (Lgr 2011).

This clearly shows that cooperation between schools and different institutions outside schools are not only desirable

but necessary for teachers who want to follow the goals and guidelines in the new curriculum.

Ur och Skur schools (In all weather-schools)

A special form of schools is Ur och Skur, usually translated to all weather schools. This type of schools started as preschools but both parents and teachers wanted to give children the possibility to continue the same way also in the compulsory school. These schools are run by an outdoor organization, Friluftsrådet and the main idea is to spend most of the day outdoors. Most lessons take place in the school yard or in a park or nearby forest. They also have their lunch outdoors.

School camps

School camps are not very common in Swedish schools. When used it is usually for group development or social reasons.

2. Non Formal Institutions

Nature Schools

Nature schools are usually run by the municipalities but there are also a few private ones. All together there are about 90 Nature Schools, spread all over the country but most of them in urban areas. The aim is to be a resource to schools and they work close together with teachers. Some of them organize special days with themes and interdisciplinary projects and offer them to schools. Others have an agreement with the local schools and offer every class one day a year, with different content every year. The pedagogical approach is very clear, the program they offer are all connected to school curriculum and goals.

Nature Centres and Science Centres

Nature centres and science centres are often connected to museums and offer special pedagogical programs within their special fields. The pedagogical approach is also very clear here and they usually have some staff members who are specially trained to take care of groups from schools and pre-schools.

Museums

There are a wide range of museums in Sweden. There are museums run by the state, by the county or by the municipality. There are also small museums run by different local organisations. Visiting museums with schools is very popular and most museums offer special programs for all ages of school children and students. It is common that teachers can “order” special programs connected to subjects or themes. For museums with school programs as much as 30% of their visitors can be children or students.

A current example

In 2011 the Swedish Government decided to use 150 million Swedish Crowns for a project called Skapande Skola (Creative school). One of the main aims in this project is to create ways for museums, exhibitions and other cultural institutions to cooperate with schools. The Governmental declaration says: This should be a way to contribute with help and service to develop exhibitions to be a medium for learning, experience and debate (Regeringskansliet, 2012). Schools, both public and private can apply for money from this project to cover the costs for different kind of activities such as financing the cooperation between teachers and staff from the cultural institutions to cooperate in different projects. Schools can also get funding for travel costs if they want to visit museums or exhibitions.

Conclusion

It has been common for a long time for schools and non-formal organisations to cooperate in order to enable pupils to reach the goals in different subjects. Most museums have one or more museum pedagogues who have the aim to help and guide teachers to use collections and exhibitions to increase learning and understanding in children. The museums run by the government and the different communities especially have a well-defined pedagogical approach.

Nature schools and Nature and Scientific Centres can be seen as a pedagogical complement to schools and are often used this way. The staff and the pedagogues are usually well aware of the school curriculum and offer programs and activities for different ages and school subjects even if they, in addition to that, have other goals and perspectives in their specialized areas.

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4. Didactical approaches

By Karen Barfod

The idea of taking children out of the classroom for educational purposes is not new. Education in schools, using objects outside the classroom has been widely used as a learning approach. Numerous psychologists, didactical experts and theorists has been working in the field, and this has resulted in various "schools" or didactical approaches to justify and support the use of learning outside the classroom.

Working in the field opens up the diversity of understandings and interpretations of how to use the outdoors, and how and why to get the two target groups in this project to cooperate.

In this chapter, some of the interpretations of the term and some of the practical implications will be discussed. The theoretical platform used by NCU in Sweden will be unfolded in the light of other approaches. The work with "Udeskole" in Denmark will be explained, and some of the "place based" concepts, widely used in Australia, will be unfolded.

4.1. Outdoor Learning

By Eva Kätting

There have been many attempts to explain the concept Outdoor Learning and there are also many different definitions and interpretations. Social adjustment of young people, personal development, a more creative learning environment as well as environmental education has been the aim in various Outdoor Education projects.

For National Center for Outdoor Education at Linköping University, Outdoor Learning and Outdoor Education are mainly ways to develop a traditional and conservative school system into a creative and innovative area for learning. But Outdoor Learning is not the only way to teach, it is a complement to traditional teaching methods and a way to combine the theoretical and the practical parts. By using a combination of literary education and sensory experience it is possible to reach students/pupils with different learning styles and different ways of understanding (Dahlgren & Szczepanski, 2007).

In the Scandinavian countries Outdoor Learning is usually a part of the everyday school life. By moving the common school activities into the local environment, teachers give the pupils possibility to use both bodies and senses to increase learning. In these countries it is becoming more common to have outdoor activities on regular basis, as a natural part of the school work. Although this concept is well known in Scandinavia it is often misunderstood in other countries as it often connected with Outdoor Life and activities such as climbing, rafting and hiking. Place based Education (Sobel, 2006) is a concept that maybe would be easier to understand outside the Scandinavian countries. The problem with this concept is that is often connected with social science and not with other school subjects which makes it a bit limited. Outdoor Learning is a method or approach that can be applied on all subjects and themes in the compulsory school.

Definitions

The European Institute for Outdoor Adventure Education and Experiential Learning describes Outdoor Learning or Outdoor Education as a combination of "outdoor activities", "environmental education" and "personal and social development" (Higgins & Nicole, 2002) later added "personal health" and "environmental health" to this description of the concept.

Another definition of Outdoor Education you can find in the home page of National Center for Outdoor Education (NCU) at Linköping University:

- A field of education and research that is both thematic and interdisciplinary. The learning takes place to a great extent outdoors, creating an arena for outdoor experiences.
- The foundation for learning is formed by experiences in the environment that surrounds us. As this outdoor environment is a current source of knowledge, it provides us with rich material for historical retrospect, as well as studies of the present day and the future.
- The learning stems from the fact that the outdoor environment can be of different kinds. In this way, the rural area, the city, the forest etc. each function as an ideal learning environment, a complement to the classroom and the library.
- Reflected experience is the type of knowledge acquired from the environmental and outdoor education. This knowledge combines experience, personal discoveries and linguistic concepts.
- An important aspect of the environmental and outdoor education is to develop an understanding of mankind and society's place in local and global cycles.

Theoretical Platform

Outdoor Education the way it is defined by the NCU is based on ideas and theories from many centuries. The Czech educator, J.A.Comenius (1592-1670) recommended an "authentic" environment for teaching, in his work Didactical Magna, first published 1632. His ideas of "teaching less to make the pupils learn more" are still surprisingly modern. J.J.Rousseau (1712-1778) educated his imaginary pupil Emil by letting him make his own experiences in the nature. In his book *Émil ou de l'éducation* (1762) he even recommended teachers not to let children read books before the age of twelve. Children were not supposed to be ready to read about the experiences of others before they had made their own.

The Swedish pedagogue, Ellen Key, in her book *The Century of the Child* (1900) claimed that the way children were taught in schools actually killed their souls. Instead of teaching about "the whole" knowledge was served in small pieces and made boring and hard to understand.

Another philosopher and pedagogue who had a great influence on the Swedish school system and particularly outdoor education was John Dewey (1859-1952). In his article on *Experience and Education* (1997), first published 1938 he claims that experience must be the base of all

education. He predicts an educational system that respects all sources of experience, one that offers a true learning situation that is both historical and social both orderly and dynamic.

This if only a brief overview of the historical roots of what we today call Outdoor Education or Outdoor Learning, the way we use the concept in Linköping University.

Recent research points out that working outdoors on regular basis in schools reduces stress, (especially for boys) and makes both teaches and pupils more engaged. (Szczepanski, 2006).

It also noticed that children in preschool and the early childhood education develop better motor skills when given possibility to play outdoors every day (Grahn, 2006). Today the curriculum for preschools points out, that activities in the outdoors are necessary parts of the day for children. Unfortunately we do not have the same indication in the curriculum for the compulsory schools but on the other hand it points out that schools have to cooperate with the society surrounding them. Teachers are also free to choose the way to reach the goals in the curriculum and Outdoor Education can be one of them.

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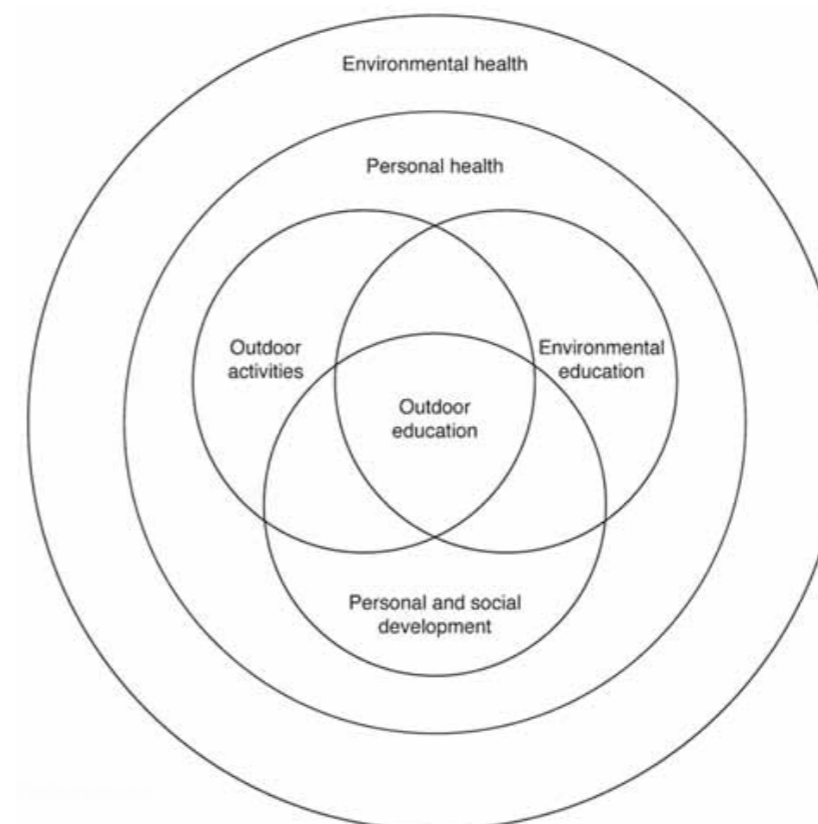
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4.2. Progressive education and Danish „Udeskole”

By Karen Barfod

Outdoor activities in preschool, primary and lower secondary schools are widespread and growing as a method or organized form of education in Denmark (Bentsen, 2010). “Naturbørnehaver” (nature kindergartens) are popular and demanded day care, where the children are regularly (e.g. 1 out of 3 weeks) in the forest all day (Bentsen, 2009). As a widely accepted value of the Danish society, the use of landscapes outside the classrooms must be seen in the light of the historical and cultural impact on the schools in Denmark, as described in a previous chapter. As this project concerns on two different areas of learning – the formal and the non-formal – the learning theories in this project also emanates from different sources. As the author is most familiar with the formal system, this part will be described in most detail. In teacher education, learning theories concerning learning outside the classroom mainly originate from general reform pedagogy and psychologists, and from the Nordic research concerning Uteskole (Norway), Udeskole (Denmark) and Utomhuspedagogik (Sweden), centred around the research teams from Hedmark University College (Dr Arne Jordet), University of Copenhagen (PhD Erik Mygind, PhD Peter Bendsen) and National Center of Outdoor education at Linköping at University of Linköping (Lic Anders Szczesanski).

The theoretical basis on “Learning outside the classroom” in Danish School is roughly divided in two kinds of sources: The progressive educational theories and the Nordic theories concerning “Udeskole” and “Friluftsliv”.

The comprehensive research from the Anglo-Saxon areas concerning outdoor education, wilderness trips and activities are more connected to sport and trips of weekly duration and havenot had crucial impact on the out-of-school theories in teacher education in Denmark, as these theories are connected to the research areas concerning sports psychology and physical education.

Experiential learning and learning outside the classroom The main sources have been and are still the general didactical reform pedagogy, which is part of the curriculum in the Danish teacher education. Introducing the main focus on learning instead of teaching or education, the progressive pedagogy kept on growing from the early and classic philosophers as Jean Jaques Rousseau and Johan Pestalozzi to the more recent and activity-centered pedagogy. The common understanding of experiential learning, as described by John Dewey (1859 – 1952), Lev Vygotsky (1896-1934) and David Kolb (1939-) is a background for the understanding of how learning is taught in Denmark. As the aims of the “Folkeskole” (the public municipal school)

includes the paragraph: “The Folkeskole is to endeavour to develop working methods and create a framework that provides opportunities for experience, in-depth study and allows for initiative so that students develop awareness and imagination and a confidence in their own possibilities and backgrounds such that they are able to commit themselves and are willing to take action”, it reflects the action-based values of the school – the school should not only learn the pupils to refer knowledge already discovered, but also to experience and develop by themselves.

John Dewey presented the principles of continuity in experiences, that experiences build up upon the former life of the child, and the principle of interaction that emphasizes that experiences always takes place in a social, cultural, geographical and subject related contexts and are crucial for what kind of experiences the child has. What could be meaningless and uninteresting in one situation, can be of uttermost learning interest in another (Jordet, 2010).

Practical implications

Besides the influence of reform pedagogy and the theories of experiential learning, the theories concerning context-based learning and learning in communities of practice as described by Jean Lave and Etienne Wenger have had great impact on the practice in Danish schools. As the Danish minister of education, just after her election in 2011, claimed that learning in compulsory schools should include learning in communities, and she continues: “We can, because we go beyond the purely academic and also focuses on the fact that learning must be based on community participation, on creativity, on democratic education and a solid grounding in practice.” (Antorini, 2012). The result can be that it is getting more difficult to separate children into groups based on their academic performance.

These ideas appear to place emphasis on group work and group based learning processes, often critically and ironically referred to as “circle pedagogy” in Danish schools. “Circle pedagogy” is the nickname of educational situations which are more concerned about well being and more emotional than being academic.

Despite the emphasis on the progressive educational theories taught at the teacher educations, the schools are still dominated by text-based and theoretical approaches to learning. As the teachers in Denmark have wide frames of freedom to choose their own teaching methods, it is only at the private independent schools (approximately one quarter of all schools and approx 13% of all children) that the ideas of learning outside the classroom are systematically used. “However, the purpose of outdoor schooling is not to neglect the importance of theoretical knowledge. The

purpose is the opposite. A school that stimulates pupils and teachers to use books and the classroom in combination with outdoor schooling in order to find knowledge will rather contribute to a better school. This will not only have the potential to strengthen the pupils’ learning outcome, but will also activate the pupils’ bodies and senses as a natural part of the educational process. This will probably improve the pupil’s well-being and health. The challenge we face in school is to combine experience-based (practice) and text-based (theory) learning processes. This should be a natural approach for all kinds of learning” (A. N. Jordet, 2008)

Learning Styles

Ideas on the exploitation of different learning styles, building on the thoughts of the American psychologist Howard Gardner (1943-), Dr. Rita Dunn (1929-2009) and Dr. Kenneth Dunn, are widely used in the Danish Folkeskole. This opens up the possibilities for using many ways of learning, including the out-of-school effort. As mentioned before, even if the curriculum is fixed, the methods for the teacher to reach the learning goals are free. On this basis, the theories used during a teacher’s education and the methods that we work with can greatly influence the practice of the graduated teacher when they are employed at a school. To teach this during teachers’ educations, we must plan, so that the students actively use their minds, body and senses, and have to cooperate and communicate in order to solve the different tasks. By doing this, the students will get experience in how physical action, social interaction and learning work and-in-hand in experiential learning and out-of-the-classroom schooling. This implies a break with the dualistic tradition in school since cognitive, physical, practical, aesthetic and ethical perspectives are united in the educational process, far from the theoretical and text-based approaches which have traditionally dominated in the classroom (A. Jordet, 2008).

When children and youngsters arrive in school, they come with different qualifications and backgrounds for learning. It is urgent for the school to offer different forms of practice, concerning the same educational content.

“Udeskole”

One of the newest and rapidly growing type of school in Denmark is “Udeskole”. “Udeskole” uses progressive pedagogy and the ideas of “learning outside the classroom.” From its beginning in the late nineties, “Udeskole” has been growing from the grassroots. In 2000, a 3-year academic study indicated that just one, initial weekly school day spend in the forest, along with the first descriptions of the concept, created an avalanche of “Udeskoler” in Denmark. It seemed to be that the ideas came just in the right time for

fulfilling many teachers “good feeling” that something was missing in school.

“Udeskole” is a method, or a form, of the school life, where parts of the everyday school are outside the classroom¹¹. To be an “Udeskole”, the learning inside must be connected to the learning and activities, the days outside the classroom must be on a regular weekly or biweekly basis and the education must have a goal connected to the holistic development of the child as a whole.

Using tools and knowledge in a building process – and visiting a nearby historical Centre is both part of the Danish “Udeskole”



School camp “Lejrskoler”

Traditionally, teachers have been travelling to outdoor centers with their pupils for 2-4 day trips once a year. These activities are called “lejrskole” and have mostly been organized by the teachers themselves. Due to the economic situation, these school camps have been rated as a low priority.

Museums

With the national evaluation of the effort on education and the performance of the Danish museums in this field a survey was taken place in 2008 (Brænholt, 2008).

11. The term “learning outside the classroom” (as defined by the LOTC network, www.lotc.uk) does to some extent cover the activities that are connected to the “Udeskole”.

Emphasis was laid on the use and development of the learning activities at the museums. This has resulted in a recently published Danish publication focusing on both student level (concerning “The art of reading a museum”) educators level (“museumsdidaktik”).

The research field on the museum didactics has been expanding in Denmark, and to some extent been under the influence of research done in Norway and in the United States. It has been connected to the work concerning out-of-class activities, as seen in the context of science research.

According to the recent publication “Museumsdidaktik” in the journal “Unge pædagoger” (Young Social Educators, 2011), the work of John D Falk and Lynn D Dierking (Unge pædagoger, 2011) are important in analyzing the learning processes at the museums. They analyse eight key factors affecting learning at museums, divided into 3 groups: the personal context (motivation, expectations), the socio-cultural context (dissemination inside the group) and the physical context (referring to planning, orienteering, design etc).

Beside these authors, the work of George Hein (1998) is widely used in museum education. He describes a model for educational theories, placing one axis with theories of learning (x-axis), and another with theories of knowledge (y-axis). Explaining this model, he uses some of the same educational theories as we use in teacher education, that is John Dewey, Lev Vygotsky, Jean Piaget, and Howard Gardners multiple Intelligence Theory.

Conclusions

Theories of learning approaches are important to the learner as an active fellow player is widely used both in modern teacher education and in didactics in museums. Emphasising the importance of the student as active learners, using real world, real objects and both body and mind in the learning process is the core message to be used. Relating to the world outside the classroom, instead of using paper-based versions, implies that the pupils must be taken outside the classroom, in addition to being inside.

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4.3. Place-based concepts

By Karen Barfod

The work involved in learning processes outside formal institutional frameworks attaches importance to the idea of genuine experiences of phenomena and objects (Barfod, 2007). The place we are in, which becomes an arena for learning, is not only a place for learning but also constitutes the actual content of learning (Szczepanski, 2007). Moving our teaching outdoors means moving it somewhere else. But it also means choosing a content that is interpreted based on cultural, value-based and social perspectives which are not always explicit. Consequently, collaboration between the formal sector and the non-formal sector is important because the perspective and angle adopted regarding the content of teaching must be in accordance with the goals of the teaching in question.

Where shall we go?

The content and goals of formal school teaching are a result of the traditions, culture and legislation of the country in question. If teachers choose to take children outdoors and collaborate with non-formal learning environments, the goal of the work done outside the classroom will often be in accordance with this fixed framework. So the didactic question regarding the “What” of teaching can apparently remain the same, whereas the “How” and “Where” of teaching may vary. But when the “Where” of teaching is discussed, and we take children out into the world, the things we study are not necessarily predefined. We visit nature restoration projects to learn about our perspectives on nature and biodiversity, or to take a good look at some excavation machinery. We dress up in homespun and woollen clothing at museums of cultural history to learn about agricultural reforms and the way farms were moved in Denmark in the late 18th century, or to learn about traditional working techniques or family structures. We visit churches to study their architecture and cross-vaulting structures, or to consider the way in which churches communicate their message. We splash through the rain and freeze our socks off in all kinds of wind and weather, or we touch the soft muzzles and rough tongues of cows and smell the sweet scent of the cowshed.



Historical agricultural drama at a museum of cultural history – outdoor school at Hjerl Hede, 2011.

Geography and interpretation

In other words, the concept of “place” refers not only to a geographical location but also to the way a place is interpreted and used. The process of narrating, interpreting and creating stories about places and people is based on a variety of cultural points of departure (Stewart, 2008). Why is there a lighthouse here? Well, the lighthouse is here because Man has always longed to travel and has always had financial incentives and the desire to break new ground. So men have built boats and sailed off to discover new land, to go fishing, or to trade with other countries. And this all has to be done as safely as possible, so this lighthouse was built here on the very last sand dune at the very highest spot so it could be seen far out across the ever-changing North Sea. And the lighthouse is still here despite the invention of GPS and satellite navigation systems because enterprising local people feel that it is worth preserving – and because the stories of the lighthouse keepers and their families are worth telling. There is a wealth of stories, understandings and interpretations associated with the history and culture of a place (Wattchow, 2011). So the lighthouse is a place to be, a place to learn, and something to learn about.



On the west coast of Denmark, from the top of Bovbjerg Lighthouse, you can see the living landscape for miles around.

This approach comes from the traditions surrounding environmental teaching (Wurdinger, 2009), and often employs interdisciplinary features. It is based on experience, moving teaching out into the surrounding environment (Jordet 2010); but in our understanding it also involves visiting particular sites, museums etc. and using their authentic (or semi-authentic) artefacts as the content of teaching. Collections of stone axes are interesting in themselves; but the reasons why they have been collected, why a museum has been built and why the past is worth studying are also fascinating.

Alistair Stewart from La Trobe University in Australia studies the meaning of stories in place-based teaching (Stewart, 2008). He points out that each place contains so much

potential that place-based teaching must reflect not only the place in question but also the culture and society in which the teaching originates. Are we telling stories of given places from the point of view of the Aborigines, or are the stories of the colonising power the only angle that matters? An awareness of whose story you are telling and how it has changed over time is important when teachers choose their perspective on teaching.

David A. Gruenewald from Washington State University discusses (Gruenewald, 2003) five dimensions that can shape the development of place-based teaching: perceptual (sensory integration in meaningful information), sociological, ideological, political and ecological. The multidisciplinary analysis of a place reveals the number of ways in which it influences us – places can give us experiences showing us how the world works, but places can also shape us. Our experience of a place is never pre-cultural or pre-social because the way we perceive the world depends on our culture and prior understandings.

This is precisely why the choice of place by teachers and their collaboration with professional communicators are so important. The choice of perspective on the objects and places studied must be made consciously based on a cultural approach that is in accordance with the goals of the teaching in question.

It is impossible for schools to teach pupils the importance of equality and intellectual liberty if they only choose a single perspective or a single understanding of values, for instance in connection with historical conflicts, religions or interpretations¹³.

Far too often we visit spaces without considering why they look like they do. Why is it so important to build shopping centres offering easy access by car and surrounded by asphalt? This is only one of many possible ways of using the available space.

Could we dig up the asphalt and build small market stalls instead? Could we create a lake here? Or establish an airfield for hot-air balloons?

Types of teaching that not only use the objects found in a place in teaching activities but also interpret their presence open the path leading to a more development-oriented form

of teaching because the way in which a space is used at present is only one of many options. The place shows the result of one way of thinking, but it could be reinterpreted using different ways of thinking and different values – values that can and will change over time (Gruenewald, 2003). A critical and conscious approach to the use of non-formal teaching environments opens up a world of opportunities with regard to content, methods and interpretations. If we are to succeed in creating a form of teaching “for a changing world” (Wattchow, 2011), we must allow plenty of room for the development perspective – which is where analysis is both important and relevant.

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Photos by Karen Barfod.

5. Final remarks

By Eva Kätting

The aim of the project In and Out has been to find ways for cooperation between formal and non-formal learning environments. From the start it seemed easy enough but we soon found out that the differences between the countries were bigger than we first expected. As you can see from the articles above, cooperation between the two environments is very common in both Denmark and Sweden. In these two countries teachers from formal and educational staff from non-formal learning environments are used to cooperate in a way that is not often seen in Germany and Romania. In these countries this cooperation is not formalized the way it is in the Scandinavian countries. Due to these differences, the two courses that we created for test-run 1 and test-run 2, had to be developed in slightly different ways in order to be applicable for the particular country.

With reference to Dahlgren & Szczepanski (1998) Outdoor Learning takes place in all areas such as natural and cultural landscapes, historic sites, museums, playgrounds and urban landscapes. By cooperation between teachers, museum educators, companies, biologists and experts in various fields, we can improve learning. This kind of cooperation can involve the whole community where, according to Dahlgren and Szczepanski, we can find distinct and educational connections between activities and places and that the place itself can create activity.

In his book, *Place-based Education (2005)*, David Sobel points out the necessity of connecting schools to communities in different ways. This is not only to make pupils more engaged in the school work but also to improve learning. The challenge for educators is to find out how knowledge in the different places can be applied to fit into the frames and steering documents of our schools. Although the requirements and conditions are different in the participating countries, there are possibilities for cooperation by taking children outside the school during school time.

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13. Objectives of the Danish Folkeskole, Subsection 3. The Folkeskole shall prepare pupils to participate in and assume co-responsibility, rights and duties in a society characterised by freedom and democracy. Consequently, the work of the Folkeskole shall be distinguished by intellectual liberty, equality and democracy.



Project partners

DENMARK:

VIA University College, Lead partner



Karen Barfod; ksba@viauc.dk, Project Manager

Mikael Skånström; misk@viauc.dk

Subject Expert in Mathematics



Municipality of Lemvig

Gunnar Nordestgaard;

gunnar.nordestgaard@lemvig.dk, Sectional Director,

Youth and Culture

Lemvig, Denmark



SWEDEN:

Linköping University

Eva Kätting; eva.katting@liu.se

Katarina Johansson; katarina.johansson@liu.se

Subject Experts in Language



ROMANIA:

University of Bucharest

Alexandru Andrasanu; mesajalex@yahoo.com

Subject Expert in Science



GERMANY:

University of Marburg

Martin Lindner; martin.lindner@staff.uni-marburg.de

Robert Gräfe; robert.graefe@staff.uni-marburg.de

Subject Experts in Physical Education



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