

RAPPORT 51/2008

Architectural Education for Young People in Europe.

A Comparative Study in Seven European Countries. Norway – Country Report.

Jorunn Spord Borgen and Synnøve Skjersli Brandt



© NIFU STEP Norsk institutt for studier av innovasjon, forskning og utdanning
Wergelandsveien 7, 0167 Oslo

Rapport 51/2008
ISBN 978-82-7218-607-3
ISSN 1504-1824

The publications of NIFU STEP are available at www.nifustep.no



Norsk institutt for studier av innovasjon, forskning og utdanning
Norwegian Institute for Studies in Innovation, Research and Education
Wergelandsveien 7, 0167 Oslo
Tlf. +47 22 59 51 00 • www.nifustep.no

RAPPORT 51/2008

Jorunn Spord Borgen and Synnøve Skjersli Brandt

Architectural Education for Young People in Europe

A Comparative Study in Seven European Countries. Norway – Country Report



Preface

This report investigates architectural education for children and young people in primary and secondary education in Norway. The Norwegian Institute for Studies in Innovation, Research and Education (NIFU STEP) carried out this study on assignment from the French Ministry of Culture and Communication. Norway is one of seven European countries contributing to a comparative study of the role of architectural education in developing the receptivity of young people to architecture, organised by a French project team (Sylvie Couralet, Alain Grandguillot and Philippe Nys, Professor at Université de Paris I). Data was collected in autumn 2007 and winter 2008. Chapter 3 in this report can be read as a summary of the Norwegian country report.

Jorunn Spord Borgen was responsible for leading the project at NIFU STEP and has authored this report with Synnøve Skjersli Brandt. Nils Vibe contributed his comments to the report.

Oslo, December 2008

Per Hetland
Director

Eifred Markussen
Head of Research

Table of Contents

1	Norway.....	7
1.1	Introduction	7
1.2	The Norwegian education system	7
1.2.1	Structural features of the school system	7
1.2.2	The Norwegian education system.....	9
1.3	Arts and Crafts subject curriculum in primary and lower secondary education ..	11
1.3.1	The objectives of the subject.....	11
1.4	Architecture as part of the Arts and Crafts subject curriculum.....	11
1.4.1	Competence aims in the Architecture theme in the Arts and Crafts subject area.....	12
1.4.2	Subject assessment.....	13
1.5	Upper secondary education	13
1.5.1	General studies and vocational studies	13
1.5.2	Vocational education and training	14
1.6	Programme for Specialisation in General Studies: Design and Architecture	15
1.6.1	Main topics and competence aims in Design and Architecture.....	15
1.6.2	Subject assessment.....	16
2	Key national public and private organisations in charge of public policy.....	17
2.1	Key national programme	17
2.1.1	The Cultural Rucksack.....	17
2.2	Cultural history museums.....	22
2.2.1	The National Museum of Art, Architecture and Design.....	22
2.2.2	The Norwegian Museum of Cultural History	25
2.2.3	Maihaugen, Lillehammer	27
2.3	Other national, regional and local public initiatives.....	29
2.3.1	Norsk Form	29
2.3.2	School prizes	31
2.3.3	Programme for “universal” school environments.....	31
3	Norwegian model.....	32
	References	34
	Appendix 1: Bibliography on architecture.....	35
	Architecture in primary and lower secondary education.....	35
	Architecture in upper secondary education	35
	Architecture as part of extra-curriculum activities: The Cultural Rucksack.....	36
	Architecture in common core subjects	36
	School buildings and school environment.....	36
	Arts and Crafts Subject Curriculum Evaluations	37
	Appendix 2: Architectural Education for Young People in Europe. Schedule for the Work in each European Country.	39

1 Norway

1.1 Introduction

This report investigates architectural education for children and young people in primary and secondary education in Norway. The Norwegian Institute for Studies in Innovation, Research and Education (NIFU STEP) carried out this study on assignment from the French Ministry of Culture and Communication as part of a large-scale comparative study involving seven European countries and led by a French project team (Sylvie Couralet, Alain Grandguillot and Philippe Nys, Professor at Université de Paris I). The task was to describe what is being done to develop receptivity to architecture among young people within the schools and in the context of education in general.

The methodology is based on a common model of inquiry provided by the French team. The Norwegian country report follows this model of inquiry.¹ The data was collected in autumn 2007 and winter 2008. Important sources of information include document studies, Internet searches, interviews with key players at the Norwegian Ministry of Education, and interviews with players in organisations responsible for putting architectural education into practice within and outside of Norwegian schools.

Discussions with representatives from the other countries involved in the study (Austria, Finland, the UK, Italy, France and Poland) and tasks assigned by the French project team provided important information as well. The meeting on 8 February 2008 at the French Ministry of Culture and Communication served as profitable arena for exchange of information concerning the differences and similarities in the role of architecture in education in the participating countries. The French team is responsible for the summary report. The French Ministry of Culture and Communication published the report in October 2008.²

1.2 The Norwegian education system

1.2.1 Structural features of the school system³

The educational authorities and school leadership in Norway are part of a governance structure – national, regional and local – that spans the entire country. Norway has 19 counties, 431 municipalities, and a population of 4.7 million people, of which 8.9 per cent are

¹ See Appendix 2.

² Couralet, Grandguillot & Nys (2008). *La sensibilisation du jeune public à l'architecture : Etude comparative dans six pays européens*. Published by the French Ministry of Culture and Communication at: <http://www.culture.gouv.fr/nav/index-dt.html>

³ Source: *Improving School Leadership – OECD 2007 – Norwegian Background Report 12*. Chapter 2: The Norwegian school system. http://udir.no/upload/Rapporter/300307_%20IMPROVING_SCHOOL_LEADERS.pdf, 11.12.07.

immigrants. The Education Act and the National Curriculum apply to the entire country, with authority delegated to county and municipal authorities.

There is full public school coverage in Norway, and there are very few private schools. These are also required to follow the National Curriculum where architecture is an integrated subject. Compulsory education is closely regulated by legislation, the Core Curriculum and subject curricula. In the period 1974-2006, architecture gradually emerged as a subject in Norwegian compulsory education, primarily as part of the Arts and Crafts subject curriculum. A new school reform was introduced in autumn 2006 – the Knowledge Promotion Curriculum Reform (K06) – providing a cohesive system for basic schooling from grades 1-13. Architecture is a theme in upper secondary education in the Vocational Education Programmes for Design, Arts and Crafts and for Media and Communication, as well as an elective subject in one of the Programmes for Specialisation in General Studies.

Primary and lower secondary schooling

Primary and lower secondary schooling covers 6-to-15-year-olds in grades 1-10. Primary and lower secondary schools are administered at the municipal level.

- There are 3,238 primary and lower secondary schools in Norway, situated in 429 municipalities.
- There were approximately 620,000 pupils in the 10-year compulsory education system in 2005.
- Two per cent of the pupils in the 10-year compulsory education system attend private schools.
- There are 12.5 pupils per teacher. (Source: Statistics Norway 2008)

Schools are obliged to provide after-school care for pupils in grades 1-4, but parents must pay a fee.

Upper secondary schooling

Upper secondary schooling covers 16-to-20-year-olds in grades 11-13, and includes general academic studies as well as vocational training.⁴ Upper secondary schools are administered at the regional (county) level.

- There are 462 upper secondary schools in Norway situated in 19 counties.
- Approximately 6 per cent of upper secondary pupils attend private schools.
- There was a total of 214,000 upper secondary pupils in 2005.
- There are approximately eight pupils per teacher in upper secondary school. (Source: Statistics Norway 2008)

The Education Act obliges county authorities to provide a follow-up service for young people between 16 and 19 years of age who are neither attending a course of education nor employed.

⁴ Since Reform 94, vocational training has been conducted according to a 2+2 model, meaning two years of schooling followed by two years of apprenticeship in an enterprise.

Overall size and composition of the school system

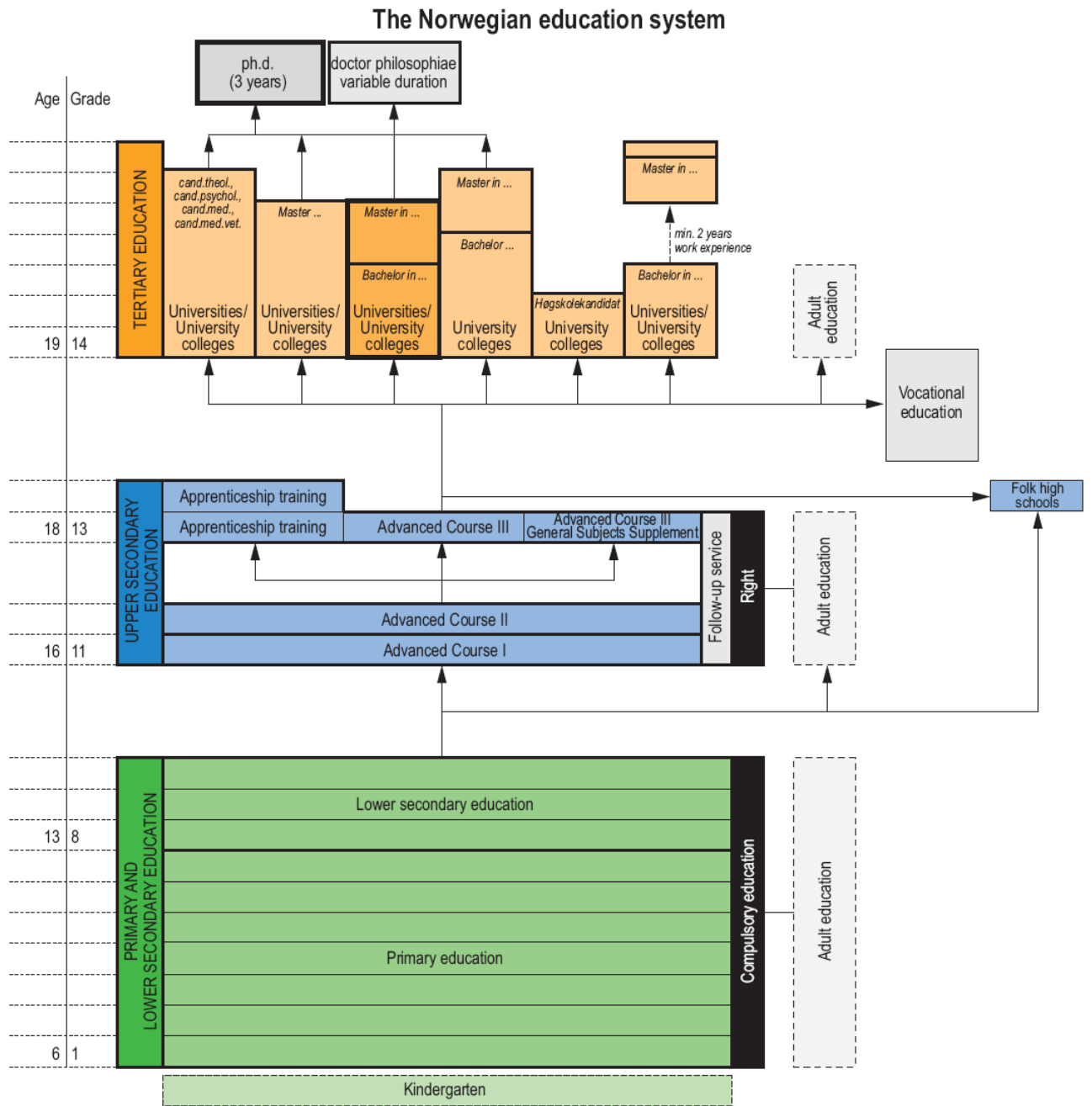
In 2005, primary, lower and upper secondary schooling accounted for about 9 per cent of all public expenditure in Norway. In 2005, the number of teachers (grades 1-10) was 62,200 (73 per cent women) in compulsory education and 23,100 (47 per cent women) in upper secondary education.

- Norwegian schools vary in size from one or two pupils in certain cases to more than 800 pupils. Due to the geography of the country, 34 per cent of Norwegian schools have less than 100 pupils.
- A reorganisation of special education has taken place in Norway since the beginning of the 1990s, moving from a system of special schools to a system of full integration. Approximately 6 per cent of all pupils in compulsory education receive specialised tuition at school.
- Participation in upper secondary education is over 90 per cent, while approximately 72 per cent complete tertiary education. (Source: Statistics Norway 2008)

1.2.2 The Norwegian education system

The Core Curriculum for primary, secondary and adult education in Norway covers learning in a life-long perspective. Common core subjects in primary and secondary education are: Norwegian, Natural Science, English, Mathematics, Physical Education, and Social Studies. Architectural education is highlighted as part of the effort to develop the creative human being. Additional common core subjects in primary and lower secondary education are: Religion and Ethics, Arts and Crafts, Music, and Food and Health. There are also local curricula in elective subjects at the lower secondary school level.

Table 1.1 The Norwegian education system⁵



⁵ Source: <http://www.ssb.no/english/subjects/04/02/facts/facts2007.pdf>, 13.12.07.

1.3 Arts and Crafts subject curriculum in primary and lower secondary education⁶

1.3.1 The objectives of the subject

Arts and Crafts is the fourth largest subject in primary and lower secondary education. The subject is considered a key component of general cultural education. It is viewed as a source of development at several levels, from personal growth and influence on one's personal surroundings to creative innovation in a larger social perspective. Experience, expression and artistic creation are overarching themes, and are integrated into all training and work. The subject syllabus is divided into four main areas: Visual Communication, Design, Art, and Architecture. The various components – art and design history, form, colour and composition, materials, tools and techniques – constitute a whole and are integrated into all work in this subject.

Table 1.2 Overview of main subject areas in the Arts and Crafts subject curriculum

Year	Main subject areas			
1–10	Visual Communication	Design	Art	Architecture

There are competence aims to be met in Arts and Crafts after the second, fourth, seventh and tenth years of primary and lower secondary school. Teaching is conducted in 60-minute units. The Arts and Crafts subject curriculum has a total of 640 hours during the 10 years of compulsory education. There are 477 teaching hours in primary school (grades 1-7) and 150 teaching hours in lower secondary school (grades 8-10) in the four main subject areas.

The focus of Arts and Crafts is on practical creative work with form, colour, and a variety of materials. Emphasis is placed on using a variety of methods to ensure that pupils, through practical work, will have time to develop the knowledge, skills and attitudes that result in feelings of mastery and satisfaction, motivating them to meet new challenges in the subject.

1.4 Architecture as part of the Arts and Crafts subject curriculum

From grades 1-10 (6-15 years of age) architecture is a compulsory theme in Arts and Crafts and a transversal theme in other subjects (such as mathematics, science, technology and design, language, etc.). In the Arts and Crafts subject curriculum there is no set number of hours devoted to architectural education in primary and lower secondary schools, and teachers may choose how much time to use. There are very few tools for architectural education (e.g.

⁶ Source :

http://www.utdanningsdirektoratet.no/upload/larerplaner/Fastsatte_lareplaner_for_Kunnskapsloeftet/english/Arts_and_crafts_subject_curriculum.rtf, 11.12.07.

books, DVDs etc.) in the subject curriculum. The Cultural Rucksack programme offers some extra-curriculum tools, and schools in Oslo (the Norwegian capital) and the greater Oslo area have access to several museums. Most regional and local museums in Norway offer a look at cultural heritage through building traditions. In Sámi regions there are special curricula for arts and cultural education, which encompass traditional Sámi architecture.

Certain museums and cultural institutions offer one-to-four-hour or full-day educational programmes, although these are only accessible to schools in proximity to the museums. Knowledge about the local physical environment is a key component of the architectural syllabus. This comprises knowledge about how building traditions – interior and exterior alike – influence everyday life. Drawing and building of scale models are part of the subject area and form the basis for envisioning three-dimensional spaces based on drawings and computer animation.

Arts and crafts teachers are responsible for architectural education within their subject, while teachers in other subjects where architecture is a theme are responsible in their subjects. Until recently, teacher training colleges have not offered specific architectural programmes. The K06 reform in compulsory education will be followed by a reform in the teacher training curriculum, which includes plans to incorporate a programme devoted solely to architecture in teacher training. The 27 university colleges in Norway offer supplementary and in-service training for teachers. A few of these institutions offer courses with architectural themes.

1.4.1 Competence aims in the Architecture theme in the Arts and Crafts subject area

After Year 2 (age 8):

The pupil shall be able to:

- make simple models of houses using natural materials
- draw houses from the local environment seen from the front and the side
- talk about the perception of various types of houses and spaces in the local environment

After Year 4 (age 10):

The pupil shall be able to:

- plan and build models of houses and rooms using digital tools and simple craft techniques
- draw houses and rooms seen from above, from the front and from the side
- talk about streets, squares and buildings with different functions in the local environment

After Year 7 (age 13):

The pupil shall be able to:

- build models of houses in scale, based on his or her own technical drawings
- install exhibitions and other presentations in different types of rooms

- describe special features of buildings in the local environment and compare them with national and international styles

After Year 10 (age 16):

The pupil shall be able to:

- draw houses and rooms using two-point perspective
- talk about architectural drawings and digital presentations of building projects, assess adaptation to the environment and outline solutions
- assess the functional interior decoration of a room, style and taste, and visualise solutions
- explain how climate, culture and societal conditions influence the construction of buildings, choice of materials, shape, expression and symbolic functions
- construct and test load-bearing constructions using different materials

The competence aims in the architecture theme in the arts and crafts subject area in primary and lower secondary education put attention to skills relevant for the professional field of architecture, for instance drawing, modelling and construction. Aesthetics and art history is also integrated part of the competence aims. Topics related to the role of architecture in society and environment and nature, housing, living together and citizenship are almost invisible in these competence aims.

1.4.2 Subject assessment

There are no specific national assessment tools for use with the syllabus. In the formal education context, pupils are given a mark for overall achievement in grade 10 or in the grade where the subject has been completed; there is no examination. The general provisions on assessment have been laid down in the regulations relating to the Norwegian Education Act.

The subject teachers are responsible for assessment, employing the competence aims as the assessment criteria.

1.5 Upper secondary education

1.5.1 General studies and vocational studies

A new school reform was introduced in autumn 1994 (Reform 94). Since then, young people who have completed their primary and lower secondary education, or the equivalent, have had the right to three years of full-time upper secondary education and training leading either to admission to a higher education institution, to vocational qualifications, or to basic skills.

Upper secondary education and training is available throughout the entire country, ensuring equal education for all. Since 1976, Norway has had a unified upper secondary structure that coordinates general studies and vocational studies. Education and training programmes are divided into three levels over three years: Vg1, Vg2 and Vg3. Since Reform 94, the

vocational training is conducted according to a 2+2 model, meaning two years of schooling followed by two years of apprenticeship in an enterprise. Common core subjects in upper secondary education are: Norwegian, Natural Science, English, Mathematics, Physical Education, Social Studies and in-depth language studies, as well as History, Geography, and Religion and Ethics.

General studies

General studies take three years and lead to general university admissions certification. It is possible for pupils who have finished their vocational education at the Vg1 and Vg2 levels to take a supplementary programme at the Vg3 level to gain general university admissions certification.

Programmes for General Studies:

- Programme for Specialisation in General Studies (with or without Design, Arts and Crafts)
- Programme for Sports and Physical Education
- Programme for Music, Dance and Drama

1.5.2 Vocational education and training

Vocational education and training mainly lead to a craft or journeyman's certificate, often after two years of schooling and two years of in-service training in an enterprise. If it is impossible to provide enough places for in-service training, the county authorities are obliged to offer the equivalent in school (Vg3), in which case there is no productive work. The final craft or journeyman's examination is the same as it would have been after training in a training establishment. When it comes to subjects that are not recognised trades, vocational education only takes place in school and leads to vocational qualifications.

Vocational Education Programmes:

1. Programme for Building and Construction
2. Programme for Design, Arts and Crafts
3. Programme for Electricity and Electronics
4. Programme for Health and Social Care
5. Programme for Media and Communication
6. Programme for Agriculture, Fishing and Forestry
7. Programme for Restaurant and Food Processing
8. Programme for Service and Transport
9. Programme for Technical and Industrial Production

Architecture is a theme in upper secondary education in the Vocational Education Programmes for Design, Arts and Crafts and for Media and Communication, as well as an elective subject in one of the Programmes for Specialisation in General Studies.

1.6 Programme for Specialisation in General Studies: Design and Architecture

Pupils who choose the Programme for Specialisation in General Education may select the Programme for Design, Arts and Crafts as a supplementary curriculum. The programme is offered at schools in all 19 counties, and includes the following subject areas: visual arts, design and architecture, and art and design history. These cover both theory and practice. The programme leads to general university admissions certification. Pupils may select one of two main tracks: Design and Architecture or Visual Arts.

Table 1.3 Overview of main subject areas in the Programme for Specialisation in General Education: Design and Architecture

Year	Main subject areas	
11	Common core subjects: 842 hours	Design and Architecture: 140 hours
12	Common core subjects: 840 hours	Design and Architecture: 140 hours
13	Common core subjects: 841 hours	Design and Architecture: 140 hours

1.6.1 Main topics and competence aims in Design and Architecture

After three years of study, pupils should be able to fulfil the following competence aims in the three main topics below:

Product development and materials

- Design clothes and outfit from specifications
- Design objects for indoor and outdoor use
- Experiment with different materials in product development
- Explain principles for building construction and materials
- Explain how human means, materials, landscapes and climate determine buildings
- Describe and evaluate outdoor areas

Drawing, construction and modelling

- Make sketches and drawings for clothes and outfits
- Draw houses and outdoor areas in different perspectives
- Develop models of outdoor areas
- Describe how planning permissions are given by local authorities
- Present architecture and design products from idea to realisation
- Try out simple principles for dimension and construction qualities of different materials

Design history

- Describe and assess central architectural works, places, gardens and parks after 1600
- Describe trends in design after 1600
- Describe ideas related to culture protection and landscape preservation
- Assess resources, milieu and ethics related to design, architecture and planning
- Explain the impact of culture and traditions on architecture, building tradition, cultural landscape and environmental protection
- Explain distinctive features of Scandinavian Design and its impact on architecture

The main topics and competence aims in Design and Architecture in the Programme for Specialisation in General Education in upper secondary education put attention to skills relevant for the architecture profession. Thus topics related to the role of architecture in society and environment and nature, housing, living together and citizenship are more visible in these competence aims than in the Arts and Crafts subject area in primary and lower secondary education.

1.6.2 Subject assessment

At the end of each year, pupils are given a mark based on an average, and some are randomly selected to take a practical examination.

The subject teachers are responsible for assessment, employing the competence aims as the assessment criteria. It is currently difficult to recruit a sufficient number of young people to the Programme for Design, Arts and Crafts as a supplementary curriculum in upper secondary education, and many schools decided to cancel this programme as of the school year 2008/2009.

2 Key national public and private organisations in charge of public policy

2.1 Key national programme

2.1.1 The Cultural Rucksack

History in brief and development

The Cultural Rucksack (TCR) was established in 2003 as an extra-curriculum programme for grades 1-10⁷. In 2006, after a three-year implementation period, the programme was evaluated in a research evaluation (Borgen & Brandt 2006).

The Cultural Rucksack started as a national programme for arts and culture that is intended to *supplement* the curriculum in primary and lower secondary schools in Norway (pupils aged 6-15). Teachers and artists are obliged to cooperate on arts and cultural education within the schools. The objectives of the programme are: “to enable children and young people in primary and secondary school to enjoy artistic and cultural productions provided by professionals; to facilitate the pupils’ access to a wide range of cultural expressions, so that they can become acquainted with and develop an understanding of culture in all its forms; to assist schools in integrating different forms of cultural expression with their own efforts to attain learning goals”. The Cultural Rucksack offers a wide variety of cultural expressions, such as the performing arts, the visual arts, film, dance, music, literature, and cultural heritage.

During the last two years, programmes for kindergarten (children aged 1-6) and for upper secondary education (pupils aged 16-18) have been developed at the local and regional level.

Structure/Framework

- *Ministry(ies) involved*

The Ministry of Culture and Church Affairs and the Ministry of Education.

- *Links to public policy*

School policy: linked to the Core Curriculum and school policy in general.

Cultural policy: linked to museum policy, arts and cultural institutions, artist organisations, and budgets.

- *Relationships and collaboration: institutional, financial, educational*

The Cultural Rucksack (TCR) is a joint cooperative initiative of the Ministry of Culture and Church Affairs and the Ministry of Education and Research, and is organised as a joint venture between the educational and cultural fields at all official levels of authority. The Ministry of Culture and Church Affairs has responsibility for the art and cultural field as well

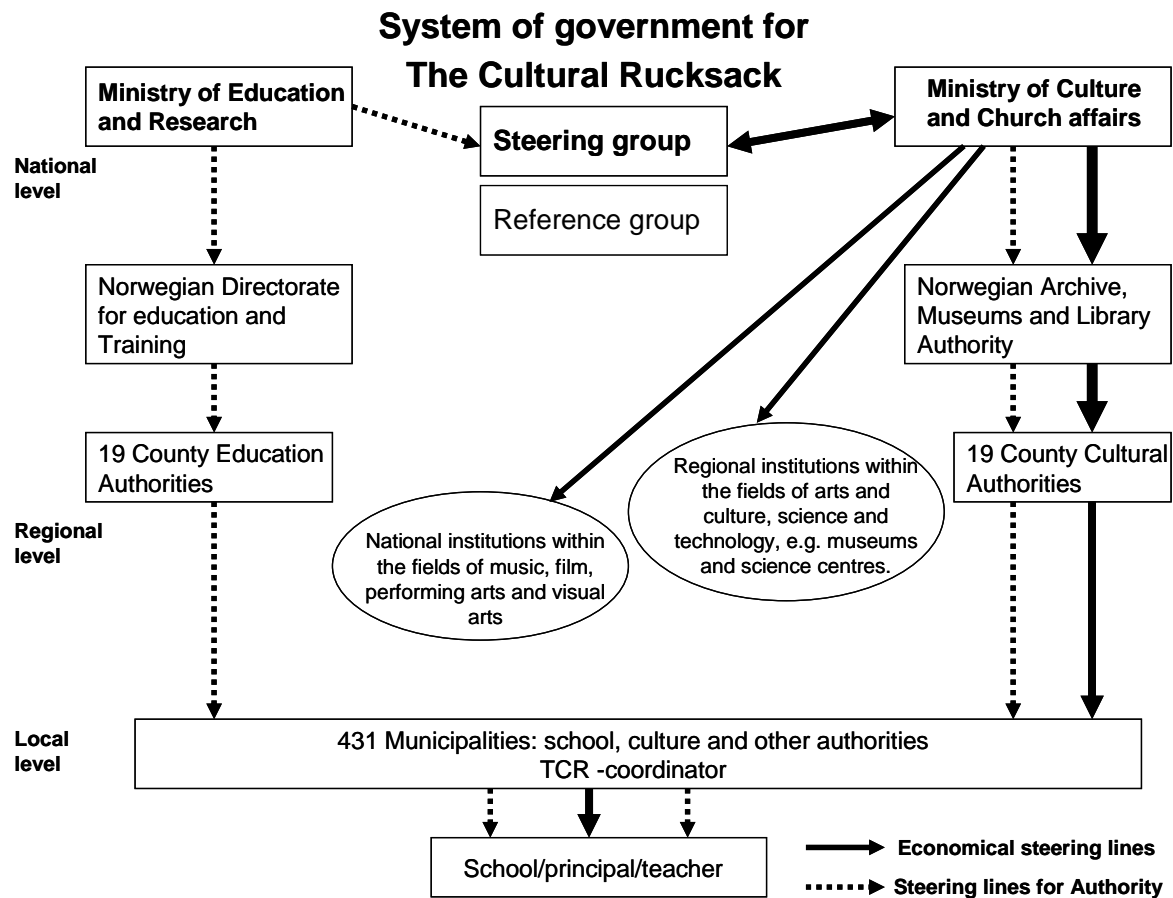
⁷ For information see <http://www.denkulturelleskolesekken.no/>

as for the funding model, which is based on the profits from Norway's state-owned gaming company (Norsk Tipping A/S) that are distributed among sports and cultural activities. The Ministry of Education and Research is responsible for the educational field and is also the arena for the Cultural Rucksack, which was made a permanent supplement to basic education in 2006.

The Cultural Rucksack organisational model is inspired by the New Public Management model and is characterised by cooperation between national, regional and local authorities, and divided into two knowledge fields. The principles are laid down in three White Papers from the Ministry of Culture and Church Affairs: Report No. 38 to the Storting (2002-2003)⁸, and one from the Ministry of Education and Research: Report No. 39 to the Storting (2002-2003). A coordinating state-level secretariat at the Norwegian Archive, Library and Museum Authority cooperates with the Norwegian Directorate for Education and Training on the implementation of the Cultural Rucksack. This partnership between the educational sector and the cultural sector is entirely new in Norway. Figure 2.1 illustrates the system of governance and main steering lines for TCR. The organisational and economic structure is crucial to communication between the two sectors.

⁸ From spring 2008 replaced by Report No. 8 to the Storting (2007-2008).

Figure 2.1 System of governance and main steering lines for TCR



Budget

The Ministry of Culture and Church Affairs allocates an overall budget of NOK 160 million (EUR 20 million) each year to the Cultural Rucksack. Twenty per cent of the funding is distributed among national institutions within music, film, the performing arts and the visual arts. The remaining 80 per cent is distributed by the 19 county authorities. The county departments of culture, which are made up of groups of theatrical, concert and other producers, tour organisers, and bureaucrats, are responsible for coordinating distribution in their regions. At least one-third of the 80 per cent of the funding is directed toward coordination and distribution of arts and cultural productions. Another third is allocated to the municipalities for activities that support local autonomy and provide room for student participation. There are no data on the funds used on architectural programmes. Figure 2.1 illustrates how the economic steering line passes through several levels before reaching pupils in the schools. The county departments of culture in each of the 19 counties may select which organisational and economic model to use vis-à-vis the municipalities in their region. The counties' tasks include supervision, putting together plans, writing reports, subscribing to arts programmes etc. The schools do not have any economic authority with regard to TCR. To cover the administrative costs of the Cultural Rucksack, all institutions at the national,

regional and local levels involved in providing arts and cultural education to schools are required to contribute funding from their own budgets.

Methods

- Compulsory or elective?

In certain regions the municipalities (the owners of local schools) are obliged to buy programme packages from the county's culture departments, while in other regions this is elective.

- Concrete programmes

Certain museums and cultural institutions offer one-to-four-hour or full-day educational programmes to schools, although these are only accessible to schools in proximity to the institutions. These programmes are open to families on weekends (e.g. the National Museum tours).

- Persons in charge of the programmes

Museum staff, architects and artists.

Evaluation/Results/Impacts

- Quantitative results

All pupils in compulsory education, grades 1-10 (approximately 620.000 pupils), should have the opportunity to participate in TCR programmes each year.

- Follow-up tools

There are no common tools. Tools are selected by the teachers and the schools.

- Assessment: criteria, measures

The different models chosen by each of the 19 county culture departments result in different programmes being offered to the schools. There are substantial differences with regard to the organisational structure as well as the expertise and professionals involved in the decision-making process relating to the content and quality of the Cultural Rucksack. There is a large variety of arts and culture offered to children in the schools, and organisation and quality content are coherent. The programmes supplied are determined by the county authorities rather than by the schools, teachers and pupils. Each municipality is required to have a TCR coordinator. This function is highly dependent on local organisation and individual competency, and may be filled by an art teacher, a primary school teacher, a librarian or another qualified person. Consequently, the arts and culture programmes are selected on the basis of different quality criteria. The schools and teachers have little control over the content and quality of TCR programmes. Figure 2.1 above illustrates the top-down communication structure of the Cultural Rucksack system. The research evaluation analysis of the documents, plans and interviews reveals three sets of TCR quality criteria:

1. **“Sender/receiver”**: the arts and culture field is seen as the “sender” and the schools as the “receiver” with regard to TCR. Advocated by key political players, bureaucrats and coordinating staff in the arts and cultural institutions at the national and regional level, as well as artists. Focus is placed on quality control.
2. **“Target group”**: related to age, gender, ethnicity etc. Advocated by artists, bureaucrats, and others in arts and cultural institutions. Focus is placed on traditional art experiences.
3. **“Understanding of the arts and culture”**: children are to meet the arts and culture both as product and process. Advocated by teachers, artists with several years’ experience of working in schools, avant-garde artists, artists espousing tradition and heritage, and some bureaucrats. Focus is placed on the importance of pupil participation.

There are no special TCR-related assessments of pupils in the formal education context.

The research evaluation of the Cultural Rucksack (Borgen & Brandt 2006) was intended to provide a foundation for future improvement. As the Cultural Rucksack was not fully implemented before 2005-2006, it will take several years before its impacts are known. Based on interviews (with pupils, teachers, principals, coordinators, artists and bureaucrats at all levels up to the ministry level), we have found that it is difficult for players in the two knowledge fields (arts and culture, and education) to agree upon the impact of TCR on school practice. As figure 2.1 illustrates, the organisational and economic structure is very complex, and children are rarely involved in the decision-making process.

We have found manifold attitudes and practices in the Cultural Rucksack programme. In general, organisation and economy are strongly connected to content and quality. TCR is permeated by ambivalence: certain players in the arts and culture field are striving to retain the values, standards and quality criteria specific to the field, while others are working together with school teachers, museums and other institutions, librarians etc. to create new forms of student-centred arts pedagogy within the TCR framework. Our research has led us to conclude (Borgen & Brandt 2006) (in brief) that:

- Reaching all children in relevant ways in their everyday life at school is a challenge.
- TCR is over-administrated and ineffective with regard to realising goals.
- There are examples of good local practices (in some municipalities and regions).
- Partnership and process dialogue between local schools and teachers, arts and cultural experts, and institutions are crucial to success.
- Shared control of funding is crucial to realising goals.

The ways in which TCR could be useful for other countries is an interesting discussion, but it is too comprehensive to enter into here. Our research has led us to believe that it may be possible to expand the methodology found in the examples of good local practices to national

scale in a long-term perspective. The most pressing problem with TCR in the Norwegian model is the disparity between means and goals. The national, top-down implementation is full of good intentions, but too little attention is paid to the bottom-up signals about what is actually working in everyday life in schools.

2.2 Cultural history museums

There are several cultural history museums in Norway that focus on cultural heritage in architecture and outdoor environments. These museums are organised under the Ministry of Culture and Church Affairs. The Norwegian Archive, Library and Museum Authority (ABM-utvikling) was established in 2003 as an advisory and executive organisation for the Ministry of Culture and Church Affairs in the specialist fields of archives, libraries and museums.

In general, there has been no tradition for private initiatives in relation to architectural education in Norway. Since the 1990s, the many local, regional and national museums have been obliged to offer general programmes for children as part of their activities to be eligible for support from the public authorities. A number of previously local and regional initiatives have been integrated into the Cultural Rucksack. Examples include the Norwegian Museum of Cultural History, and Maihaugen. There are several local and regional museums of the same kind in other parts of Norway, all of which are organised under the nationwide Museum Network. The museums offer regional educational programmes for schools and kindergartens. See for instance Perspektivet Museum (PM), a public foundation for museum activity in the City of Tromsø and surrounding area. The museum is participating in the national museum reform and has taken over collections and property from the now-closed Tromsø City Museum and Troms Folk Museum.⁹ Here we present three museums and their activities as illustrative examples of how Norwegian museums work with architectural themes in educational programmes.

2.2.1 The National Museum of Art, Architecture and Design

History in brief and development

The National Museum of Art, Architecture and Design was established in 2003, merging the Norwegian Museum of Architecture, the Museum of Decorative Arts and Design, the Museum of Contemporary Art, and the National Gallery. The Museum of Architecture was a private museum until 2003. As a result of the merger, it was reopened in a new building in February 2008.

The Art Mediation section of the National Museum is responsible for the educational programme within the fields of the visual arts, architecture, design and the decorative arts. The section features a professional staff of curators, part-time students, artists, designers and

⁹ Source: http://www.museumsnett.no/perspektivet/flash_content.html

architects and offers general and/or more specialised educational programmes to a wide-ranging public. The educational programme includes workshops and studio projects for kindergarten children as well as theory courses for students and teachers.

Structure/Framework

- *Ministry(ies) involved*

The Ministry of Culture and Church Affairs.

- *Links to public policy*

The institutional predecessor to the National Museum's touring exhibitions, Riksstillingene established in 1953, was intended to teach art appreciation through exhibitions at schools, local community houses etc. all over the country. In the 1990s, the focus shifted from the distribution of "high art" to a focus on modern/post-modern art. As part of the National Museum, the touring exhibition programme is closely linked to the museum's collections and exhibitions. A substantial number of the National Museum educational programmes address architectural themes.

- *Relationships and collaboration: institutional, financial, educational*

The National Museum and the county departments of culture are jointly responsible for funding the touring exhibition programme. The museum is responsible for teacher training, while the county authorities are responsible for organising tours to schools in cooperation with the municipalities (the school owners). Today, 12 out of 19 Norwegian counties have found these educational programmes relevant for use, often as part of the Cultural Rucksack programme, and have signed agreements with the National Museum.

Methods

- *Within or outside of the formal education context?*

Pupils visit the touring exhibitions during school hours, but the exhibitions are often located outside of the schools themselves.

- *School levels concerned: age bracket of pupils*

The programmes are offered for different age groups: grades 1-4, grades 5-7, grades 8-10 and grades 11-13.

- *Compulsory or elective?*

The use of the programmes is elective, but is also dependent on geographical and financial accessibility etc.

- *Concrete programmes: general approach (by type of knowledge, skills etc., hours devoted to this education, subject content, objectives, links to other subjects, tools used (movies, videos, drawings, discussions, games, walking tours, texts etc.)*

The concrete programmes offered are few, but very successful. These include: *Our Sacred Rooms*, presenting six different religions and developed in cooperation between the former Norwegian Museum of Architecture and the Intercultural Museum in Oslo; and *Wooden Inheritance*, presenting the history of Norwegian stave churches and developed by the National Museum. The curator for Our Sacred Rooms is Hilde Mortvedt of the National Museum.

- *Persons in charge of the programmes: professional qualifications (teachers of specific subjects, museum staff, architects, artists, members of organisations etc.), training proposed (origin, content of the curriculum etc.)*

Art historians, teachers working in museums and other museum staff.

- *Budget and financial plans*

The budget is dependent on the National Museum's budget for educational programmes and on the museum's portion of the Cultural Rucksack funding.

- *Touring organisation*

The touring organisation is based on shared responsibility between the National Museum and the county departments of culture. The National Museum has contracts with 12 counties, and an additional agreement with one regional group of municipalities. Counties in Northern Norway use their regional museums as touring partners.

The National Museum is responsible for teacher training, while the county departments of culture are responsible for organising tours to schools in cooperation with the municipalities (the school owners). The tour manager for the Cultural Rucksack in each county plans the schedule in cooperation with the National Museum staff. At the local level, the schools and the teachers may choose which programmes to participate in.

Evaluation/Results/Impacts

- *Quantitative results: How many classes and pupils have participated?*

The National Museum offers a variety of programmes on a daily basis to the public and to local schools in the Oslo area. The museum also offers touring educational programmes. In 2007, there were 15 touring exhibitions, which visited 287 places in Norway. A total of 32,536 pupils participated in the programmes related to these exhibitions.

- *Follow-up tools*

There are few tools for direct follow-up of the programmes beyond the general reports issued by the institutions and museums involved.

- *Assessment: criteria, measures*

In the formal education context, the pupils receive one overall achievement mark in arts and crafts, given in grade 10 or in the grade where the subject is completed. There is no

examination in architectural themes. The general provisions on assessment have been laid down in the regulations relating to the Norwegian Education Act.

Staff at the National Museum and the Cultural Rucksack utilise several evaluation schemes to improve their programmes, teacher training and tours. There are no common criteria beyond the competence aims in the subject curricula and the Core Curriculum.

- *Impact of this kind of education on citizen participation, sensibility to art, architectural qualities: assessment, valuation (if possible)*

No research has been carried out on the impact of architectural education in the programmes offered by the museum.

2.2.2 The Norwegian Museum of Cultural History

History in brief and development

Norsk Folkemuseum – the Norwegian Museum of Cultural History – is an open-air museum featuring 155 authentic buildings from different national regions, such as the 13th-century Gol Stave Church. The museum also encompasses Bogstad Manor and Estate, the Ibsen Museum, and the Norwegian Pharmacy Museum. Since 2004, the buildings, farmyard, cultivated fields and grazing lands of the Bygdø Royal Farm have been part of the museum grounds (see <http://www.norskfolke.museum.no/>).

Structure/Framework

- *Ministry(ies) involved*

The Ministry of Culture and Church Affairs.

- *Links to public policy, relationships and collaboration: institutional, financial, educational*

The museum is linked to the nationwide Museum Network of all the museums in Norway. Financial and educational collaboration with Oslo Municipality on educational programmes for children aged 4-18 years. Also financial and educational collaboration with the Cultural Rucksack on educational programmes for children aged 4-18 years.

Methods

- *Within or outside of the formal education context?*

The programmes are open for the public, and are designed to be part of the formal education context, and are located outside of the schools.

- *School levels concerned: age bracket of pupils*

The programmes are designed for pupils in grades 1-3, grades 4-7 and grades 8-10.

- *Compulsory or elective?*

Use of the programmes is elective. For example, the school owner Oslo Municipality has made a visit to the museum a component of the local compulsory curriculum.

- *Concrete programmes: general approach (by knowledge, skills etc.), hours devoted to this education, subject content, objectives, links to other subjects, tools used (movies, videos, drawings, discussions, games, walking tours, texts etc.)*

The programmes offer a wide range of possibilities for hands-on museum experiences. The walking tours of the outdoor exhibitions are linked to the everyday life that was led in the buildings and surroundings, and the pupils have the opportunity to experience a day in a 19th-century school, traditional farming etc.

- *Persons in charge of the programme: professional qualifications (teachers of specific subjects, museum staff, architects, artists, members of organisations etc.), training proposed (origin, content of the curriculum, etc)*

The museum staff is comprised of teachers, art historians and others.

- *Budget and financial plans*

The funding sources are the Ministry of Culture and Church Affairs, the county authority and the municipality. The museum is obliged to have educational programmes and cooperate with the Cultural Rucksack and Oslo Municipality, among others.

Evaluation/Results/Impacts

- *Quantitative results: How many classes and pupils have participated?*

The museum offers programmes for regional schools, and classes are bussed in for one-day field trips. A total of 30,000 pupils in primary and lower secondary school (ages 6-16) participated in the educational programmes in 2007.

- *Follow-up tools*

There are few tools for direct follow-up beyond the general reports issued by the schools and museum involved.

- *Assessment: criteria, measures*

In the formal education context, the pupils receive one overall achievement mark in arts and crafts, given in grade 10 or in the grade where the subject is completed. There is no examination in architectural themes. The general provisions on assessment have been laid down in the regulations relating to the Norwegian Education Act.

Staff at the museum and the Cultural Rucksack utilise several evaluation schemes to improve their programmes. There are no common tools or criteria beyond the competence aims in the subject curricula and the Core Curriculum.

- *Impact of this kind of education on citizen participation, sensibility to art, architectural qualities: assessment, valuation (if possible)*

No research has been carried out on the impact of architectural education in the programmes offered by the museum.

2.2.3 Maihaugen, Lillehammer

History in brief and development

Maihaugen is one of the largest outdoor museums in Norway, with close to 200 buildings (See <http://www.maihaugen.no/>)

Structure/Framework

- *Is it a national, regional or local initiative?*

It is a local initiative, established in 1904 at Maihaugen, Lillehammer.

- *Origin of the initiative: architects' network, association*

The collection was established in 1887 by Anders Sandvig, a regional dentist in Gudbrandsdalen Valley. He collected items that he believed to be of cultural and historical value. He also developed an interest in the architectural culture of the valley. He bought several houses, which he had moved to Lillehammer and re-erected in his own backyard. In 1901, the town council offered Mr Sandvig a piece of land to serve as a permanent site for his growing collection. The area was already named Maihaugen, and had long served as picnic grounds and a meeting place for the townspeople, for example to celebrate the 17th of May (Constitution Day) and to light traditional bonfires at Pentecost.

- *Links to public policy and/or national organisations*

It is linked to the nationwide Museum Network.

- *Relationships and collaboration: institutional, financial, educational*

The museum is partially funded by the national, regional and local authorities and also has its own resources.

Methods

- *Within or outside of the formal education context?*

Although it is a family-oriented museum, the museum has had an educational department for many years. Today the museum cooperates with the Cultural Rucksack to offer programmes to local schools.

- *School levels concerned: age bracket of pupils*

The museum offers educational programmes at all school levels, grades 1-13. The use of these programmes is elective.

- *Concrete programme: general approach (by knowledge, skills etc.), hours devoted to this education, subject content, objectives, links to other subjects, tools used (movies, videos, drawings, discussions, games, walking tours, texts etc.)*

Contemporary Homes and Buildings is a new programme in the Museum Network, based at and managed by Maihaugen. The idea behind the programme is to develop new knowledge about how we live and which expectations we have with regard to housing in the 21st century, and to relate this to traditional living. Bjerkebæk, the home of author Sigrid Undset, and Aulestad, the home of author Bjørnstjerne Bjørnson and his wife Karoline, are original estates and mansions preserved as they were at the time these authors lived in the region.

- *Persons in charge of the programme: professional qualifications (teachers of specific subjects, museum staff, architects, artists, members of organisations etc.)*

The museum staff is comprised of teachers, art historians, archaeologists and others.

- *Budget and financial plans*

The educational programmes are funded via agreements with the school owners in the region (Lillehammer Municipality and other municipalities), the Cultural Rucksack and the schools, and by the museum itself with regard to the development of family-oriented programmes.

Evaluation/Results/Impacts

- *Quantitative results: How many classes and pupils have participated?*

The programme is available to regional schools, and classes are bussed in for one-day field trips. The numbers of pupils who have participated have not been accessible for this report.

- *Follow-up tools*

There are few tools for direct follow-up beyond the general reports issued by the schools and museum involved.

- *Assessment: criteria, measures. Impact of this kind of education on citizen participation, sensibility to art, architectural qualities: assessment, valuation (if possible)*

In the formal education context, the pupils receive one overall achievement mark in arts and crafts, given in grade 10 or in the grade where the subject is completed. There is no examination in architectural themes. The general provisions on assessment have been laid down in the regulations relating to the Norwegian Education Act.

The staff at the museum and the Cultural Rucksack utilise several evaluation schemes to improve their programmes. There are no common tools or criteria beyond the competence aims in the subject curricula and the Core Curriculum.

2.3 Other national, regional and local public initiatives

Some local, regional and national small-scale initiatives relating to architectural education in Norway have been in place since the early 1990s. Many of these have now been integrated into the Cultural Rucksack.

2.3.1 Norsk Form

History in brief and development

Norsk Form was established in 1992 as an information and project-based institution that serves as an arena for interdisciplinary studies, innovation, debate and network-building in the fields of design, architecture and urban planning. Since its establishment, the staff has grown from 10 to 25 employees (see <http://www.norskform.no/>). By means of exhibitions, publications, conferences, evening meetings, study tours, award ceremonies, competitions, networks, workshops for children and adolescents, as well as through media initiatives and projects, Norsk Form draws attention to and improves understanding of the importance of design and architecture. Norsk Form is responsible for the Villa Stenersen building, as well as for administration of the Norwegian Ministry of Foreign Affairs' grant scheme for design and architecture. Norsk Form's target group comprises professionals, authorities, schools and educational institutions, industry and the general public.

Structure/Framework

- *Origin of the initiative*

Norsk Form was established at the initiative of the Norwegian Ministry of Culture in December 1992.

- *Links to public policy and/or national organisations*

Norsk Form is a foundation governed by an executive board. The Norwegian Ministry of Culture and Church Affairs appoints three of the six board members, while the remaining three board members are elected by the Norwegian Association of Local and Regional Authorities, the Professional Advisory Board – Architectural Education, and the Professional Advisory Board – Education in Industrial Design.

- *Relationships and collaboration*

Norsk Form has no administrative responsibility for state activities, but is involved in a wide range of projects in cooperation with both the public sector and private interests.

Methods

- *Within or outside of the formal education context?*

Norsk Form is situated outside of the formal education context, but schools have the opportunity to visit the FORMlab.

- *School levels concerned/age bracket of pupils*

The programmes are designed for pupils aged 10 and up, and are accessible to local schools in the Oslo area.

- *Concrete programme*

FORMlab is an educational programme for children and adolescents – a meeting place for learning and innovation. FORMlab is intended to pave the way for innovative learning in architecture and design by providing practical, hands-on experience, both in physical and digital terms. New educational programmes are being developed, tested and adapted for distribution to schools throughout Norway. Innovative ideas are often created in the juxtaposition between different subjects and methodologies – FORMlab has therefore a variety of partners and target groups: school pupils, teachers, students, industry, professional environments, educational institutions within the fields of architecture, design and education, research environments, and sponsors. FORMlab has access to a 70 sq. m. workshop with a six-metre high ceiling and two workrooms with a total floor space of 55 sq. m. FORMlab's premises, materials, workshop equipment and digital tools provide the facilities for workshops involving up to 60 people.

A new project on living and outdoor environments for children was established in 2008, with the aim of discussing and developing quality criteria for children in outdoor urban spaces. In cooperation with several municipalities and other partners, Norsk Form has developed a method of registering children's accessibility to outdoor local environments (Barnetråkk – barns tilgjengelige utareal, Norwegian only).

- *Persons in charge*

Norsk Form has an educational staff of two persons, a teacher and an architect.

- *Budget and financial plans*

Norsk Form receives both public and private funding, and has a budget of approximately EUR 35,000 for educational programmes.

Evaluation/Results/Impacts

- *Quantitative results: How many classes and pupils have participated?*

Eighty-three school groups (1,800 pupils aged 10 and up) visited Norsk Form in 2006 in the context of the Cultural Rucksack (see www.norskform.no). Eighty-nine teachers took part in half-day courses on architecture. Architect students visit Norsk Form for courses and exhibitions.

- *Assessment: criteria, measures*

There are no assessments.

2.3.2 School prizes

History in brief and development

School buildings and the school environment are seen as tools for achieving learning goals. In 1997, the Ministry of Education established a prize for school buildings, in collaboration with the Norwegian Association of Local and Regional Authorities (KS), the National Association of Norwegian Architects, and Norsk Form. The prize was discontinued in 2005.

In 2004, a national consultative body for school owners that are building new schools established a prize for outdoor areas at schools (constructions and playgrounds). The prize was discontinued in 2005. In 2006, Queen Sonja's School Award was created, replacing the previous prizes. This new prize is awarded to a school that has demonstrated excellence in its efforts to promote inclusion and equality. In 2007, Queen Sonja's School Award was given to Apeltun School "for providing education tailored to the individual in an inclusive environment." The school building features an open landscape and the school integrates multihandicapped pupils.

Culture is an overall theme that informs the way the school is organised. Apeltun School is home to a school choir, engages pupils in philosophical discussion and incorporates music into everyday activities. Pupils have an assembly each morning, and pupils and teachers eat lunch together in the open lunch area.

2.3.3 Programme for "universal" school environments

The Norwegian Association of the Disabled, the Delta Centre and the Norwegian State Housing Bank (Husbanken) put together information about universally accessible school environments. A website offers information about universal design and architecture for improved accessibility to public buildings and outdoor environments.¹⁰

¹⁰ See: <http://www.helsedirektoratet.no/deltasenteret>

3 Norwegian model

The following criteria have been extracted from national public policies, the National Curriculum and private initiatives in Norway.

Table 3.1 Criteria for architectural education

	Age 7 to 13 years	Age 13 to 18
Space (the body in the space)	5	5
Environment/Nature	5	5
Housing	10	15
Skill/technology	40	35
Living together/citizenship	5	5
Aesthetics/art	35	35
Total	100 %	100 %

The subject curriculum and syllabuses on architecture in Norwegian primary and secondary education has a major focus on skills, technology, aesthetics and art, particularly on the ability to draw and construct models of houses etc. There appears to be greater emphasis on architecture as an historical and aesthetic artefact than on the role of architecture in the development of integrated environments, ethics and social sustainability. There is little emphasis on space, the environment/nature and living together/citizenship in the competence aims stipulated in the new National Curriculum resulting from the Knowledge Promotion Reform (K06). The development of receptivity to architecture among young people within Norwegian schools and in the context of education in general is strongly related to the professional field of architecture, with weak ties to general themes in society.

Cultural heritage museums connect architecture with everyday living during the eras when most of the Norwegian population earned their living in the primary industries. The National Museum of Art, Architecture and Design on the other hand, highlight architecture as a cultural sign in its various educational programmes.

Teachers' architecture-related competence varies and is to a great degree dependent on individual involvement and interest. Until recently, few evaluations of architectural education in Norwegian schools have been available. Due to the informal subject assessment in the Arts and Crafts subject, there is little knowledge about the content and quality of architectural education. The research evaluation of the Arts and Crafts subject after the implementation of Reform 97 has directed attention toward the problem of teachers and pupils achieving a common understanding of the aims and means of this subject (Kjosavik 2003). The evaluation describes the assessment criteria for the Arts and Crafts subject as very abstract and general, and difficult to understand and specify in the educational context. It is likely that this is also true for architectural education.

There is little emphasis on architecture in the main national arts and cultural programme, the Cultural Rucksack, which is intended to support schools and teachers in the arts subjects. Very few professional organisations of architects – beyond the above-mentioned institutions – are involved in educational programmes. Such participation appears to be more common in some of the other European countries in this comparative study.

The motivation for architectural and built environment education in Norway may be found in the political visions accompanying the growth of the public school system and the development of the Nordic model of education during the first few decades after WWII. Recommendations given in Government White Papers and reforms of the National Curriculum have given the arts and culture a more central role in education during the past 50 years. Children and young people are now seen as competent participants and users of school buildings and surroundings. The practice of architecture in the school context has evolved from “seeing” to “doing”, and from two-dimensional to three-dimensional experiences, thus with strong emphasis on skills and technology, and aesthetics and art.

The role of architectural education in developing the receptivity to architecture among young people seems to be highlighted in the building of new schools throughout the country. The nationwide school prizes have during the last ten years shifted from a focus on the quality of the buildings to a focus on outdoor areas. With the Queen Sonja’s School Award, the focus has shifted to an emphasis on the quality of architectural surroundings for inclusion. The Nordic model of education is reflected in this prize, emphasising the living together and citizenship in an egalitarian and sustainable society.

Thus it is a paradox that the subject curriculum and syllabuses on architecture in Norwegian primary and secondary education are strongly related to the professional field of architecture, with weak ties to general themes in society.

Developing the receptivity of young people to architecture seems to be dependent on the development of new cooperation structures and practices for complementary architectural (and arts and cultural) education. The evaluation of the Cultural Rucksack has revealed that success of collaboration and partnership between the education field and the arts and culture field in Norway seems to be a challenge (Borgen & Brandt 2006, 2008, Borgen 2008). Bottom-up initiatives and financial responsibility may be important measures in this context. There is a need for further research evaluations in the field of arts and cultural education in and in relation to Norwegian schools.

References

Borgen, Jorunn Spord (2008): Extraordinary or inevitable? Evaluating the Cultural Rucksack (TCR), a new arts and cultural programme in primary and lower secondary schools in Norway. Centre Pompidou: *Research Symposium: Evaluating the Impact of Arts and Cultural Education. A European and International Research Symposium 10-27 January 2007, Centre Pompidou, Paris*. Paris, Centre Pompidou. Internet publication: <http://www.centrepompidou.fr/Pompidou/Pedagogie.nsf/0/D9E5FC50EAF95536C12570D7004A1A24?OpenDocument&L=2>

Borgen, Jorunn Spord & Brandt, Synnøve S. (2008). Det ”urørlige” i kulturpolitikkforskningen: om den kulturelle skolesekken og realiseringen i opplæringen. (The untouchable in cultural policy research: on The Cultural Rucksack and the implementation in school, Norwegian only). *Nordisk kulturpolitisk tidsskrift*, 11(1), 70-107. (Nordic Journal of Cultural Policy Research).

Borgen, Jorunn Spord & Synnøve Skjersli Brandt (2006): *Ekstraordinært eller selvfølgelig? Evaluering av Den kulturelle skolesekken i grunnskolen*. (“Extraordinary or inevitable? Evaluating the Cultural Rucksack in primary and lower secondary schools”, Norwegian only). Oslo: NIFU STEP Report no. 5/2006.

Couralet, Grandguillot & Nys (2008). *La sensibilisation du jeune public a l'architecture : Etude comparative dans six pays europeens*. Published by the French Ministry of Culture and Communication at: <http://www.culture.gouv.fr/nav/index-dt.html>

Kjosavik, Steinar; Koch, Randi-Helene, Skjeggstad, Edith, Aakre, Bjørn Magne (2003): *Kunst og håndverk i L97: nytt fag - ny praksis?* (“Arts and Crafts Subject in Reform 97: New Subject – New Practice?”, Norwegian only). Telemarksforsking Notodden.

Improving School Leadership – OECD 2007. Norwegian Background Report 12. Chapter 2: The Norwegian school system. Read 11.12.07 on: http://udir.no/upload/Rapporter/300307_%20IMPROVING_SCHOOL_LEADERS.pdf

White Papers to the Storting:

Report No. 38 to the Storting (2002-2003) from the Ministry of Culture and Church Affairs.

Report No. 39 to the Storting (2002-2003) from the Ministry of Education and Research.

Report No. 8 to the Storting (2007-2008) from the Ministry of Culture and Church Affairs.

Appendix 1: Bibliography on architecture

There is little Norwegian literature on architecture for primary and secondary education. This may be due in part to the fact that the curriculum emphasises practical experience in the subjects where architecture is included.

Architecture in primary and lower secondary education

Berg, Øivind, Per Farstad, Kari Bjørka Hodneland, Kirsten Røvig Håberg, Liv Merete Nielsen, Kristin Aasgaard (2007): *Kom inn! Kom ut! Kunst og håndverk for 5. klasse* (“Get in! Get out! Arts and Crafts for the Fifth Grade”, Norwegian only). Oslo: Tell Forlag.

Architecture in upper secondary education

Brochmann, Odd (1986): *Arkitektur – hva er det?* (“Architecture – what is that?”, Norwegian only). Oslo: Gyldendal Norsk Forlag. 79 pages.

Sandberg, Ole (1997): *Arkitektur og omgivelser* (“Architecture and environments”, Norwegian only). Oslo: Gyldendal Norsk Forlag. 155 pages.

Løvstad, Ådne & Linda Strømme (2006): *Design og arkitektur 1 – Studiespesialiserende utdanningsprogram med formgivning. Hvorfor ser ting ut som de gjør?* (“Design and Architecture 1 – Programme for Specialisation in General Education. Why do things look like they do?”, Norwegian only). Oslo: Gyldendal Norsk Forlag. 120 pages.

Løvstad, Ådne & Linda Strømme (2007): *Design og arkitektur 2 – Studiespesialiserende utdanningsprogram med formgivning. Hvorfor ser ting ut som de gjør?* (“Design and Architecture 2 – Programme for Specialisation in General Education. Why do things look like they do?”, Norwegian only). Oslo: Gyldendal Norsk Forlag. 128 pages.

Nybø, Kolbjørn Nesje & Thomas Thiis-Evensen (1995): *Europas arkitekturhistorie fra ide til form*. Lærebok til valgfaget Arkitektur og omgivelser på videregående skole. (“European architecture history from idea to form”. Architecture textbook for the Programme for Specialisation in General Education, Norwegian only). Oslo: Gyldendal Norsk Forlag. 173 pages.

Vold, Thurid (2006): *Kunst og formkultur 1 – Studiespesialiserende utdanningsprogram med formgivning. Å forstå omgivelsene i en historisk sammenheng*. (“Art and Design Culture 1 – Programme for Specialisation in General Education. Understanding Environments in an Historical Perspective”, Norwegian only). Oslo: Gyldendal Norsk Forlag. 176 pages.

Håberg, Kirsten Røvig (2007): *Kunst og formkultur 2 – Studiespesialiserende utdanningsprogram med formgivning. Å forstå omgivelsene i en historisk sammenheng*. (“Art

and Design Culture 1 – Programme for Specialisation in General Education. Understanding Environments in an Historical Perspective”, Norwegian only). Oslo: Gyldendal Norsk Forlag. 208 pages.

Architecture as part of extra-curriculum activities: The Cultural Rucksack

Borgen, Jorunn Spord (2008): *Extraordinary or inevitable? Evaluating the Cultural Rucksack (TCR), a new arts and cultural programme in primary and lower secondary schools in Norway*. Centre Pompidou, Paris, Research Symposium: Evaluating the Impact of Arts and Cultural Education. A European and International Research Symposium 10-27 January 2007, Centre Pompidou, Paris. Internet publication:

<http://www.centrepompidou.fr/Pompidou/Pedagogie.nsf/0/D9E5FC50EAF95536C12570D7004A1A24?OpenDocument&L=2>

Borgen, Jorunn Spord & Synnøve Skjersli Brandt (2006): *Ekstraordinært eller selvfølgelig? Evaluering av Den kulturelle skolesekken i grunnskolen*. (“Extraordinary or inevitable? Evaluating the Cultural Rucksack in primary and lower secondary schools”, Norwegian only). Oslo: NIFU STEP Report no. 5/2006.

Arkitektur i skolesekken – et pilotprosjekt i Sandefjord kommune 2004-2006. (“Architecture in the Cultural Rucksack – a pilot project in Sandefjord Municipality 2004-2006”, Norwegian only). Internet publication:

http://www.placelearning.org/UserFiles/File/1.0_Rapport_AiS_dell1.pdf

Architecture in common core subjects

Architecture in the common core subject Religion and Ethics:

Aas, Per Anders (2007). *Humanisme via arkitektur* (“Humanism via Architecture”, Norwegian only). <http://www.krlnett.no/art/index.php?vis=55>

Jørgensen, Eva Celine, Svein Briså, Rolf Ingebrigtsen (2007): *Teknologi og designboka* (“The Technology and Design Book”, Norwegian only). Oslo: Damm Forlag.

School buildings and school environment

In Norway, school buildings and the school environment are considered to be important tools for achieving learning goals in primary and secondary education. Research projects on this topic include:

Cold, Birgit, Arnulf Kolstad, Karin Buvik, Hansjörg Hohn, Aase Eriksen (2002): *Skolemiljø – fire fortellinger* (“School – four stories”, Norwegian only). Trondheim: Kommuneforlaget.

<http://www.forskning.no/Artikler/2002/desember/1039092029.37>

Moser, Thomas (2007): *Rommet er en tekst – og kroppen er med på å lese* (“The room is the text – and the body is reading”, Norwegian only).

<http://www.forskning.no/Artikler/2007/november/1194001753.87>

Hodneland, Kari Bjørka (2007): *Room for Children's Participation? Reflections on Communicative Practice in an Educational Context*. PhD thesis at the Oslo School of Architecture and Design (AHO). <http://www.aho.no/>

Arts and Crafts Subject Curriculum Evaluations

Kjosavik, Steinar; Randi-Helene Koch, Edith Skjeggestad, Bjørn Magne Aakre (2003): *Kunst og håndverk i L97: nytt fag - ny praksis?* (“Arts and Crafts Subject in Reform 97: New Subject – New Practice?”), Norwegian only). Telemarksforskning Notodden.

Appendix 2: Architectural Education for Young People in Europe. Schedule for the Work in each European Country.