Marit Egge

Innovation in Education – What Works?

Improving student motivation for lifelong learning

Fafo

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Contents

Preface

This report has been prepared in conjunction with the OECD study "What Works in Innovation in Education". OECD has carried out six previous "what works" studies, each on a particular subject of interest to a broad OECD-wide audience of educational policy-makers, practitioners and the general public. The main focus in this "what works" study is motivation for lifelong learning.

The initiative to participate in the study was taken by the Ministry of Education, Research and Church Affairs, Department of Upper Secondary Education.

The Ministry asked Fafo, Institute for Applied Social Sciences, to identify relevant projects initiated in relation to motivation for lifelong learning. All in all fifteen projects were examined, and they all form part of this report. However, three projects were given special attention. The three projects were later subject to a visit by the OECD representative Michael Williams, and they will form the basis for the Norwegian contribution to the report published as an OECD book around spring 2000.

Part A and B of the Norwegian contribution has been worked out by Adviser Erik Sandvik at the Department of Upper Secondary Education, and is entitled; *The National Context. Relevant Aspects of the National Educational System and Policy Directions, which may have Impact on Motivation for Life Long Learning.* Part C and D stems from the study undertaken as a result of the Norwegian participation in the study of motivation for life long learning, and is entitled; *Relevant Literature and Specific National findings. Selected Cases.*

Oslo, June 1999

Marit Egge

A The National Context

Population, demography and geography

Norway is an independent constitutional monarchy with a population of 4.39 million, 3.6 per cent of whom are of foreign descent.

Norway covers an area of approx. 387,000 km² and has a population density of 11.4 individuals per km², the lowest of any OECD country. Many people live in sparsely populated areas, although 74 per cent of the population lives in towns or built-up areas. The main areas of concentration are in central eastern Norway with Oslo as the focal point, the southern and western coastal regions with Kristiansand, Stavanger and Bergen as major cities, and further north in the areas around Trondheim and Tromsø. The demographic profile favours a decentralised structure of government.

Economy

In 1997, Norway gross domestic product (GDP) was NOK 1 084 788 mill, corresponding to NOK 246 277 per person. The most important export products are petroleum, including natural gas, foodstuffs, including fish and fish products, paper and wood-related products and metals.

It will be particularly important for mainland industries to have good general conditions after the turn of the century due to the imminent decline in petroleum activities. To restrict the use of oil revenues domestically and to create a buffer for public finances, the government has set up a Petroleum Fund to accumulate financial assets that will permit the country to make a smooth transition to the new situation.

Since 1989, inflation has been low in Norway compared with the country's most important trading partners. Consumer price inflation was 2.5 per cent in 1997. Wages have increased by an average of 3.5 to 4.5 per cent annually in recent years.

The unemployment rate is low, and there is constant flux in the labour market, with a large number of jobs being created and eliminated every year. The tendency is for jobs to call for increasingly more education and training, core skills and competencies will also be needed. The unemployment rate is low for young people. There has been a strong decline in youth unemployment from 1993 to today because of the overall upswing in business, specific labour market schemes for young people and the fact that more 16- to 19-year-olds have been given a statutory right to upper secondary education.

Norwegian education in general

The 435 municipalities are responsible for the running of the more than 3000 primary and lower secondary schools, while the 19 county municipalities are responsible for the 535 upper secondary schools.

A total of 487,398 pupils (1996/97) are in the compulsory education system. About 74 per cent of the pupils in this sector attend schools with between 100 and 400 pupils.

There are 178,000 students in upper secondary schools, averaging out to about 330 students per school. Students are divided more or less equally between general areas of study and areas of vocational training.

The Norwegian government and the Storting (The Norwegian Parliament) decide on educational objectives and establish the framework for Norwegian education. The Ministry of Education, Research and Church Affairs is responsible for administering the educational system and for implementing national educational policy. Each county has a National Education Office – 18 in all – to perform central government functions at the regional level. A National Centre for Educational Resources has been established for the purpose of developing educational material and providing information and other services to users in the education system. Considerable responsibility and decision-making powers have been devolved from central to local government.

(More details are available in the document entitled *The Transition from Initial Education to Working Life*, Oslo, Sep 97, Royal Ministry of Education, Research and Church Affairs, http://www.oecd.org/copy.htm/)

Courses provided at publicly-maintained upper secondary schools or training establishments are free of charge. The county authorities require that students and apprentices buy the textbooks and equipment normally needed for the courses they take. The county authorities may also require students to contribute to the cost of copying such teaching materials.

Education policy reforms

Reform 94, Network-Norway and Reform 97

Comprehensive reforms in structure and content have been implemented at all levels of the Norwegian education system. In addition to increasing the range of options available and improving the quality, these reforms are intended to create a more integrated, better co-ordinated system. In 1994, all young people between the ages of 16 and 19 were granted the right to three years of upper secondary education under the auspices of Reform 94. Upper secondary education usually provides vocational skills or qualifies students for college or university studies.

A nation-wide network (Network-Norway) has been established to link the various institutions of higher education. Compulsory education for six-year-olds (previously from the age of 7) was introduced in 1997. At the same time, the primary and lower secondary school system was increased by one year to ten years by virtue of Reform 97. The Core Curriculum for primary and lower secondary school, upper secondary school and adult education was implemented from 1993.

The Competence Reform

Presented to the Storting in May 1998, the Competence Reform may be regarded as an incentive programme for lifelong learning. The reform is based on the need for competence at the workplace, in society and for the individual. Embracing all adults in and outside the labour market, the reform will have a broad, long-term perspective. It will be implemented as a process in which employers, employees and the government will all be called upon to make active contributions. The target group for the reform includes all members of the work force and people who, for various reasons, are outside it. Documentation schemes are to be developed to facilitate assessment in relation to the public education system. Non-formal learning will be approved as equivalent competence, even if it is not identical to what is laid down in study programmes and required for public examinations.

It will be vital for further human resources development to establish a system to document and recognise adults' non-formal qualifications. This system must have legitimacy in respect of both the workplace and the educational system. In all subjects where it is practicable, individuals must be allowed to sit for examinations as an external candidate in order to document the same qualifications as ordinary apprentices or students. Adults with approved vocational experience (5 years of relevant experience) who wish to document knowledge and skills acquired by means other than through formal training, may register for a craft or journeyman's examination.

B Relevant aspects of Norway's national education system and policy directions which could have impact on motivation for lifelong learning

In this section of the background paper on Norway's national education policy, regulations and provisions issued by the Norwegian Storting and by the Ministry of Education, Research and Church Affairs are included. Several measures implemented by various bodies that determine Norwegian education policy are also mentioned, since they are considered to have impact on motivation for lifelong learning.

The structure of the upper secondary school

Reform 94 is structural in the sense that it offers a totally new combination of courses and subjects, and in that it merged general and vocational training. The first year is a foundation course. There are 13 foundation courses altogether. One foundation course represents one area of study.

Three areas of study focus on preparing students for college or university studies, while ten are vocational, leading to qualifications from vocational areas of study taken in school, or to a craft or journeyman's certificate. The basic structure for vocational training is two years of theoretical and practical training at school, followed by two years of training and productive work in an enterprise. Specialisation within the various areas of study takes place at the level of advanced course I, and the final specialisation takes place in advanced course II, meaning primarily at the work place for the vocational areas of study.

The statutory right to education

Young people who have completed the primary and lower secondary school or the equivalent are entitled to three years' full-time upper secondary education. The right must normally be fully claimed within four years of completing primary and lower secondary school, or within five years when training is wholly or partly provided at a training establishment. In response to an application, the county authorities may permit the student or apprentice to postpone or interrupt his or her training without this resulting in loss of the right. Students who, pursuant to provisions laid down by the Ministry have the right to special education, shall insofar as possible be granted an additional two years of upper secondary education when this is deemed necessary after expert assessment. Upon application, applicants are entitled to admission to one of the three one-year foundation courses and to two additional years of upper secondary education based on the foundation course.

The national curricula

Study programmes
The upper secondary curriculum consists of a Core Curriculum which states the overall objectives for primary, secondary and adult education and study programmes which state the objectives and learning targets for all subjects and courses within each individual area of study. Core skills and competencies are integrated into the different study programmes, where they are to be taught and acquired in relation to other skills or knowledge, i.e. put into context.

The Core Curriculum
One prime incentive for lifelong learning stems from the contents of the Core Curriculum. According to it, the school or the enterprise has a duty to support the students in their personal development, and to assist them in their quest for knowledge, qualifications and understanding within different areas. The Core Ccurriculum organises the objectives for students within a framework of six different "types of human beings", creating an ordered whole and thus constituting the so called Integrated Human Being. Broad competencies are necessary to create an Integrated Human Being. A study of the "make-up" of these six human beings resulted in the identification of "settings for motivation creation" for which the school as a learning organisation is responsible in an effort to enable students to reach their collective objectives.

The six "types of human beings" are: The Spiritual Human Being, The Creative Human Being, The Working Human Being, The Liberally Educated Human Being, The Social Human Being and The Environmentally Aware Human Being.

The Creative Human Being – as a student – should be taught to develop creative abilities and a critical sense, to learn to find solutions to problems, to practice scientific thinking and methods, to learn the ability to wonder, to pose new questions, to invent possible explanations and to test potential explanations. This is believed to engender the motivation for lifelong learning.

Modules
The study programmes are divided into modules. Modules may consist of one subject or part of a subject. The division into modules is a means of accommodating certain students' need to link different sections of their education in order to gain recognised qualifications. This may apply to adults, labour market education, individual students or groups of students who, for various reasons, are not able to follow a full course of training. The division into modules makes it easier for schools to relate their courses to the needs of industry.

Project work

The various study programmes list objectives and learning targets which express the different qualifications students should aspire to acquire. Specific teaching methods are not specified, with one exception: the Ministry has decreed that all upper secondary school students must take part in at least one project work each year. If students perform more than one project, one must be cross-disciplinary. A "Project Work" guide has been published.

Through an individual or group-based process of task-definition, information gathering, data selection and analysis, resulting in an oral or written presentation, students apply the principles of active learning, extending them beyond the classroom. This method develops important skills, such as co-operation, creativity and analytical thinking. Successful project work gives students a sense of achievement, and provides them with a tool for lifelong learning.

The majority of students and teachers considers project work a useful approach to accomplishing learning as envisaged in the Core Curriculum. The method is seen as having the potential to bring about new constellations in traditional teacher-student relations, particularly when informal assessment replaces traditional mark-based assessment.

Student participation

With Reform 94, the Storting assumed that students would take part in the planning and implementation of the teaching, both with regard to the choice of working material, teaching methods and forms of assessment. Experience so far shows that schools have reached different levels when it comes to changing roles and ways of educational organisation. However, research on Reform 94 shows that where teachers and students have worked together actively, other aspects of the teaching/learning environment have developed in a positive direction.

ICT

The Reform 94 study programmes require the use of information and communications technology (ICT). Since 1994, schools have been under obligation to provide the requisite equipment within a period of five years. As a result of the study programmes' emphasis on the use of ICT, schools are now well equipped, averaging a ratio of five students per PC. By issuing "ICT in Norwegian Education – Plan for Action for 1996–99", the Ministry wished to underline the importance of paying extensive, systematic attention to information technology in Norway's education sector. The Ministry has supported several school based projects and initiated projects to promote the use of the Internet in schools. Reports show that the use of ICT reinforces students' motivation for learning both in the short- and long-term perspective.

The School Network, a national meeting-place for schools on the Internet, is gaining increasing popularity, with the number of users rising by 60 per cent from 1997 to 1998.

Follow-up service
One of the key initiatives brought about by Reform 94 was the establishment of a follow-up service for school leavers/drop-outs (around three per cent of the cohort drop out in the first 12 months of upper secondary education). Co-ordinated and managed at the county level, the service is primarily aimed at reintegrating early leavers back into the school system, and to do so their period of statutory entitlement, so that they will be able to earn an upper secondary qualification. The service operates through a network of co-ordinators who in turn work with local counsellors or mentors who are the principal point of contact with the young people. The service contacts all those who are entitled to upper-secondary education but fail to apply, as well as the school leavers.

The service works closely with the school counsellor service and the school psychological service, which, among their other tasks, try to prevent drop-outs. The service also co-operates with the Public Employment Service and with health, welfare and other community services. Each young person who accepts the offer of assistance is assigned a personal counsellor, and is required to develop a personal action plan which is regularly reviewed. The assistance is not standardised. On the contrary, it is closely tailored to individual needs. In addition to personal advice, counselling and access to community services, young people can be offered trainee positions in firms, subsidised employment, education and training opportunities, or combinations of any/all of these.

During the 1998–99 school year, about 7.0 per cent of those with a statutory right to attend upper secondary school were eligible for assistance from the follow-up service. Of them, 0.4 per cent refused assistance and no contact could be made with about 0.5 per cent.

Initial evaluations of the follow-up service have been positive, with drop-out rates falling and very high proportions of those contacted by the service found to be engaged in positive activities. Some school attendance combined with a trainee position in a firm, offering subsidised employment and on the job training, has proven to be the most successful approach in re-motivating and reinserting drop-outs

Qualifications

Certificates
The Norwegian qualifications system offers a variety of certificates for those who have earned qualifications in one way or another. Such qualifications certificates are in themselves regarded as incentives for lifelong learning.

Completed upper secondary school qualifies students for an Upper Secondary Leaving Certificate, such as:

A: A craft or journeyman's certificate

These certificates indicate competence in apprenticeship trades and are issued on the basis of a passing mark on a craft or journeyman's examination. Apprentices and students who

have followed instruction in subjects governed by the Act related to Vocational Training may take a craft or journeyman's test. The training takes place at a school and/or a workplace.

B: Other vocational qualifications:
In vocational subjects not governed by the Act related to Vocational Training, training takes place in the school. The level achieved is shown by a certificate issued by the school authorities when the student earns a passing mark on the examination.

C: Higher education qualifications:
The qualifications needed for higher education consist of two components:

a: completed 3 years of upper secondary education, irrespective of area of study;
b: the following minimum level of achievement in these subjects: Norwegian, English, Social Studies, Recent History, Mathematics and Natural Sciences.

These qualifications may be obtained by completing three years of upper secondary education in the following areas of study: General and Business Studies, or Music, Drama and Dance Studies, or Sports and Physical Education, or the Management of Natural Resources (advanced course II) or Drawing, Design and Colour (advanced course II).

D: Advanced supplemental course qualifications:
It is possible to choose a special advanced course II with general subjects after two years of vocational training, or after having earned the craft or journeyman's certificate. The course is called the Advanced Course II – General Subjects Supplement. To receive a certificate, students must follow instruction in the following subjects and pass the appropriate examinations: Norwegian, Mathematics, Natural Sciences, English, Recent History, in addition to advanced course subjects from the Area of General and Business Studies for those who do not have any craft or journeyman's certificate.

E: Documented partial qualifications:
This is also part of the Norwegian qualifications system and can be seen as an incentive for more learning. Prior to Reform 94, many students did not meet the requirements for certificates. With the implementation of Reform 94, students have been granted a statutory right to earn documented partial qualifications. This means that students can aim at completing only parts of upper secondary education and training, and still have their qualifications documented at the end of the education. Based on this documentation, the students can continue their education at a later date, with the objective of obtaining full university admission qualifications or vocational skills. By studying and passing examinations in areas of education they have not previously completed, students can earn certificates.

Assessment
In 1995, a regulation was laid down on assessment in general and vocational education. The regulation stipulates, among other things, a student's right to individual, non-graded

assessment. The intention was to motivate students for further and possibly lifelong learning by giving them continuous feedback on their work. This form of assessment is seen as a tool for students to monitor their own progress without interruption by potentially de-motivating factors such as a grade scale. Moreover, it enables students and teachers, ideally as peers, to discuss the learning process in a broader perspective. Research based on reports from schools that have successfully practised this assessment method, indicates that students are motivated by a dialogue-based feedback.

Support and guidance

The Guide
As part of the implementation of Reform 94 programmes, a series of subject-related, cross-disciplinary and general guides has been published. In the perspective of this report, perhaps the most interesting and innovative attempt at guidance is the general guide, which is quite simply called "The Guide". "The Guide" is a 50-page, attractively illustrated booklet addressed directly at students. There are two editions, one for students taking general education courses and a parallel edition for apprentices taking vocational courses. The focus is on active students, as well as on those who not only assume responsibility for their own learning in the classroom or workshop, but also play a role in the school's democratic processes. The intention is to provide a tool for planning throughout the school year and support student-teacher dialogue.

"The Guide" presents the contents of the Core Curriculum, discussing in some detail key issues such as motivation, planning and responsibility in relation to the learning process. Furthermore, it encourages students to analyse and integrate the Core Curriculum's broader concept of knowledge into course- and subject-related contexts. Students are invited to discuss the principles behind the objectives -based study programmes, and to suggest ways of developing broad-based qualifications in theoretical as well as vocational areas of study.

The overall objective of "The Guide" is to empower students by raising their awareness of the responsibilities and possibilities inherent in their role as active learners. Research into the effects of Reform 94 points to the fact that a long-term perspective is required to successfully introduce a shift in the teaching paradigm. In future, the main challenge will be to challenge students by giving them tasks whose focus is as much on the learning process as on the end product.

Training logs
In this connection, a project of a somewhat different nature might be worth mentioning. Training logs have been introduced into vocational studies at schools as well as enterprises. The training logs list the learning targets and objectives of the relevant study programmes and record individual student progress. The logs encourage a more systematic approach to training and enhance the motivation of apprentices by allowing them to monitor the

development and acquisition of their own skills. Research indicates that students' feeling of motivation for and commitment to the learning process is reinforced through the use of such a document.

Counselling

Over the past two years, Norway's National Education Offices have received extra grants to augment educational planning and career guidance. In addition, the Ministry has initiated the following support measures:

- Publication of a methodological guide to educational planning and career guidance

- Production of a video about how to apply for an apprenticeship: "My first job"

- Initiation of the development of a database for educational planning and career guidance

- Launch of the project "Conscious career choices"

New regulations for the schools' psychological and pedagogical counselling services have been drafted and will be discussed by the Norwegian parliament in the spring session 1999. These regulations will grant students the statutory right to any counselling and educational planning and career guidance which might be required. The aim is to give students the necessary grounds for making well-informed educational and career choices.

In addition to providing information, there is a trend in educational planning and career guidance towards empowering student to make his or her own choices. This involves raising students' awareness of their abilities, possibilities and alternatives, as well as training them to make choices after considering the potential consequences. Implicitly, the right choice will be a motivating factor for the student in both the short- and the long-term perspective. The main focus of psychological-pedagogical counselling is to meet young people's need for help to deal with personal problems in connection with the learning process. Such a service is essential to maintaining students' motivation for continuous learning.

Teaching methods for vocational training

Adapting methods of teaching academic subjects such as, for example, mathematics and English, to vocational training courses has been regarded as crucial by teachers and educationalists alike to create more motivation for these subjects among students. Teachers who have successfully switched to vocationally-oriented teaching have raised their students' motivation to a large extent. Accordingly, Ministry-initiated projects have been launched to direct the focus of these subjects in a more vocational direction to a far greater extent than has been done thus far.

Entrepreneurship

Youth Entrepreneurship
Reform 94 supports entrepreneurship by connecting theory and practice in the learning situation, by encouraging and requiring cross-disciplinary work, by motivating creativity and innovation and by encouraging schools to see themselves as resource and cultural centres for the local community. About 100 Youth Entrepreneurships have been established.

Local active schools
This national project is a joint effort initiated by five ministries in 1990. It gets schools involved in business development and in the social and cultural development of their community.

Business-school partnerships
A major national project was launched in 1996 to bridge the gap between schools and local businesses. The project's principal objectives are to give students a realistic picture of the role played by business and industry as a generator of wealth, to improve young people's choice of careers and educations, and to include local companies as a natural part of the teaching environment. Schools and companies are encouraged to sign partnership agreements through which the company specifies how it will contribute to the schools' objectives. Some 1600 partnership agreements have been signed so far.

In-service training
With the implementation of Reform 94, Norwegian teachers have had the opportunity to attend further education courses to become updated on and learn more about both the Core Curriculum and the subject- or course-specific study programmes entailed by the reform.

Furthermore courses have been arranged on cross-disciplinary work, and on the new understanding of the teacher as a facilitator. Special courses have been held for counsellors since they have played and continue to play a special part in the county municipalities' implementation of Reform 94.

New textbooks
Initially, Reform 94 stressed the need for many new textbooks, especially for vocational training. The current situation is that Norwegian upper secondary school students and apprentices have a wide choice in textbooks both for general and vocational training courses.

C Relevant literature and specific national findings

Fifteen schools and projects were examined in the quest to find the three examples best suited for this report. They were all, in some way or another, concerned with learning environments and lifelong learning. Although they all deserve to be presented in this report, that is unfortunately not possible. Reference will, however, be made to some of the main strategies for motivational work about which there is a general consensus, and to the application of motivational measures with respect to students, teachers and the learning environment. An assessment of the three examples may be found at the end of the report.

Main strategies for motivational work

Since only time can tell the extent to which lifelong learning is taking place, the point of departure for this report must be the factors *believed* to enhance and sustain the motivation to learn. Further, those who traditionally do not acquire education at the upper secondary level, have the same rights within the Norwegian school system as those who do, which makes the task of motivating far more difficult than in more selective school systems.

The upper secondary school system is becoming more comprehensive and inclusive, at the same time as the prospects of lifelong employment are becoming less likely for young people. As a consequence, the upper secondary school is no longer just a place for learning, but also a place for becoming an adult. This generates new challenges for the school system as a whole. The school can no longer relate to young people solely as students, but must also relate to students for what they are, young people. The school becomes a place in which to substantiate one's youth, to explore roles and develop one's personal identity. It follows that if the school system is not able to accommodate young people as a group, it is doubtful that it will ever be able to generate motivation for its prime objective, learning.

The external motivational effect of a social good in short supply disappears in a system like the Norwegian educational system, once education becomes a basic right applicable to all. In other words, the exclusiveness of education is no longer present as a motivational factor. Motivation must therefore come from within, from the process learning itself. Hence, the focus of the "what works" study goes to the heart of what will be the main challenges facing the Norwegian school system in the years to come.

Although motivation for lifelong learning is difficult to define, it does not follow that the term is lacking in substance. Lifelong learning is generally understood as *learning which generates new learning*, which is made possible because motivation takes the form of an inner driving force, rather than being the product of an external goal or ambition. To motivate lifelong learning is to create or recreate a desire to learn. Students who have had their desire to learn quashed by previous experiences of failure in the educational system, must establish faith in their own ability to learn, before they can learn how to learn.

The motivated student

Inspired by Diego Gambetta's well-known essay on dropouts entitled *Were They Pushed or Did They Jump?*, we attempted to create an image of motivation by rephrasing the question: *Are They Stuck or Do They Move?* At the heart of this question is a fundamental understanding of motivation as the force which makes students wish, want or dare to take the step from the known into the unknown.

Motivating students is all about activating them. In recognising that it is the active student who is the most effective learner, the focus is directed at student participation. Within the various subjects, this is most evident in relation to project-based work, which in many schools constitutes a much larger proportion of teaching than called for by the minimum requirements stipulated in the curriculum. Student participation also implies influence on councils and committees, and students taking responsibility of their learning environment. One county municipality has established an ombudsman scheme for students to strengthen students' rights and influence, and in many schools *students' rights groups* have been established, in connection with the student councils.

Schools with an *active view* of students emphasise that students represent resources on which to build, rather than shortcomings to be overcome. The aim is to give students the experience of being appreciated for their own capabilities and skills. By relating to young people in this way, the school treats them as equals. Within this framework, it is much easier to develop a climate marked by confidence and trust, both of which are important pre-requisites for motivation and learning.

Moreover, the upper secondary students of the 1990s constitute a whole new breed. Students in upper secondary education are far more homogenous in terms of age than was the case prior to the introduction of Reform '94. Learning environments in general have lost many of the constructive effects generated by older students. This is especially true in relation to vocational studies. It has also become more common to work part-time while studying at this level. The implication is that school has become a less important element in students' consciousness and for their life in general. The fear of authority which character-ised parts of the upper secondary school system only a generation ago is missing in today's system. Students are no longer willing to accept orders; they are more used to negotiating compromises and deciding for themselves. In an entirely different way, they are in charge of deciding the type of norms that should prevail, not just between students, but in the school environment in general.

The motivating teacher

As more and more schools understand it, the role of a teacher today should be understood as providing pedagogical leadership in which the instrumental task of providing information is scaled down and guidance is emphasised. The form teacher has a much greater respons-ibility for supervising each individual student and for co-ordinating the human and professional resources available to the class.

Teachers' professional authority has been undermined and they have encountered new demands for expertise. Information was previously very much the monopoly of the teacher, to be passed on by the teacher as he or she saw fit. Today, the role of the teacher is to teach

students to acquire and sort information, and to be critical in the face of manipulation. Students are expected to be able to learn from a wide variety of sources of knowledge, and to integrate different views on knowledge. This challenges teachers with regard to the delegation of control and responsibility. The more responsibility a teacher has in relation to a student's learning, the less responsibility students have for their own learning.

Huge demands are placed upon teachers' willingness to change when major reforms are introduced, and Reform '94 was no exception. A comprehensive evaluation of all the schools suggests that most teachers are in favour of the reform's intentions, and are able to identify with the new role of teachers. Teachers, as such, are probably the best suited objects for an evaluation of whether or not upper secondary schools succeed in motivating for lifelong learning.

The adapted learning environment

A good learning environment should address the student's interests and needs, socially as well as professionally. Learning, and not least the desire to learn, is created when people interact. "Learning is a social event. The school must take responsibility for this event", was the message delivered by one assistant headmistress when she was explaining what kind of learning environment she wanted to see developing at her school.

A relationship based on mutual trust between teachers and students appears crucial to developing and sustaining motivation. Such a sense of trust demands continuous maintenance and can only be established over time. Furthermore, many people stress that a learning environment in which emphasis is put on the future rather than the past, is better suited for motivating a larger number of students for long-term efforts, not least those students who have experienced several educational failures in the past.

Making the Norwegian upper secondary school available to everyone implies acceptance of a more flexible understanding of knowledge and requires an open mind in relation to new arenas for learning. In an attempt to tie the theoretical side of learning to practical work experience, several schools have increased the share of practical work beyond the requirements of the various curricula. Notwithstanding, the stringent theoretical requirements for vocational studies are seen as motivational barriers for many students.

Influential policy-oriented research. Key findings and statistics related to motivation

A major research programme was initiated to evaluate the implementation of Reform '94. This programme has now been completed. The issue of motivation was only to a limited extent a concern in the various projects that made up the programme, but the following section examines some of the findings relevant to the present study:

"From a Goal Document to Class-room Activity" [1]

This project evaluated the substance of Reform '94, focusing on the learning environment and, to a certain extent, on the conditional effects of this environment on motivation. Figures generated by the study show that approximately 2/3 of teachers and 3/4 of students support the basic objectives of the reform. However, there has been no increase in support since the reform was launched, indicating that the reform has not had the desired effect of converting those who were sceptical at the start.

The evaluation concludes that the substance of the reform has succeeded in the following areas:

- Teachers are satisfied with the Reform's contribution to professional renewal, and the subsequent upgrading of the various subject areas. Co-operation between teachers has increased, which is beneficial from the perspective of teamwork and teaching faculty co-operation.

- Project-based work has been more constructive than previously expected.

- Student dialogues have been successfully carried out according to intention. Teachers view these dialogues as important for forging bonds between teachers and students, as well as for providing opportunities for students to express their opinions about the learning environment.

- A majority of teachers and students alike believes that the new curricula contribute to more profitable learning. Important exceptions to this are the new common general subjects in the vocational studies branch, which have been subject to a lot of criticism.

- The reform has generated several course initiatives, which have upgraded teachers in their pedagogical thinking and their use of terminology, softening the tension between subject matter and pedagogy.

The evaluation concludes that the substance of the reform has not succeeded in the following areas:

- There are great variations between schools when it comes to the development of learning environments. Some teaching communities still derive their professional impulses either from academic milieus or vocational subjects with strong guild traditions. This has prevented the development of interdisciplinary initiatives, impeding change in relation to conditions of learning.

- Despite the fact that there has been a general willingness to explore new ways of working together, there have been few changes in the traditional teacher/student relationship. A majority of both teachers and students still believes in the traditional role patterns, in which teachers are responsible for the planning and implementation of teaching, and students are largely recipients of the knowledge taught.

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[1] Monsen, L. (1998) *Evaluering av Reform 94. Sluttrapport- fra måldokument til klasseromspraksis.* (Evaluating Reform 94. Final report - from the statement of objectives to classroom practice). Høyskolen i Lillehammer

- The goal-oriented work in relation to the curricula is regarded as a pure formality, without any real substance. Only 1/5 of students state that they play an active role in the planning process.

- There is a gap between the curricula's objectives and the educational abilities of weaker students. More than 40 per cent of the students pursuing vocational education stated that they hardly derive any benefits at all from the new common general subjects. In fact, most teachers agree with this argument, and are especially concerned with anchoring theory in practical work experience. Thus, one major challenge in the years ahead will be to create a feasible differentiation model to narrow this gap.

- Schools are required by law to perform school evaluations. This requirement has not been fulfilled in accordance with its intentions.

"Locked up, Shut out or Included?" [2]

The above heading is the name of the final report on one of the two projects that devoted particular attention to students with special needs, and to the issue of adapted teaching. One of the projects was concerned with students entitled to a place within a *sheltered* branch of study, on the basis of a special pedagogical assessment. The other project was more practically oriented, and its main objective was to find teaching and evaluation models for students with partial competence as their main qualification goal.

The evaluation points out that the present school system presents is a wide range of impediments to motivation for students with special needs. The shift away from practical experience towards more theory-based learning is mentioned as a problem because it means a shift away from qualification through co-activity in production and in the local community, and towards more classroom-based teaching in which students are confined to the desk. Young people with past educational failures are more or less "locked up" in school, and the process of growing up and the development of a personal identity and qualifications, become a matter of pedagogy.

While three out of ten students in the ordinary system do not complete, or take longer to complete school than the fixed length of study, the equivalent figure for students with special needs is eight out of ten. One of the reasons given for the large percentage of non-achievers or under-achievers, is that the focus of adapted learning is on students' problems, difficulties and shortcomings rather than on their possibilities, resources and futures.

"Competence for all?" [3]

One expressed objective of Reform '94 is to ensure that the qualifications of all students are formally certified since, for a variety of reasons, all students are not able to acquire

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[2] Kvalsund, R. og Myklebust, J.O. (1998) *Innestegning, utestegning eller inkludering?* − (Locked up, Shut out or Included?). Møreforskning, Volda

[3] Skårbevik, K.J. og Båtevik, F.O. (1998) *Kompetanse for alle?* (Competence for all?) Møreforskning, Volda

university entrance or vocational qualifications. Initiated by the Ministry of Education, Research and Church Affairs, the partial competence project was implemented in 1995. Its main objective was to examine needs with regard to adapted learning and the certification of competence for the group of students that does not succeed in acquiring full competence. The project was organised as a three-year development project comprising four learning environments which explored different models of learning. One was chosen as a selected site for a study excursion (D3), and will be presented in more detail.

"Followed up or chased down?" [4]
One important task for the county municipality follow-up service is to contact and register all students outside the upper secondary school system. Approximately seven per cent of students in each age cohort are in contact with the follow up service each year. These individuals have either dropped out of school or vocational training, or have failed to apply for admission to upper secondary education. Many of these students have received low grades at school, and are part of social groups not prone to getting extended education. However, there is evidence to suggest that approximately 20 per cent of the students registered by the follow-up service actually consciously chose not to pursue upper secondary education. They manage on their own, and are in fact able to find temporary employment.

This group of students as well as the more traditional dropout students depend on the existence of a qualified labour market for young people. Among those who work with this group (employees in the follow-up service and counsellors), few believe it is possible to create an upper secondary school system that is able to accommodate all groups of students. Thus, there is a general wish to see more opportunities in the labour market, and to further develop the possibilities inherent in the interface between work and education.

"Reaching the Finish Line?" [5]
The introduction of Reform '94 has led to a narrowing of the age span of students in the upper secondary school system. From 1993 to 1997, the proportion of students over the age of 17 attending foundation courses dropped from 25 per cent to 12 per cent. There is, however, still a significant proportion of students not at the educational level commensurate with their age or their "typical" level of education.

The proportion of 16-year-olds at the foundation level (GK), the proportion of 17-year-olds at VK1 level and the proportion of 18-year-olds at VK2 level or in training. From 1993 to 1997.

The table is based on the collective age cohort for each year. It shows that after the introduction of Reform '94, a much larger proportion of students was located at the level of education of "typical" for that age cohort. Nevertheless, in 1997, almost 33 per cent of the 18-year-old students were not at the level of education "typical" for that age.

[4] Grøgard, J.B., Midtsundstad, T. og Egge, M. (1998) *Følge opp eller forfølge?* (Followed up or chased down?) Fafo, Oslo

[5] Støren, L.A., Skjerslie, S. og Aamodt, P.O. (1998) *I mål?* ('Reaching the Finish Line?'). NIFU, Oslo

Table 1 The proportion of students aged 16 to 18 at the "typical" level of education.

	1993	1994	1995	1996	1997
16-year-old GK	79	92	90	90	90
17-year-old VK1	60	69	78	77	77
18-year-old VK2/train.	51	54	56	70	67

According to Figure 1, there are significant differences between students with and without the right to education, and between general subject studies and vocational subject studies. The progression rate was highest among students entitled to education and pursuing general subject studies; 86 per cent of them were on schedule after three years of study. Students pursuing vocational subject studies without the right to education had the lowest rate of completion, with only 34 per cent managing the recommended rate of progression. Although vocational students with the right to education have a significantly lower completion rate than their general studies counterparts, the former group of students has managed to double the percentage of students managing optimal progression, compared with state of affairs prior to Reform '94.

Figure 1 Two of three students complete their education on time
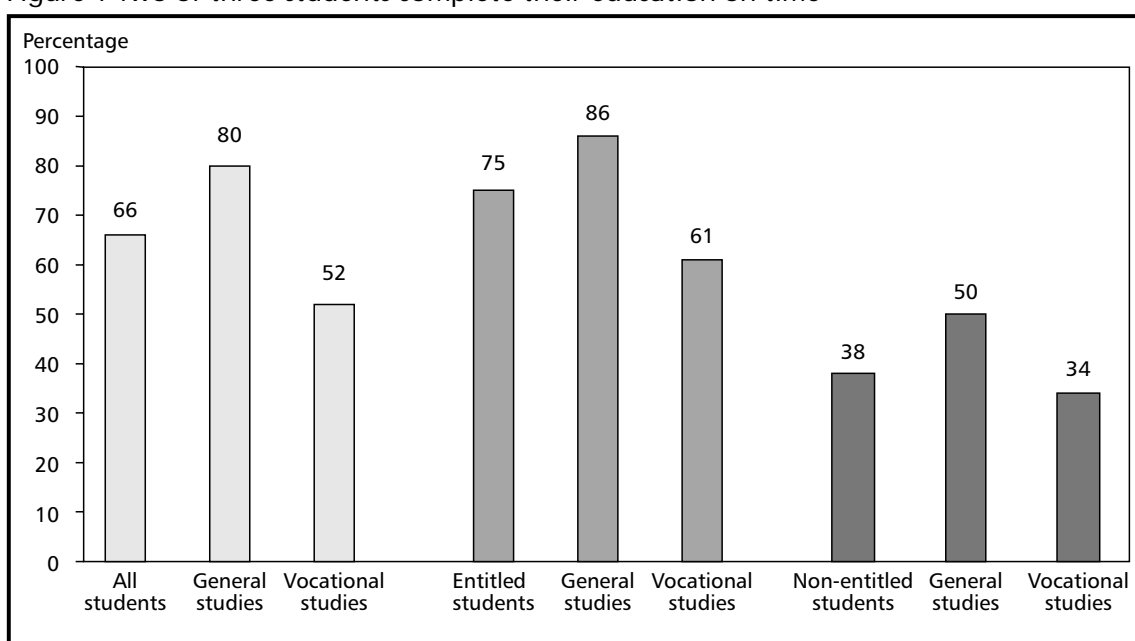
The percentage of students who started studying in 1994 and were on schedule in 1997. The three columns to the left show the proportion of *all* students (independent of their entitlement to education): in total, general studies and vocational studies. The three columns in the middle show the proportion of students entitled to education: in total, general studies and vocational studies. The three columns to the right show the proportion of students *not entitled* to education: in total, general studies and vocational studies.

Factors which may help to explain differences in the rate of completion are as follows:

- When the group is evaluated collectively, shortages of student places undermine progression among students of vocational subjects. There is also evidence of gender discrimination, and between students from linguistic minorities and other applicants with regard to the allocation of places. Applicants belonging to linguistic minorities stand a lesser chance than others of being accepted, especially in Oslo, and girls are also seriously discriminated against in several branches of study.

- A low progression rate in vocational subject studies may also be explained by the fact students are generally dissatisfied with the current curricula. They feel that too little emphasis is placed on practical experience, and too much on theoretical learning.

- The leaving of non-entitled students may be explained by the fact that they have not been able to advance to the desired course at VK2 level, the second year in the upper secondary structure. Entitled students are often favoured at the expense of those without entitlement. It is also a fact that this type of student is less prone to apply to advance in the system, probably because they are at that stage in life when income takes priority over education.

- Marks from lower secondary school and the VK1 level seem to have a significant impact on the completion rate, regardless of type and branch of study.

- Social background, measured by parents' education, also influences the choices of young people, although not the degree to which they complete their education.

D Selected cases

Features of the three examples designated for excursions
The three schools examined in this report fall under jurisdiction of Norway's county municipalities, which have put the issue of learning environments high on the political agenda. Within these learning environments, we have attempted to identify the factors that contribute to motivating learning beyond ordinary classroom activities, i.e. examples of lifelong learning. The fact that the examples are closely linked to the county municipal level of authority is indicative of professional and administrative legitimacy, helping to enhance the examples' transferable value.

Two of the examples are from the ordinary educational system (D1 and D2), while the third (D3) is adapted to students with special needs. All three learning environments belong to Norway's public education system.

Learning environments which promote inner motivation seem to be marked by uninterrupted communication and openness. Responsibility, wellbeing and mastering are also important concepts in relation to motivation and learning, as exemplified in the following explanations:

Communication or the development of communicative competence is not a monopoly limited to the student/ teacher relationship; it is also important with regard to student/ student relationships and to the learning environment in general. In this context, the term communication refers an equal relationship between student and teacher. It replaces to a large extent the concept of "instruction", which implies a more authoritarian relationship and a one-dimensional view with regard to the acquisition of knowledge.

Responsibility is closely connected to a frequently used Norwegian slogan: "in charge of one's own learning", and indicates an understanding of learning as a process within each individual (as opposed to teaching which takes place between people). As it is generally applied in the educational debate today, the concept of responsibility must be seen in the light of the concepts of *self-realisation* and *student participation.*

As a motivating factor, *well-being* is becoming increasingly important. Thus, efforts are directed at improving the psychosocial learning environment in schools. In a learning environment featuring a high degree of well-being, conflicts are usually contained and co-operation is frequent.

Mastering is used to describe relations that go beyond those of managing single tasks. The concept denotes a more comprehensive understanding of knowledge, including the ability to acquire, evaluate, integrate and use knowledge. However, the experience of mastering a problem must be meaningful and verified before it will have any significant effects on motivation. Without such a meaningful experience, the experience of learning will also diminish in importance.

In the three examples, D1, D2 and D3, concepts such as communication, responsibility, wellbeing and mastering, provide the guiding principles for the pedagogical approach.

D1 Case I Strategy and innovation in school curriculum/ assessment/qualifications

Project title, location and starting date
Student participation. Sandefjord Upper Secondary School, Vestfold. 1 August 1996

Organisation in charge
Sandefjord Upper Secondary School

Funding
Public

Case history/overview and concrete strategy
Sandefjord Upper Secondary School is quite a large upper secondary school in Norwegian terms. It comprises approximately 1500 students, and is divided into nine branches of study. The school combines academic, vocational and art-oriented students, all of whom are subject to the same administrative and organisational structure.

The school, in its present form, was established in 1996. Prior to 1996, students were divided into four different schools without any educational, professional or administrative unity. Thus, the challenges have been to establish a common identity across functions and departments and to provide adapted learning for all students regardless of their professional, personal or social circumstances.

The process of transformation has been validated by the school's own vision for its activities and by the development of an educational platform reflecting the views of the students, curricula, competence goals, participation, responsibility and co-activity. Normative guidelines for administrative personnel and guiding principles of leadership have also been worked out. Nothing has been left to chance, and the architecture of the school is appropriate to its educational objectives. The so-called Forum is central to the school's activity, providing a meeting place that includes a canteen, library, bookshop and wide range of other facilities and functions.

The school's primary objective is to create the necessary foundation for a community in which *student participation* is an intrinsic element, and where students can exert real influence.

Innovation and effectiveness
Student motivation for lifelong learning rests largely on a foundation of responsibility and wellbeing. In order to develop a learning environment in which these two elements flourish, emphasis has been put on *student participation*. Thus, student participation must be seen as the educational basis of our understanding of motivation.

Student participation generates a wide range of direct and indirect effects with regard to curriculum, assessment and qualification.

There are traces of student participation in the curricula of the various branches of study, for example, in relation to the general requirement of outworking/student training

placement. Within several branches of study, learning is tied to practical production and the provision of services in the community. The practical outcome of this is apparent at the Forum as many of its facilities and services are run by students.

A more isolated example is an IT project comprising 45 students and 10 teachers. The students have been important contributors to the process of working out methods and establishing the content of the project.

According to the curricula, however, student participation is at its most visible in relation to the practical courses (*Praktiske Tilrettelagte Kurs – PTK*). These courses run over a period of five years (as opposed to the ordinary three years), and individual curricula are worked out to fit each student's needs. Each individual student exerts real influence on the process of developing such curricula.

Student dialogues constitute an important contact-building measure between teachers and students. They form part of the evaluation process for each individual subject, and are collateral to the evaluation process itself.

Owing to the size of the school, special attention is devoted to the mechanisms of social exclusion. Accordingly, emphasis is attached to psychosocial preventive work in order to provide a satisfactory learning environment for all students. There is also a *base-camp of student services*, comprising part of the Forum, which includes a health service, educational planning and careers service, an educational workshop and a centre for *special pedagogical adaptation*. The base-camp service is to a very great extent based on the needs of the students. Measures such as discussion groups have been initiated to deal with issues such as smoking prevention, eating disorders and grief management, and there are groups for pregnant students. The base-camp service includes teachers, psychiatrists, counsellors, a minister, a doctor and a nurse.

As a part of the psychosocial preventive work done at the school, students have taken the initiative to establish a *wellbeing* group, which has been responsible for the initiation of a project in which youths help other youths. The so called STEP discussion groups are an informal initiative based on principles of equality, and their motto is as follows: "Talking to adults is good, but talking to people of your own age is sometimes better". If problems occur which require expertise beyond what the STEP groups can provide, the student services are still there to fall back on.

The STEP groups were set up to facilitate help from one young person to another. A spin-off effect of this initiative is the skills and experience gained by the members of the STEP groups with regard to knowledge about human nature, problem solving strategies and general insight. The Norwegian school system has developed a core curriculum which is superordinate to all subject-related curricula and types of schools in general. Its focus is largely directed at the development of the well-rounded individual. The student participation project is in line with the ambitions of the core curriculum.

**D2 Case 2 Strategy and innovation through
new teaching/learning strategies**

Project title, location and starting date
Portable and wireless school. Nesodden Upper Secondary School, Akershus
October 1998

Organisation in charge
Nesodden Upper Secondary School/the County Municipality of Akershus / ITU (Research
and competence network for IT in education)

Funding
Public

Case history/overview
This ICT project comprises three foundation course classes at upper secondary school level,
one of which is a general subject class and two of which are vocational subject classes. Several
teachers are also involved. The project includes a wide variety of subjects such Norwegian,
English, natural science, IT/economics, sports and physical education, human biology,
drawing, design and colour studies, and arts and cultural studies. The 55 students and 13
teachers have all been equipped with portable PCs and the necessary software.

The project is divided into three phases. The first phase began in autumn 1998, and was
marked by technical adaptation and initiatives to improve the general competence of teachers
and students. In January 1999, the project phase itself was launched, directing focus at the
professional and methodological content of the project. Phase three will embrace the
evaluation of phase 1 and 2 with a view to establishing a foundation for further development
and work. The project is scheduled for completion in June 2000.

ITU at the University of Oslo is responsible for the initiation of research work
schedules, as well as for the organisation of courses and competence development for the
teachers and students involved. The county municipality of Akershus is responsible for
providing PCs and software. Nesodden Upper Secondary School is the pedagogical environ-
ment in which the project is taking place, and is responsible for adapting curricula and the
follow-up service at the school. The express aim of the project is that it should be applicable
to other schools and educational institutions as well, and that it will contribute valuable
knowledge relevant to institutions and learning environments with less computer density,
and to branches of study other than those involved in the project.

Concrete strategy
Pedagogical developments have evolved parallel to, although largely independent of, the
technological developments witnessed in recent years. Project work based on methodological
approaches has been increasingly emphasised. Likewise, co-operation and communication
have been stressed as important elements of pedagogical practice. However, this is not evident
in the ICT initiative, where the focus has been directed at software and technology. Focusing

on the learning process itself, the project's main objective is to highlight the pedagogical opportunities inherent in this process.

The project is exploring opportunities for change, and the potential motivational benefits of merging new technology with new pedagogical thinking. The aim is to incorporate IT into the learning process, as opposed to simply teaching the subject of IT as such.

Innovation and effectiveness

One important objective is to increase motivation through project based work, problem based learning and interdisciplinary activity, and IT is but one means of achieving this goal. Problem based learning means that the information students need to solve a problem is collected, documented and analysed by the students themselves. Furthermore, the ability to co-operate is challenged by the fact that the students are dependent on one another to succeed in the project work. The interdisciplinary approach leads to a greater understanding of relations and relationships.

This approach to learning will change the role of the student as well as the role of the teacher. It will no longer be sufficient for teachers to pave the way for students in the same way as before, albeit more effectively thanks to IT technology. The new role of teachers will be more in the way of providing adapted learning and guidance. Students, on the other hand, will be given more responsibility for the learning process itself, thus giving substance to the slogan: "in charge of one's own learning". Both parties are players in a process, and they must relate to one another in new ways.

Although the project is still in its infancy, there are already signs of its effects. Students show a lot more enthusiasm, and they spend much more of their leisure time at school or at home solving problems. In addition, students have taken the initiative for organising computer courses for pensioners between the ages of 66 and 86. In this way, they are able to make use of their knowledge and skills, and as such the scheme may also contribute to breaking down some of the common cultural and social barriers between the generations.

Nesodden Upper Secondary School also provides adapted learning for students that require a more varied and practical approach to learning, than what is allowed by the various curricula. A special department at the school gives these students the chance to take advantage of the so-called APO (work, production and learning) scheme, which involves arrangements tailored to the needs of each individual student. The school has also taken part in the Norway's national partial qualifications project (see D.3). The school also offers education for mature students who want to build on or complete their education. The school believes there are opportunities for students with alternative curricula, students who require home-based teaching, and students who need flexible learning programmes featuring ICT-based teaching.

Phase 3 will involve an assessment of the project's relevance with regard to further work and development. It is still too early, however, to identify possible arenas of change. However, there are already signs suggesting that project based work and problem-based learning will require organisational changes in relation to the distribution of tuition hours per subject. Furthermore, students' new level of competence will in the long-term most probably call for new forms of evaluation.

**D3 Case 3 Strategy and innovation in out-of-school settings/
bridges to learning/partnership**

Project title, location and starting date
National partial qualifications project. Kjelle Upper Secondary School. Akershus. 1995

Organisation in charge
The Ministry of Education, Research and Church Affairs and Kjelle Upper Secondary School

Funding
Public

Case history/overview and concrete strategy
The educational reform of the upper secondary education system in 1994 shifted the responsibility for providing opportunities to obtain educational competence for all groups of students to the upper secondary school system itself. Students facing problems in acquiring university entrance qualifications or vocational certification were given the right to have partial qualifications formally certified. The Ministry of Education, Research and Church Affairs initiated a national project to develop organisational, pedagogical and methodological strategies for partial qualifications, as well as to develop documentation for partial qualifications within the core curricula and the regulative framework.

Since its establishment, Kjelle Upper Secondary School has been an important centre for adapted teaching in relation to socially disadvantaged students and students with learning difficulties. As a result, the school was chosen to participate in the project on partial qualifications. The project period ended in November 1998, and the results generated by the project now form an integral part of the day-to-day running of the school.

The school's history can be traced back to the early 1940s when the Norwegian government established Kjelle Public School. It was placed on agricultural land approximately 80 km north-east of Oslo. At the time, the school was all male and provided boarding facilities. Learning was originally tied to agriculture and shoemaking, although woodworking subjects were introduced later. It was not until 1986 that Kjelle opened its doors to girls, and the range of subjects expanded. Today, the school provides specially adapted learning in subjects such as hotel and food-processing, woodworking, building and construction, engineering and mechanics, health and social studies and the management of natural resources. In addition, the school offers an ordinary foundation course in the management of natural resources and a supplementary year in forestry. In 1993, the county municipality of Akershus took over the running of the school. At present, there are around 50 boarding students at the school.

Innovation and effectiveness
Almost without exception, the students at the Kjelle have all experienced previous educational failure in one way or another. It is therefore crucial to motivate change, and to establish faith in, and the possibility of, continued lifelong learning.

The school has developed three main strategies to help students overcome previous failures and find new motivation to learn. They are as follows: a consequentialist pedagogical approach as the basis for pedagogical understanding, the organisation of learning and the certification of non-formal learning.

Consequentialist pedagogical
Kjelle is pedagogically founded in the consequentialist school of thought within the pedagogical sciences. This school of thought is based on the belief that individuals, through their own choices, have the ability to change and develop.

Furthermore, the school's activities must be goal- and parameter-oriented, allowing the leadership to render visible the basic values of the schools.

The consequentialist pedagogical approach evolved in order to prevent young people from being side-tracked onto the labour market or the ordinary educational system, then becoming social dropouts.

One important point is that students through practical experience are put in situations in which their freedom of choice is challenged, and where the various alternatives for action, and their consequences, are rendered visible. The aim is to teach students to focus on future opportunities, rather than remaining stuck in past experiences.

The consequentialist pedagogical approach also aims to teach students to be part of a community. The educator's task is to make it obvious to the students that their actions have consequences that go far beyond their own individual spheres, affecting the community to which they belong.

The organisation of learning
Ordinary classroom-based teaching is geared to the average student, although all students in upper secondary education have the right to adapted teaching. Students with learning difficulties must have teaching which is adapted and differentiated. Important means of achieving this are project-based learning and a large degree of freedom of choice. This may be illustrated by the way general studies courses are organised. General studies are not time-tabled and the students themselves decide the time and content of teaching. Teaching may then vary from 0 to 8 hours a week for each individual subject. Participation in the learning process is motivated by allowing the students to decide for themselves whether or not they need to acquire competence within a given subject.

During the project period, a survey was undertaken among 255 companies in 10 different branches with the view to clarifying the extent to which there was a demand for partial competence. The survey results were positive, suggesting that there is a great need for manpower with partial qualifications. However, companies stressed that for a wide range of jobs, social skills such as punctuality and co-operative skills, were as important as the more professional skills.

Thus, the combination of vocational learning and production provides an important methodological means by which to classify students. In so doing, learning becomes rooted in work-like experience, and the social skills demanded by working life are rooted in the execution of different working tasks. The aim is to incorporate as much corporate culture as possible into school activities.

Certification of non-formal learning

The partial qualifications project has two main objectives. First, to ensure that partial competence is regarded as a complete education in itself, and second, to ensure that partial qualifications may also be used as a basis for acquiring complete study or vocational competence. In the first case, it is important to make sure students acquire non-formal competence or basic competence which is in demand in working life, and at the same time bridges are built between learning and practical work. As individual curricula are worked out, learning becomes documented through individually-oriented reports.

For those students who wish and are able to acquire complete competence, it is crucial that learning be tied to the curricula that apply to the different branches of study. Only in this way will students' previous educations pay off. This assumes that adapted learning takes place within the educational modules prescribed by the curriculum.

If the partial qualifications project succeeds in providing non-formal competence as well as the possibility of building on already acquired competence, it will mean a soft landing in working life for many students, and give them a stepping stone to further education.

Innovation in Education – What Works?

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