



MINISTRY OF EDUCATION AND RESEARCH
MINISTRY OF TRADE AND INDUSTRY
MINISTRY OF LOCAL GOVERNMENT AND REGIONAL DEVELOPMENT

Strategic Plan

See the Opportunities and Make them Work!

– strategy for entrepreneurship in education and training

2004–2008

creative enthusiasm

idea

creativity

business and industry

initiative

entrepreneurship

spirit to go ahead

students

self-confidence

pupils

innovation

F O R E W O R D

In the majority Government's political platform the following fundamental values are emphasized:

Norway is a society of opportunity. We have considerable natural resources and untouched nature. We have long democratic traditions. We have a high level of education and competence. We have considerable societal capital and one of the world's best welfare states. Our duty is to reinforce, renew and further develop this welfare state. Our goal is to give all people throughout the country the opportunity to develop their capabilities and lead good, meaningful lives.

The Government wishes to invest in people by giving them access to development and fresh knowledge in kindergartens and schools, in higher education, in further and continuing education and through research. We see the primary, lower and upper secondary education and training as a comprehensive basic education which shall ensure that all children, young people and adults shall receive the best opportunities for active participation in business and community life. We wish that pupils shall be able to take part in pupil enterprises, enter learning arenas outside the school gate, have entrepreneurship as a part of their primary, lower and upper secondary education and training at school and receive basic understanding of how society functions.

The Government wishes to implement a modern and active policy to create values. Entrepreneurship is an important factor in our ability to innovate and adapt. Value creation and production are a prerequisite for being able to distribute and utilize our resources for the benefit of all. Entrepreneurship in education will provide an opportunity for personal development in an economic, social and cultural context. This again will provide an opportunity to create

profitable workplaces, foundations for living and values in all parts of the country, thus contributing to safeguarding domestic environments. Entrepreneurship may also lead to increased equality and multiplicity in working life – a multiplicity that will lead to increased productive work. This may again result in societal and economic equalization.

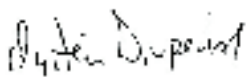
In order to promote entrepreneurship we must collaborate in creating a culture that favours innovation and adaptation throughout Norway. We must focus on young people! Children and youth must be encouraged to believe in their own creative abilities. They must experience that creativity, determination and collaborative ability are highly valued, and that they can create values and workplaces for themselves and others. It is important to create a positive attitude to entrepreneurship and a positive attitude in entrepreneurs. Thus, we wish to promote a culture for innovation and entrepreneurship in education and training.

The *See opportunities and make them work!* Strategic Plan has been prepared to promote entrepreneurship in education 2004-2008. We can see that interest in entrepreneurship training is increasing and that there is great interest in creative activity in our society. Many forces are contributing to this, both nationally, regionally and locally. The Government wishes to be an important motive force in work on entrepreneurship, and hereby submits a revised strategy for entrepreneurship in education.

The Government's vision:

Entrepreneurship in the education system shall renew education in this and create quality and multiplicity in order to foster creativity and innovation.

Good luck with work on entrepreneurship!


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Minister of Education
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Introduction

Human capital in the form of expertise and manpower is one of Norway's most vital national assets. Today's pupils and students must create the workplaces of the future and ensure the continuation of welfare and prosperity in our democracy. It is of supreme importance to develop knowledge not only to understand, but also to change and further develop society.

A strategy for entrepreneurship in education and training is a strategy to strengthen the individual's ability to see and exploit opportunities in an economic, social and cultural context. Thus, the way will be paved for future entrepreneurship, innovation and reorientation throughout Norway.

The purpose of the strategy is to profile entrepreneurship as an educational objective and training strategy. We wish to motivate and inspire educational institutions, municipalities and county municipalities to plan and firmly establish training in entrepreneurship in collaboration with trade and industry and other relevant stakeholders in the local environment.

A deliberate, goal-oriented focus on entrepreneurship will contribute to development of an innovative culture in all parts of the country. This is a culture that will promote entrepreneurship, thereby promoting innovation and rethinking, as well as the ability to take the initiative and calculated risks. The educational system has a role to play in stimulating attitudes and behaviour that promote the capacity for collaboration, creativity and innovation in children and young people. This must take place through long-term work with satisfactory progression. The young must be allowed to believe in their own creative powers

and the ability to see and utilize local resources as a basis for creating values, developing workplaces and taking responsibility in their local community.

Encouraging entrepreneurship is essential to the development of trade and industry throughout Norway. Newly established enterprises can contribute to strengthening the local labour market and the local business sector inasmuch as such new enterprises will often emerge where their founders live. New workplaces will give young people greater freedom of choice regarding choice of domicile.

The target group for the strategy is primarily those who are responsible for education at all levels of the educational system. Various stakeholders who support entrepreneurship in their sectors, in this strategy will find a comprehensive plan and overview of the work. The responsibility for implementation of the strategic plan for entrepreneurship in education lies with owners of the educational institutions. The responsibility for coordination lies with the Directorate for Education and Training and the Ministry of Education and Research.

See opportunities and make them work! has been prepared in collaboration with the Ministry of Education and Research (Norwegian acronym KD), the Ministry of Trade and Industry (NHD) and the Ministry of Local Government and Regional Development (KRD). The plan comprises the entire educational career from primary school to college and university, including teacher training. As an expert body the Directorate for Education and Training has assisted the three ministries in revision of the strategic plan in 2006.

Definition and progression

2.1 Definition

Entrepreneurship in education has a broad definition which includes economic, social and cultural factors. In 2001 the European Commission set up an expert group for training and education in entrepreneurship. The group had members from 16 countries. One of the group's tasks was to arrive at a common definition of entrepreneurship in training and education. In November 2002 the group submitted its report with the definition that the strategic plan and work on entrepreneurship in Norwegian education is based on¹:

“Entrepreneurship is a dynamic and social process where individuals, alone or in collaboration, identify opportunities for innovation and act upon these by transforming ideas into practical and targeted activities, whether in a social, cultural or economic context.”

This definition indicates the objective of entrepreneurship in education. Entrepreneurship in education includes development both of personal qualities and attitudes and of formal knowledge and skills:

- Personal qualities and attitudes that increase the probability of a person seeing opportunities and doing something about them. Work on entrepreneurship in education must primarily place emphasis on development of personal qualities and attitudes. In that way a basis is laid for later utilization of knowledge and skills in active productive work;
- Knowledge and skills concerning *what* must be done to establish a new enterprise, and concerning *how* to be successful in developing an idea into a practical, goal-oriented enterprise.

Together these two main elements will give pupils/students competence in entrepreneurship.

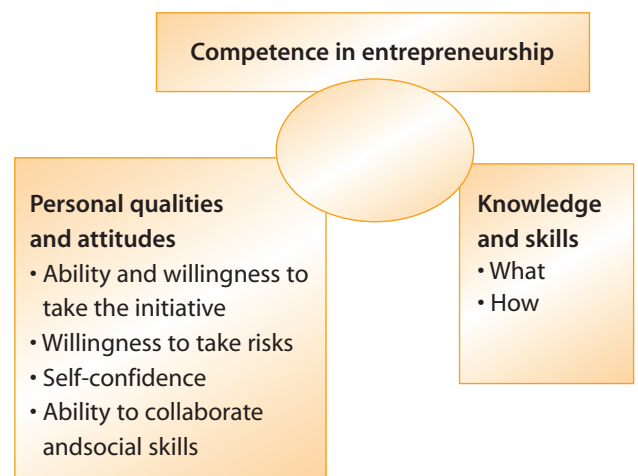


Figure 1: Definition of competence in entrepreneurship

The focus on entrepreneurship in education shall also encourage more people to attempt to become entrepreneurs. There are more words that could express what we mean by entrepreneur, e.g. founder, implementer, pioneer etc.

2.2 Progression

Today entrepreneurship is regarded as a fundamental skill that is acquired through lifelong learning. The Council of Europe in Strasbourg and The European Charter for Small Businesses have placed emphasis on this. “Today the importance of entrepreneurship as one of the fundamental skills that must be acquired through lifelong learning has been accepted,” it is stated in the EU’s publication “Measures to create a culture of enterprise”². In this publication there is a selection of good examples of how educational systems can contribute to promote a spirit of enterprise in young people, thus contribute to creating a more entrepreneurial culture in our society.

Development of competence in entrepreneurship must be included as an integrated part of education at all levels. Pedagogical considerations would indicate that training in entrepreneurship must be organized differently depending

¹ Final report from the expert group, the project: “Best Procedure” – Education in and Teaching of Entrepreneurship, European Commission, November 2002
² http://europa.eu.int/comm/enterprise/entrepreneurship/support_measures/responsible_entrepreneurship/index.htm

on the stage of education. By focusing on the *Core Curriculum* and *The Quality Framework* it will be possible to maintain development of central entrepreneurial attitudes and qualities. An important part of competence in entrepreneurship is awareness of how our actions contribute to creating lasting values in a broad sense, both social and cultural as well as economic. The need for special attention aimed at girls' entrepreneurial skills and attitudes is underlined in the report by the Global Entrepreneurship Monitor (GEM), 2005 "Report on Women and Entrepreneurship".³ This involves use of varied forms of work and learning strategies in many work arenas, which increase in complexity in accordance with the pupil's age and maturation level. With opportunities for adaptation to local conditions and the individual stage of education, the following summarized description of training in entrepreneurship can form the basis:

2.2.1 Primary school level: Training in entrepreneurship at this stage shall have its main focus on developing the pupils' ability to trust themselves, take responsibility, permit trial and error and develop creativity and the desire to find things out. Further, development of social skills and the ability to collaborate are at the very centre. Pupils will develop their own identity and community awareness through knowledge of the distinctive qualities of their home environment. Understanding of cultural and economic resources in the local community can be acquired through simple pupil enterprises. An elementary understanding of cultural and economic resources in the local community can be acquired by working on various programmes.

2.2.2 Lower secondary school level: At this stage the focus will be on development of central skills such as concept development, problem-solving, decision-making and network-building. Pupils should be encouraged to utilize resources and exploit opportunities locally, feel responsibility for common work tasks and learn to take the consequences of their own choices. Increased knowledge of and contact with the local community and working and social life will provide a better basis for the choice of education and occupation. It may be natural to take up these themes in optional programme subjects and a number of other subjects, by allowing pupils to work for example using pupil enterprises as a method.

2.2.3 Upper secondary level: At this stage training will be dominated by theory and practice focusing on learning through practical work, for example in the form of a youth enterprise. Competence milieus outside the school can be used in all programme subjects to increase relevance and realism. Knowledge of working life, of enterprise-founding, of ethics/environmental theory, economics and resource utilization will be important elements in training. Within the vocational programmes the pupils and apprentices will



Photo: NHO's billedarkiv

Developing entrepreneurship competence must be included as an integrated part of education and training at all levels.

get to know different kinds of business and industry. The 2+2 model is based on 2 years education in school and 2 years training in a training establishment. The time spent in the establishment is divided between training and productive work, which means that the apprentices are expected to contribute to the production in the businesses. The international perspective and a broad network as a basis for learning and collaboration will be important at this level.

2.2.4 University and college level: At this level there should be greater concentration on various perspectives connected with entrepreneurial activity. Focus should be on national and global changes and trends, and what consequences these will have for development of trade and industry and society. Knowledge of working life, of enterprise-founding, customer and market relations, ethics/environmental theory, economics and resource utilization will be important elements in knowledge development. Student enterprises are a suitable pedagogical tool for learning how to establish and run an enterprise. That includes learning how to draw up a business plan, identification and evaluation of business opportunities, as well as collaboration and interaction with relevant external parties. Students must also work on thinking entrepreneurially in relation to other subjects. The educational programme should encourage students to identify ideas, and do something with them.

Teacher training is particularly important to fulfill the intentions for entrepreneurship in primary, lower and upper secondary education and training, especially through further and continuing education for teachers within this field.

³ www.gemconsortium.org

Entrepreneurship in the Knowledge Promotion Reform

3.1 Entrepreneurship in the Knowledge Promotion Reform and subject curricula

A new curriculum for the primary, lower secondary and upper secondary education and training was introduced in autumn 2006. Report No. 30 (2003-2004) to the Storting, *Culture for Learning*, formed the basis for the Knowledge Promotion Reform. Here entrepreneurship is referred to as an instrument to renew education. Pedagogical considerations would indicate that training in entrepreneurship should be organized differently depending on the stage in education.⁴ The Government makes it clear that the foremost characteristics of the multifarious school for all shall be knowledge and skills, enjoyment of work and mastery, independence and solidarity. The Storting has endorsed this. Pupils shall gain an improved basic competence, and clear requirements will be laid down for basic skills consisting of:

1. ability to express oneself verbally
2. ability to express oneself in writing
3. ability to read
4. ability to do mathematics
5. ability to use digital tools

CURRICULUM IN ARTS, CRAFT AND DESIGN The purpose of the subject

• The subject of arts, craft and design bears with it various traditions, from the craftsmen's solid knowledge of materials and self-perpetuating work processes, via the designers' concept development and problem-solving to the artists' free, creative work.



Photo: NHO's billedarkiv

The Knowledge Promotion Reform places emphasis on greater variation in forms of learning and learning arenas, more practical learning and greater freedom of choice in the close interplay between education and society. The Government wants pupils to be allowed to take part in pupil enterprises, find learning arenas outside the school gate and have entrepreneurship included as a part of their basic instruction in school.⁵

The Curriculum Model for the Knowledge Promotion Reform consists of three parts: the Core Curriculum, The Quality Framework and the Subject Curricula.

The Core Curriculum is unchanged in relation to the general part of the L97 curriculum. Here the value foundation and view of humanity that the instruction is based on are laid out in greater detail. In several sections of the *Core Curriculum* we find a basis for qualification in entrepreneurial attitudes and competence.

The Quality Framework makes clear the school-owner's responsibility for comprehensive instruction in accordance with the regulations and adapted to local and individual prerequisites. The principles in the *Quality Framework* mention several areas that are promoted by entrepreneurship. These are areas such as:

- Social and cultural competence
- Motivation for learning and learning strategies
- Pupil participation
- Adapted training and equal opportunities
- The competence of teachers and instructors
- Collaboration with the home
- Collaboration with the local community

The *Collaboration with the local community* item places emphasis on collaboration between local business life and social life on instruction when it comes to giving pupils an insight into various work processes, practical work experience and knowledge of working life. All this will contribute to work on entrepreneurship in school. It is emphasized that this will provide an insight into changes that occur in business and social life and make visible the usefulness of active participation in entrepreneurship, innovation and

⁴ Report No. 30 (2003-2004) to the Storting, *Culture for Learning*, Ch. 11.3 The School and Co-players, pp. 112-113

⁵ Government Declaration "Soria Moria" – Political Platform 2006-2009

reorientation. Such experiences will also contribute to pupils achieving a better basis for the conscious choice of education and occupation.

The **“Learning Programme”** which is included in The Quality Framework contains 11 items that shall give the direction and basis for teaching in schools, qualitative development and assessment. Here are seven of these items:

- Give all pupils, apprentices and trainee candidates the same opportunities to develop their abilities and talents individually and in collaboration with others
- Stimulate pupils’ and apprentices’/trainee candidates’ desire to learn, stamina and inquisitiveness
- Stimulate pupils and apprentices/trainee candidates to extend their own learning strategies and critical thinking ability
- Stimulate pupils and apprentices/trainee candidates in their personal development and identity, in developing ethical, social and cultural competence and the ability to understand democracy and participate in democracy
- Pave the way for pupil participation, so that pupils and apprentices/trainee candidates can make conscious choices of values and choices of education and future occupations
- Promote adapted education and training and varied work methods
- Pave the way for the local community to be involved in instruction in a meaningful way

Subject curricula. Entrepreneurship and entrepreneurial thinking are found at the base of many subject curricula for primary and secondary school subjects and in the continuing subject curricula. Examples of these are subjects like Social Sciences, Design, Arts and Crafts, Nutrition, Health and Food and in preparation of local curricula in optional programme subjects. For upper secondary 1 and 2 vocational programmes (Norw. Vg1 and Vg2) we find entrepreneurship in: Arts, Crafts and Design, Electro and Electrical subjects, in Media and Communication, in Programme for Agriculture, Fishing and Forestry and in Service and Transport and communication. In programmes for General Studies we find entrepreneurship in: Marketing and Management, Social Studies, Arts and Design subjects, in Sports subjects and in Business Economics

From autumn 2007 a new programme subject will be established within the education Programme for Specialization in General Studies, Social Sciences and Economics Studies, The programme will receive the designation *Entrepreneurship and Enterprise Development*. Other subject areas use words that semantically involve



Photo: NHO's billedarkiv

CURRICULUM IN ARTS, CRAFT AND DESIGN The purpose of the subject

- Practical creative work in workshops which gives form to experience and development of products has a central place in the subject.
- The subject provides opportunities for development of entrepreneurship and collaboration with enterprises, institutions and professionals.
- Aesthetic competence is a source of development at several levels, from personal growth, via influence on one’s own surroundings to creative, innovative thinking in a larger societal perspective.

entrepreneurship. Examples of this are: “innovation”, “competence for change”, and “partnership”. These terms are used to express the objective of the subjects, basic skills and competence-related goals.

The curricula at all levels of primary, lower and upper secondary education and training give the individual school-owner and teacher relatively great freedom to decide themselves how entrepreneurship should be organized and implemented in instruction.

3.2 Important factors for promoting entrepreneurship

In order to be able to concentrate on the objectives of entrepreneurship in the education system, there are four factors that apply to all levels of the education system:

- Entrepreneurship as an integrated part of education and training: Entrepreneurship is defined as an objective in education, so it must be included in the instruction strategy. This is a matter of attitudes and qualities in general, whereas knowledge and skills are particularly emphasized within specific subject areas mentioned in the curricula.⁶
- Collaboration with the local community: Training in entrepreneurship prerequisites close collaboration be-

⁶ The Competence Reform. Curricula for the Basic School and Upper Secondary Instruction. The Ministry of Education and Research, June 2006



CURRICULUM IN SOCIAL SCIENCES

Working and business life (Vg1/Vg2) in upper secondary education and training

Objectives of the training are that the pupil shall be able to

- reflect upon the value of having a job and what characterizes a good working environment
- explain reasons for unemployment and discuss ways to reduce unemployment
- discuss some ethical issues linked to working life
- explain the place of organizations in working life and discuss factors that determine wages and working conditions
- evaluate challenges linked to establishing an enterprise

tween schools and the local business and social sector. There is therefore a need for more arenas for contact between educational institutions and various players in society. In such arenas educational institutions and the local social and business sectors will get to know one another better, and cultural barriers may be dismantled. This will result in mutual benefit inasmuch as it will increase the quality and relevance of education and strengthen recruitment to the local business sector and development of competence.

Proper interaction between schools and business and working life, art and culture and other parts of the local community can make training in the subject curricula. concrete and realistic, thus increasing pupils' ability and desire to learn. Local communities differ, and what pupils think as local will change regardless of their age and development and of changes in society.

Organized collaboration with the local business and work sector can give pupils an insight into different work processes, practical work experience, knowledge of working life and contribute to work on entrepreneurship in education and training.. Insight into the changes that occur in business and

working life can make visible the usefulness of active participation in innovative activities and entrepreneurship.

Experience from local business and working life may contribute to pupils getting a better basis for a conscious choice of education and occupation.

(The Knowledge Promotion Reform. The Quality Framework, the Ministry of Education and Research, June 2006)

- **Teachers' competence:** Teachers are important role models. A positive attitude among young people in schools toward entrepreneurship, innovation and reorientation requires that teachers have knowledge of this. It is therefore important to focus on entrepreneurship in teacher training, and also provide courses in competence development to working teachers. *The teacher is the most important prerequisite for solid, meaningful instruction. The teacher and the instructor can mean all the difference to many pupils and apprentices.*⁷
- **The attitudes of school-owners and school managers:** School-owners must follow up the focus on entrepreneurship in curricula and management documents, and build competence and insight among school managers. It is important that educational institutions are given legitimacy and motivation to work on entrepreneurship. School managers must be able to follow up, encourage and motivate teachers to be good role models and disseminators of knowledge. Both school-owners and school managers must take the initiative in collaborating with the business sector and other agencies in the municipality. *The school-owner is the best guarantor of good educational institutions.*⁸

3.3 Criteria for pupils' learning environment

The criteria have equal status, but which of these should be most strongly weighted in the various educational setups will vary. Active use of these criteria will contribute to quality assurance and programmes focused on entrepreneurship and fulfillment of the curriculum.

- **Stimulation and development of creativity**

Creativity is having the ability to discover new contexts, find new solutions to problems or discover new methods and procedures to arrive at exciting results. It is a matter of being curious, daring to say yes to new thoughts, associations and ideas that emerge, and developing these in interplay with others. All human beings have a capacity for creative innovation. Creative qualities are a part of what makes human beings special. The capacity for innovation can be trained. Children and young people who are encouraged in this area also learn to see opportunities where others first and foremost see limitations.

- **Pupil participation and active learning**

Pupils shall be given the opportunity to participate in decisions that apply to their own learning situation. This

⁷ Government Declaration, 13 October 2005

⁸ Government Declaration, 13 October 2005

will contribute to greater awareness of their own learning processes, and to knowledge of planning, implementation and evaluation of their own and others' work. The extent of such participation will vary in relation to age and level of development.

Learning from experiences you have undergone yourself is vital to developing proper entrepreneurship competence. It is important that pupils continually have arenas where they are allowed to be active and make their own decisions along the way in the learning processes. Active and reflected learning processes result in pupils gaining the feeling of owning the knowledge that they acquire. Thus, the learning processes will be stored away as a significant part of their fund of experience. Through active learning pupils will gain experience of both succeeding and failing in projects. Both parts belong to entrepreneurship-related work. In addition, learning to tackle adversity constructively can be of considerable value when transferred to other areas of life.

• **Interdisciplinary work form**

Entrepreneurship is an interdisciplinary work form that develops pupils' knowledge, skills and attitudes. The very core of competence in entrepreneurship lies in having the ability to see solutions based on the breadth of one's own experience and being able to utilize this in new contexts. By dissolving the dividing lines between subjects and encouraging pupils to seek wide knowledge in their own problem-solving activities, they will find creative solutions to a greater degree and obtain results that they can make subsequent use of. It is only when pupils have developed the ability to think in an interdisciplinary manner and see the connections between subjects that they will acquire knowledge that can be utilized in more connections.

• **Collaboration between schools and local community and business life**

One of the education system's most important tasks is to train children and young people for a future working life. It is of significant importance that they receive fundamental knowledge of the opportunities that are located in their own local environment and in the work sector in general, so that they will make correct choices in relation to both occupation and business-founding. Society is changing so fast that the educational system alone has no possibility of giving children and young people the competence they need, without having close, reciprocal collaboration with both the local business sector and other milieus in the local community. Entrepreneurship cultures are characterized by an actively committed interaction between business and community life, which takes children and young people seriously.

• **Productive work**

A vital part of competence in entrepreneurship is awareness of how one's own and others' actions take part in

creating lasting values and profitable working places for all. International studies indicate that there is a robust and positive connection between entrepreneurship and important factors like economic growth, innovation and the establishment of new working places, technological change, growth in productivity and export. Entrepreneurship in education and training is important to create understanding for this and to contribute to establishing entrepreneurship in reality.

It is important to assign equal status to social, cultural and economic productive work. When you are to develop pupils' competence in entrepreneurship throughout their educational career, it will be natural to focus on social and cultural productive work in the smallest children. In addition, later in their educational career come knowledge and understanding of how they can contribute to economic value creation. International studies indicate that there is a positive and robust connection between entrepreneurship and important factors such as economic growth, enterprise survival, innovation, establishment of new workplaces, technological change, and growth in productivity and exports.⁹



Photo: Ungt Entreprenørskap, Norge.

The CURRICULUM IN NORWEGIAN **The objective of the subject**

- The subject of Norwegian is a central subject for cultural understanding, communication, proper upbringing and development of identity
- The subject shall encourage development of good learning strategies and the ability to think critically
- A primary objective of instruction in Norwegian throughout the 13-year programme is linguistic self-confidence and a secure relationship with one's own culture as a basis for developing one's identity, respect for other cultures, active participation in society and lifelong learning.

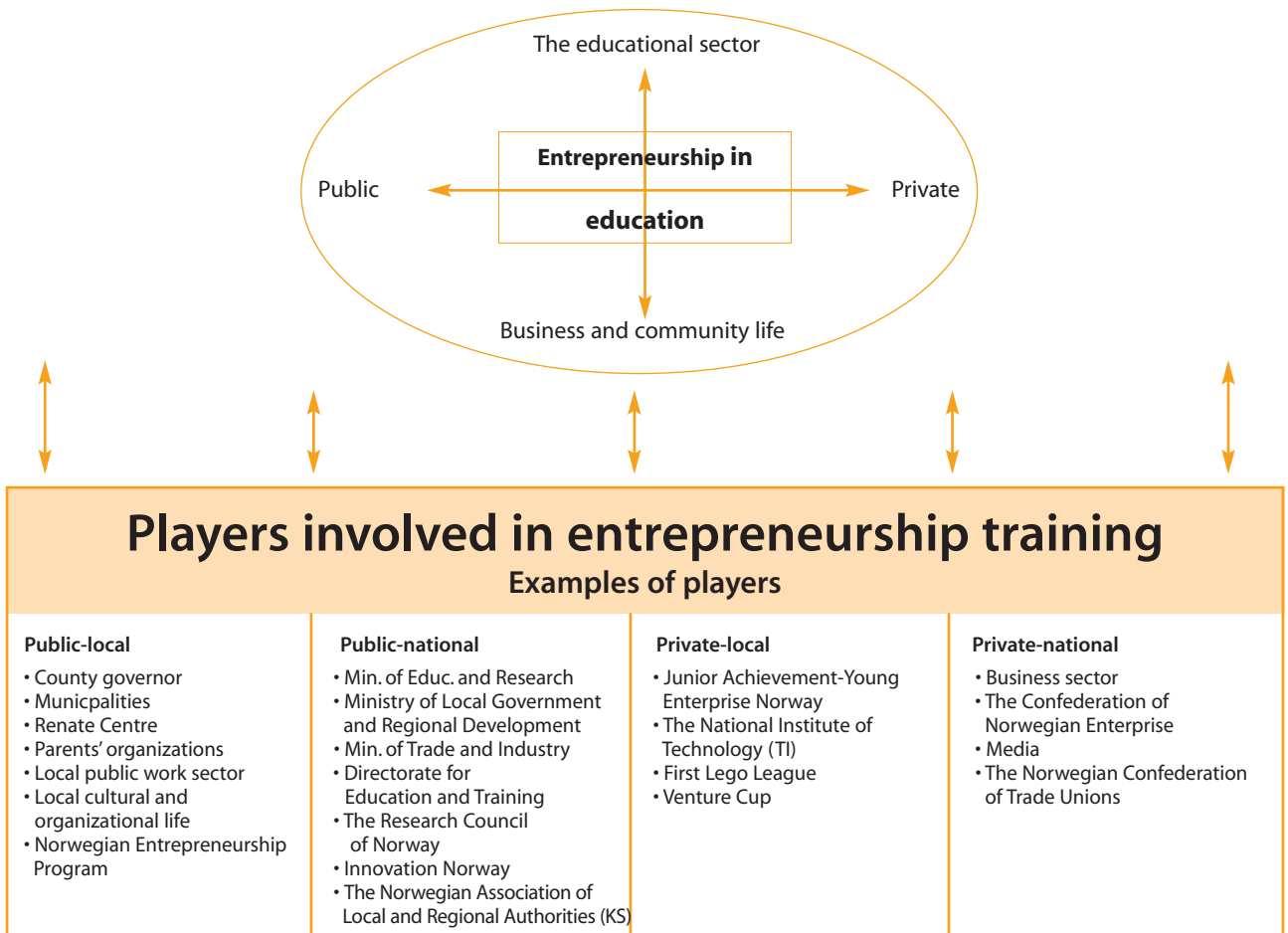
⁹ DB Audretsch, *Entrepreneurship; A Survey of Literature, 2002*

The state of play of entrepreneurship in education

There is broad agreement that integration of entrepreneurship thinking and practice in education could be of importance to the nation's future and form. Thus, the school as a learning arena cannot be alone in working on entrepreneurship. A comprehensive perspective in education and training demands more relevant players with coinciding goals in a continual dialogue and interplay. The broad national concentration must be reflected locally where a number of players such as school-owners, educational institutions, business and community life, special interest organizations and others come together in this work. In addition to entrepreneurship training being carried out and organized by public players, there are some independent, private organizations at national and

local level. In order to achieve comprehensive, long-term concentration on this area, the various players must act in concert and coordinate their efforts.

Entrepreneurship in education lies in a field between two axes. This may be described as the middle field between learning and earning, and in the tension between the public and private sector. The middle field also reflects the motives and reasons for focusing on entrepreneurship, which in the main are linked to general pedagogical principles, business development and regional development. The following model gives examples of the multiplicity of local and national players who are involved in the concentration on entrepreneurship.



In addition there are international players: The EU, collaborating Nordic bodies, UNESCO, JA-YE Europe, Junior Achievement Worldwide

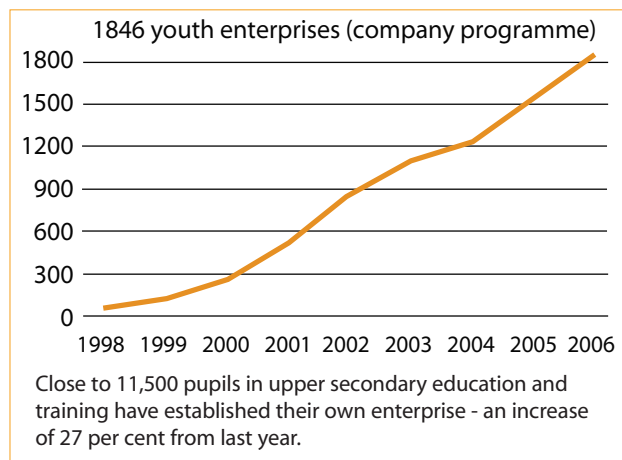
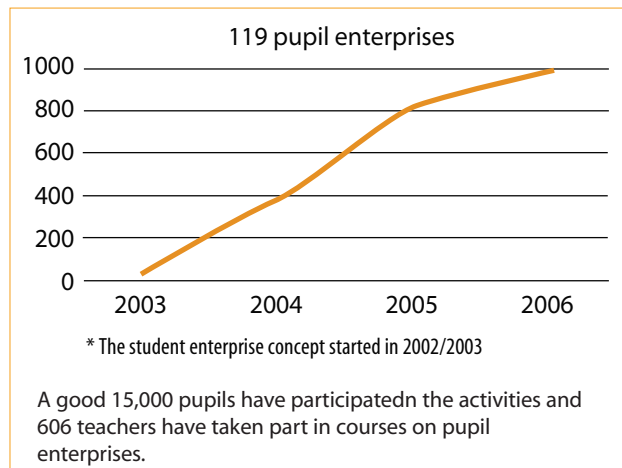
4.1 Primary, lower, and upper secondary education and training.

Entrepreneurship in primary, lower and upper secondary education and training is emphasized differently in schools, and its extent in individual counties varies greatly. What is understood by the concept of “training in entrepreneurship” and is therefore included in it, varies between each individual school and is often understood differently by individual teachers.

The mapping of entrepreneurship carried out by Kunnskapsparken (the Competence Park) in Bodø indicates that 46 per cent of Norway’s primary and lower secondary schools give the impression that the concept of entrepreneurship is used to describe something of the pedagogical activity at the school. Further, the mapping indicates that there is an even distribution between understanding entrepreneurship in education more narrowly, merely as establishing enterprises, developing active pupil-based work forms that can develop creative, independent and entrepreneurial pupils. The mapping indicated that 42 per cent of the schools use pupil enterprises as a pedagogical method.¹⁰

On a national basis the number of student, youth and pupil enterprises is continually increasing. Pupil enterprises have now been registered in all counties in Norway. Junior Achievement-Young Enterprise Norway has initiated a major effort for all levels of basic education in order to develop new programmes for entrepreneurship in education by 2009.

A survey conducted by NIFU shows that 30 per cent of pupils in vocational programmes and 5 per cent in Programmes for General Studies drop out of school before completing their education.¹¹ The Government wishes to break this pattern by using measures financed by the State Budget, and through a report from the Storting relating to education as an instrument to promote social equality. There are many reasons for drop-out in upper secondary education and training. One of them is dissatisfaction because lessons are not felt to be sufficiently meaningful. Pupils complain that they cannot see how what they learn at school can be utilized in practice. The teaching methods that are used are not varied enough. This has a negative effect on the relationship between teacher and pupil, a factor that in itself is a very important factor for well-being. Bullying by fellow-pupils or teachers is also given as a reason, likewise poor guidance and counselling and a lack of apprenticeships. Work on entrepreneurship in education results in more pupil activity and means that pupils participate more in shaping their own learning processes. This results in mastery, and will reduce drop-out frequency. A prerequisite for this among other things is use of educational methods that link theory and practice more closely together.



Examples of Junior Achievement-Young Enterprise Norway’s activities

Junior Achievement-Young Enterprise Norway (JA-YE) is the largest private supplier of entrepreneurship training in Norway. Junior Achievement-Young Enterprise Norway has a national administration and local branches in all counties. JA-YE’s activity has grown considerably since the organization was established in 1997, and today JA-YE provides programmes for all stages of education. The object of the State subsidy to Junior Achievement-Young Enterprise Norway is to contribute to more young people receiving an offer of training in entrepreneurship, and this leading to a stronger entrepreneurial culture. The Government sees the support for Junior Achievement-Young Enterprise Norway in the context of follow-up of the Government’s strategic plan for entrepreneurship in education. Their focus on the “Programme for Innovation and Entrepreneurship in Training and Education in Norway 2006-2009” is in line with the Government’s strategic plan for entrepreneurship in education. The programme will contribute to the primary objective of the strategic plan being achieved. The concept of company programme, which is provided to upper secondary schools, is particularly widespread. Percentage-wise the concept is most widespread in Nord-

¹⁰ Competence in Entrepreneurship in the Norwegian Basic School, Kunnskapsparken Bodø A/S, Report No. 1 – 2005
¹¹ NIFU Report Series, No. 3/28.04.2006

- Junior Achievement-Young Enterprise Norway (JA-YE Norway) has a large international network with both European and global events and services for pupils and teachers. A special test arranged by the University of Cambridge is carried out for pupils in upper secondary education and training. In the 2005/06 school year 2,500 pupils from Norway participated.
- JA-YE Norway is a member of Junior Achievement – Young Enterprise Europe (JA-YE Europe) and JA Worldwide, and has received two international awards for the quality of the work the organization submits and the research it does.
- The graduate programme has been designated as the “Best Practice” by the EU.
- NHO (The Confederation of Norwegian Enterprise), the National Insurance Administration’s Working Life Centre Østfold, and the JA-YE Norway have set up a collaboration on inclusive working life (IA) as a part of the youth enterprise concept. Here emphasis is placed on creation of attitudes related to reduction of sick leave in working life.
- The collaboration forum against the black economy, consisting of the tax authority, KS (The Norwegian Association of Local and Regional Authorities), and LO (The Norwegian Confederation of Trade Unions), carries out preventive work. In 2006 35 youth enterprises had their accounting ethics examined with the assistance of this collaboration forum.

Trøndelag, Oppland and Hedmark. In the 2005/2006 school year around 12,000 pupils took part in 1,900 enterprises at a good 300 upper secondary schools in Norway’s 19 counties. Then over 3,000 teachers from upper secondary schools were on courses at Junior Achievement-Young Enterprise Norway. The pupil enterprise concept for lower secondary school has also become more widespread.

Examples of other stakeholders’ activities

SimuNor¹² Organizes Simu enterprises (simulated enterprises) linked to economic-administrative subjects in upper secondary education and training. In the 2005/2006 school year 333 upper secondary schools were linked to this concept. SimuNor supplies the products Simu-enterprise and Simu Business Games and administrates the SimuNorNetBy network portal.

In Sogn og Fjordane the REAL NORGE (Rural Entrepreneurship through Action Learning)¹³ concept is used in the broad concentration on entrepreneurship in the whole of primary, secondary and upper secondary education and training. The concept has been adapted for use in primary school – Mini REAL.

FIRST LEGO League (FLL) is a technology tournament for children and youth aged 10 to 16 that is arranged throughout Norway.¹⁴ Creativity, collaboration, design, staying power, team spirit, enthusiasm, decisiveness, play and learning are central elements in FLL.

INOVUS¹⁵, in Bodø, is a collaborative project involving Kunnskapsparken in Bodø, Nordland County Municipality, Innovation Norway, Junior Achievement-Young Enterprise Norway, First Lego League, and Bodø Regional College. The target group is the educational system, potential young enterprise creators, business founders, enterprises, providers of teaching/learning aids, financing institutions and others who are interested in stimulation of entrepreneurship in children and youth. The content is based on national political guidelines for entrepreneurship in education. INOVUS arranges a major biennial conference. The conference is tripartite and aimed at schools, the business sector and young creativity, and at knowledge in practice.

Partnership with the business sector

The business sector of the future will be created by those who are at school today. It is therefore important that pupils and students should receive the opportunity to gain an insight into today’s working and business life. Through NHO’s (The Confederation of Norwegian Enterprise) partnership agreements the way has been properly paved for pupils to get precisely this opportunity. Today more than 3,500 partnership agreements have been signed, and interest in this collaboration concept is steadily increasing. Partnership agreements are used at all stages of education, but are most used at lower secondary level. This is to do with the fact that the fundamental choices in connection with pupils’ future places in working life are taken here. Around 75 per cent of all lower secondary schools in Norway have partnership agreements with the business sector.¹⁶

Entrepreneurship in adult education

Under certain preconditions, adults are entitled to education and training in the primary, lower or upper secondary education and training. The Ministry of Local Government and Regional Development (KRD) has prepared a new, comprehensive strategy for this instruction, which is particularly aimed at immigrants. Instruction in entrepreneurship will be largely focused on in this work. One new concept is Introductory Enterprises (I-enterprises). Through lessons in Norwegian and civics, immigrants will get an opportunity to try out and develop their abilities in entrepreneurship under expert guidance. At the same time they will establish contact with the local business sector and acquire a good, useful knowledge of Norwegian. I-enterprises are modelled on youth enterprises. Currently the concept is being tried out with pilot projects in six different municipalities.

Regional and municipal development programmes

The majority of Norway’s counties are prioritizing entrepreneurship by promoting entrepreneurship culture as

¹² www.simunor.no/

¹³ www.gareal.org

¹⁴ www.hjernekraft.org

¹⁵ www.inovus.no

¹⁶ Figures given by NHO in June 2006

In **Nordland** there is an agreement of intention between the County Governor, the county municipalities, local colleges and Junior Achievement-Young Enterprise Norway. The parties to this Declaration of Intention are committed to collaborating on creating and further developing a general entrepreneurship service at all stages of education. Their vision is "A Nordland that is boiling over with activity, initiative, creativity ... in schools, in the business sector and in local environments ... with innovation as the goal". This common focus is due to recognition of the fact that there are many players with common goals, and that therefore there is a need for interaction and a common arena.

In **Telemark** the county municipality, County Governor, Innovation Norway, the municipalities, regional councils, NHO, LO, Aetat (NAV, since July 1, 2006)) and the local business sector collaborated on focusing on entrepreneurship in the county. The goal is to increase the establishment of new enterprises in the short term. In the longer term the goal is beneficial innovation and business development. The vision is "In a 10-year perspective Telemark shall lead Norway with regard to entrepreneurship". This will be achieved by reinforcing and coordinating entrepreneurship in Telemark, by involving more innovative enterprises and with the assistance of an educational system that is based on entrepreneurship as a pedagogical platform.

In **Sogn og Fjordane** there has been a broad focus on entrepreneurship in schools since 2003. This work is coordinated by the County Governor in collaboration with municipal regions, the county municipality, Sogn og Fjordane University College (HSF), Innovation Norway and JA-YE Norway. All upper secondary schools and most primary and lower secondary schools have received funds to encourage initiation of entrepreneurship schemes. Over a number of years decentralized upper secondary services in entrepreneurship have been implemented at HSF.

Since 2005 **Trondheim Municipality** has given all teachers in the primary and lower secondary school a non-compulsory offer of training in entrepreneurship. The study programme has been prepared in close collaboration with school managements and NTNU (the Norwegian University of Science and Technology), and Skolelaboratoriet (the School Laboratory), which is in charge of the scheme.

The title of the programme is Technology and Entrepreneurship, and it gives 7.5 credits. On completion of the programme each teacher is paid NOK 1000 per credit (NOK 7,500). In 2007 an opportunity will be given to build on the programme so that it will give a total of 15 credits. Networks have also been established between the schools under the auspices of the municipality. In the networks teachers will have the opportunity to develop concrete ideas for work in the classroom.¹⁷

important in their strategic plans for regional development. In the reports to the Ministry of Local Government and Regional Development for 2005 about 10 per cent of the funds for regional development were used for paving the way for entrepreneurship and the establishment of new enterprises. The funds have been allocated to partnership between other stakeholders such as the business sector, providers of teaching/learning aids, organizations, educational institutions and municipalities. Entrepreneurship in education is included in the regional partnerships by for example Junior Achievement-Young Enterprise Norway being financed through several county municipalities.



Photo: Ungt Entreprenørskap, Norge.

4.2 Higher education

Universities and university colleges play an important role in developing and contributing to necessary and relevant competence in entrepreneurship.

A number of colleges and universities provide both compulsory and elective subjects of study within entrepreneurship, especially linked to education in economics and technology. At some institutions in addition there is greater focus on entrepreneurship in humanistic and social science subjects. In 2005 there were 13 municipalities/county municipalities that had entered into collaboration agreements with teacher training institutions that provided study modules or courses in entrepreneurship. A number of the courses/modules combine theory and practice, and collaboration/partnership agreements are entered into with local businesses. Universities and colleges collaborate with enterprises, business organizations and local and national authorities in development of courses and educational programmes.

Entrepreneurship programmes at Nordic colleges and universities

A survey has been carried out to investigate what characterizes entrepreneurship programmes in higher education in the Nordic countries.¹⁸ The following main features are highlighted:

- Most of the programmes have a strong focus on management of small enterprises, not on entrepreneurship and

¹⁷ www.trondheimkommune.no

¹⁸ *Entrepreneurial learning & academic spinoffs – Project report to Nordic Innovation Centre 2005*

Examples of various initiatives

At a number of colleges and universities various courses of study in entrepreneurship are provided.

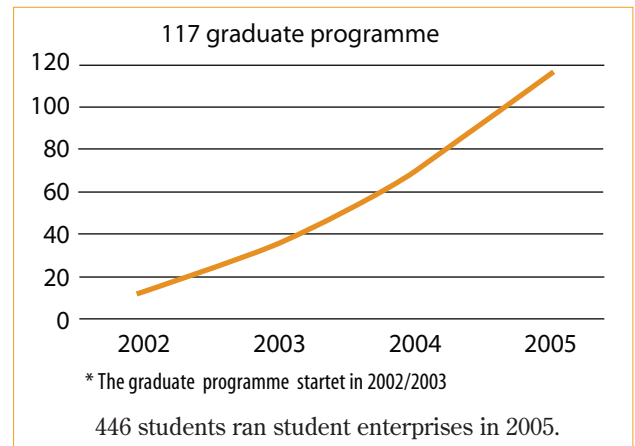
The Centre for Entrepreneurship at the University of Oslo provides a number of such programmes and courses in entrepreneurship and innovation, such as the following options:

- The Norwegian Entrepreneurship Program (30 credits), which is a collaborative project involving a number of universities and colleges, provides a scheme where students first gain basic skills in start-up of enterprises. Then they spend three months with a start-up enterprise in San Francisco, Boston, Singapore, Shanghai, Johannesburg or London.
- Master of Science in Innovation and Entrepreneurship (120 credits – 2 years). The programme gives a full master's degree within research-based innovation and entrepreneurship for students with bachelor's degrees within informatics or molecular science.
- "From Idea to Enterprise" (5 credits) is a programme for all maths and science students at master's level. The programme is also given as a post and further education option in collaboration with Oslo Municipality.
- HUMSAM- Course in how to establish a business (10 credits) is an offer aimed at stimulating students from the Humanities and the Social Sciences' subjects to establish businesses based on their education. This measure is a collaboration project between the University of Oslo, IKADA and Kulturell Dialog (Cultural Dialogue)

establishment of new enterprises in particular.

- Although many of the programmes have elements of experimental learning, it is still traditional pedagogical learning strategies that dominate.
- Many of the programmes have a strong focus on placement of students in already established enterprises. Thus, there is a risk that these students will largely be engaged in activities of an administrative nature. This again reflects the problem of distinguishing management from entrepreneurship.
- Few teachers of entrepreneurship have their own experience of starting a new enterprise. A possible way of dealing with the lack of teacher competence would be to bring in more teaching resources from the business sector.

Europrise is a concept for practical entrepreneurship training which has been developed within the EINET network. (EINET is a European network for education in entrepreneurship, partly financed through the Leonardo da Vinci programme. The network has 34 partners in 17 countries.) The primary target group is children and young adults aged 19 to 35. 75 per cent of the target group should be from the primary target group. The remaining 25 per cent



can be over the age of 35. The programme lasts for 9 months and includes practical experience of founding in an existing enterprise. The Europrise network has its own advisors who follow up students in the period of study. The programme qualifies for higher education studies and provides practical implementation of competence in entrepreneurship. The programme of study is now provided at a number of colleges, in collaboration with Innovation Norway, county municipalities and regional trade and industry throughout Norway.

Junior Achievement-Young Enterprise Norway provides the concept of "Graduate programme" to universities and colleges. The scheme is both in Norwegian and English and has an international dimension where 8 European countries are involved in a collaborative project. Student Enterprise can be run for 12 months, and gives credits at most of the colleges that use the concept. In 2005 117 student enterprises were registered with a total of 446 students at 24 colleges, which is a considerable increase from 2002.

Many colleges take part in "InnovationNet" – a network established by the colleges. The objective of the network is to strengthen the competence of colleges by developing and providing courses for employees and students in subjects such as product development, innovation technique, entrepreneurship, industrial rights and quality management. In addition to developing entrepreneurial milieus at the colleges, the network has set as a target that at each college there shall annually be established a certain number of enterprises based on ideas from employees and students.

StartNorge (Start Norway) is an organization for students who are interested in enterprise-founding and innovation. The organization is organized in 10 local associations at a supreme national level. The objective of StartNorge is to create a power centre around entrepreneurship and innovation for students in Norway.

A number of colleges also participate in “Næringsrettet skoleprogram” (Business-oriented Educational Programme), which is a programme established by The Research Council of Norway. Through closer interplay and reciprocal competence development between small and medium-sized enterprises and the state colleges, the programme shall contribute to a better innovative ability and regional development capacity, both in enterprises and in colleges.

Universities and colleges with educational programmes within culture, art, design and graphic forms of expression can play an important part in cultural entrepreneurship. It is crucial that the collaboration with cultural and business life be further developed. In Report to the Storting No. 18 (2001-2002) *The Quality Reform – Concerning Art Education* it is stated that it is an expressed goal that art colleges shall turn out graduates who can stand on their own feet as active or creative artists. Report to the Storting No. 22 (2004-2005) *Culture and Business* refers to the need for collaboration between art and cultural education programmes and culture and business life. The need for the art and culture sector to be able to communicate its competence needs, and what is important to increase professionalism and productive work in the value chains in the various business sectors, is pointed to.

4.3 Teacher training

In teacher training entrepreneurship is emphasized both in basic education and in further and continuing education of educational personnel. The framework plans for all teacher training programmes describe the necessity for developing learning strategies that encourage pedagogical use of entrepreneurship in the training.

Colleges are obliged to ensure that entrepreneurship becomes an interdisciplinary subject in teacher training by preparing a special curriculum for this. However, entrepreneurship is not a separate obligatory subject in teacher training, but the new programme model makes it possible to provide entrepreneurship or working life theory as an elective subject in the general teacher training programme for teachers of general subjects.¹⁹

In 2005/2006 about 20 teacher training institutions provided post and further education programmes for up to 30 credits.

4.4 Research and entrepreneurship

At several universities, colleges and research institutes research is being carried out on innovation and entrepre-

neurship. The University of Oslo, Norwegian School of Management BI, Norwegian School of Economics and Business Administration, NTNU and among others Bodø and Buskerud University Colleges, STEP-SINTEF; NORUT and NIBR are examples of such institutions. The Nordland Research Institute, Estern Research Institute (ENRI) and Nord-Trøndelag Research Institute are also milieus that work on entrepreneurship in education.

Many of the institutions have special units for commercialization and/or incubators. An incubator is a development environment for new enterprises. Normally an incubator will have a physical link to a professional milieu where organized access to competence, experience, advice, guidance and capital is given. The incubator will often have premises that are leased out free to innovation enterprises or start-up enterprises. Here students and employees can implement their knowledge of entrepreneurship and ideas for new products in practice.

There are also student-run units of this type at various institutions, which arrange courses and provide guidance in connection with start-up of one's own enterprise. With the amendments to the Act relating to Employee Inventions, institutions have been given greater responsibility for commercializing research results. As a result of this amendment, now so-called Technology Transfer Offices (TTOs) are being developed at the Universities of Bergen, Oslo and Tromsø as well as at NTNU (Norwegian University of Science and Technology) and the Norwegian University of Life Sciences at Ås. In the time to come there will therefore be a greater focus on entrepreneurship, and the milieus that have a central position in this work will be strengthened. These milieus may also contribute practice and knowledge to teaching and education.

Provisional evaluations and comparative studies

A study initiated by the Directorate for Education and Training and carried out by Kunnskapsparken in Bodø in 2004 indicates that the concept of entrepreneurship to a particular degree is linked to *pupil participation and creativity, and among activities it is especially collaboration with the local business sector that is connected with entrepreneurship.*²⁰

The survey was carried out among teachers in the primary and lower secondary school and mapped the extensiveness of competence in entrepreneurship. It contained both focus on entrepreneurial qualities (personal qualities and attitudes) and knowledge and skills linked to developing an idea into a concrete result. Further, knowledge of the strategic plan concerning entrepreneurship in education was mapped. In addition an attempt was made to find out

¹⁹ In autumn 2003 a new programme model was introduced that made a greater part of teacher training elective.

²⁰ Competence in entrepreneurship in the Norwegian basic school, Kunnskapsparken Bodø A/S, Report No. 1-2005



how far schools had got with regard to reaching those goals that the Government has set for entrepreneurship in the education system. Questionnaires were sent to all primary and lower secondary schools in Norway, and the response percentage was 32.1

In the survey three main questions are asked:

- To what degree are entrepreneurial qualities stimulated in the Norwegian primary and lower secondary school?
- To what extent are entrepreneurship knowledge and skills prevalent in the Norwegian primary and lower secondary school?
- To what extent have the Government's objectives been achieved in the Norwegian primary and lower secondary school?

The sample survey points in the direction of the following:

- The objectives that have been set for entrepreneurship in primary, lower and upper secondary education and training have generally been achieved only to a small degree in the Norwegian primary and lower secondary education.
- 74.2 per cent know of the strategic plan, but it is only utilized to a small degree (10.1 per cent).
- 44.8 per cent of the schools have entrepreneurship firmly based on the enterprise plan.
- 43.6 per cent of the schools gave teachers the option of increasing competence in entrepreneurship when this was introduced at the school.
- Among the goals for all levels of education it is the goal of collaboration between educational institutions and business life that has been achieved to the greatest

In 2006 Bodø University College, Nesna University College and Narvik University College will jointly implement a programme of entrepreneurship for teacher trainers at the three colleges. Courses of study will also be given in the basic education programmes at the same colleges. For many years Sogn og Fjordane University College has had courses both in its basic programme and in further education.

degree. This is taking place through a large proportion of schools using local resources in teaching, and through about 1/3 of schools having partnership agreements with the business sector. The goal of collaborating with other schools has only been achieved to a small degree.

- School-owners are showing positive attitudes to entrepreneurship as a part of instruction, but this is not being followed up with practical organization and resources.

The Nord-Trøndelags Research Institute has carried out two national evaluations of youth enterprises in upper secondary education and training.²¹ One was carried out in 2002, the other in 2005. The latter survey had a response percentage of 31.8 per cent for the pupil survey and 27.2 per cent for the teacher survey. Evaluation shows a number of positive results. A large majority of pupils said that participation in a youth enterprise had strengthened their self-confidence and their problem-solving qualities and had led to a more interesting school career.

Almost two thirds felt that the joint activity between teachers and pupils had been influenced in a positive way. Moreover, it turns out that those who have participated in a youth enterprise start up their enterprise to a greater extent. Surveys in the over 29 age group show that the percentage who start their own enterprise is four times higher among those who have participated in youth enterprises than the average otherwise.

The results of the survey are:

- Of all those asked, 16.6 per cent of those who have participated in youth enterprises in upper secondary education and training have established an enterprise. Here the average among the population otherwise is 7.5 per cent (Kolvereid and Alsos 2003).
- 30.8 per cent of those who have established an enterprise say that the enterprise established is of the same type as the youth enterprise.
- Those business sectors that have seen most enterprises established are the retail trade, IT/consultancies and primary production.
- 62.3 per cent of the enterprises have not been closed down.
- The lifetime of enterprises that have closed down would seem to be about two years.
- 74.8 per cent of pupils say that the youth enterprise has made their school career more interesting and exciting.
- 80.6 per cent of teachers feel that it is a positive thing to teach in youth enterprises, and a somewhat larger proportion wish to continue this instruction. At the same time a large proportion of teachers think that it is professionally and pedagogically demanding to provide lessons in youth enterprises. In addition many think that youth

²¹ *Youth Enterprises and Entrepreneurship – 2005, Nord-Trøndelagsforskning, Steinkjer*

enterprises improve collaboration abilities among pupils, which influences the pedagogical approach.

- 40 per cent of the managers of youth enterprises are girls.

Next Generation – Enterprise 2010²²

The study was carried out by the Eastern Research Institute (ENRI) and had 10,000 participants from 25 European countries. The age group was 15-20 years, and the young people were asked about a number of themes linked to the Lisbon strategy (see below). A number of these pupils had previously taken part in JA-YE programmes, but a number of others also took part.

- 62 per cent of those who replied thought that entrepreneurship could be learned, and that anyone can become an entrepreneur. Only 20 per cent thought that it would be easy to start their own business, at the same time as 50 per cent felt that they themselves could easily do so.
- European youth would seem to be willing to take the risk that is necessary to make the effort. 63 per cent of all those asked confirmed they had planned to become self-employed. Among those who had taken part in JA-YE programmes, 77 per cent answered positively. This is in contrast to an average start-up rate in Europe of 5.1 per cent (GEM Report 2004).
- Over 50 per cent of the respondents look upon entrepreneurs as people with good abilities to solve problems.

4.5 Entrepreneurship in education in an EU perspective

In the EU, as in Norway, entrepreneurship in education is recognized as a central element in entrepreneurship policy. It is expressly pointed out that a culture that supports entrepreneurship will contribute to innovation and productive work in society.

In the spring of 2000 the EU decided upon the so-called Lisbon Strategy. The strategic goal is that by 2010 the EU shall be *“the most competitive and dynamic knowledge-based economy in the world, an economy that can create sustainable economic growth with more and better workplaces and greater social equality with respect for the environment”*.²³

Entrepreneurship in education has a central place in the EU's follow-up of the Lisbon Strategy. This is reflected in the primary objectives of education policy which were approved by the meeting of ministers in Stockholm in spring 2001. In 2003 the European Commission added a further follow-up, the so-called “Green Paper on Entrepreneurship in Europe”. Here growth and development opportunities are emphasized among other things through knowledge and innovation.

²² www.ja-ye.org

²³ *The EU's Lisbon Strategy in a Norwegian perspective, NHD 2006*

²⁴ http://eur-lex.europa.eu/LexUriServ/site/en/com/2006/com2006_0033en01.pdf

Norway also participates in a number of fora on trade and industry policy under the auspices of the EU. Exchange of findings with other European countries provides useful information on public sector investment in training in entrepreneurship.

In its latest report, *Fostering entrepreneurial mindsets through education and learning*, the European Commission presents an overview of the state of play of the whole educational pathway.²⁴ This report emphasizes what is crucial in the future work, e.g. coherent and regional plans, teacher training and collaboration between school and the local community.

Against the background of surveys and “good practices” in Europe the European Commission has proposed the following recommendations for paving the way for entrepreneurship in education and an entrepreneurial culture:

- A comprehensive approach, among other things collaboration between various interested parties with clear goals and curricula that include entrepreneurship at all levels of education.
- Support from schools and pupils; among other things schools shall receive practical support and incentives to include entrepreneurship in training as well as paving the way for training teachers.
- Participation by external parties and trade and industry, including collaboration between educational institutions and local communities and businesses, as well as use of pupil, youth and student enterprises.
- Encourage entrepreneurship in higher education, including integrating entrepreneurship in training – especially in natural science and technical studies – good-quality instruction and networks for teaching staff where they can exchange “best practices” and increase the mobility of teaching staff between educational institutions and the business sector.

These are recommended proposals for schemes that to a large extent have been implemented by different interested parties in Norway.

International collaboration within professional and vocational training

The EU Leonardo da Vinci programme, which is in its final phase, is intended to promote innovation and entrepreneurship in Europe through modification schemes linked to professional and vocational training in individual participant countries. Altogether about 4000 major projects for this purpose have been financed since 1995. Of these there have been about 100 Norwegian-led projects.

Challenges

Further challenges are to:

...improve the basis for knowledge

There is a need to increase research on entrepreneurship in education at all levels. Research will bring in knowledge of the subject area and thus an important and necessary foundation for further development and implementation of entrepreneurship practices.

...expansion of the geographical area

To ensure the broad foundation of entrepreneurship it will be important to encourage widespread dissemination of instruction in entrepreneurship to all parts of the country.

...enhance awareness

To reinforce entrepreneurship in education key persons such as teachers, students, pupils, school managers and school-owners must develop conscious attitudes regarding the value of entrepreneurship. Establishment and maintenance of networks within and between the various groups will be an important contribution to raising awareness and developing competence and dissemination of knowledge.

...reinforce international collaboration

In order to ensure that entrepreneurship is also viewed in an international perspective, it will be necessary to exchange experiences with other countries and often collaborate on concrete projects.

...establish a broader base

Managers and owners of educational institutions must establish, integrate and quality assure entrepreneurship in education. Active work on local curricula that have all parts of the Knowledge Promotion Reform as their point of departure is fundamental to incorporating entrepreneurship in education.

...develop more competence

Competence must be raised both in students in teacher training and in teachers who already have jobs. To achieve this, competence in entrepreneurship must also be raised in the providers of training.

...increase contact with business and community life

Local enterprises and other players in community life must be brought in as collaborating partners. Encouragement of such collaboration will increase knowledge about what collaboration on entrepreneurship would mean for both schools and business and community life, and increase motivation for establishment of partnerships.

...coordinate efforts, identify and follow up responsibility

A successful concentration on entrepreneurship in education will demand long-term thinking and a coordinated effort by the County Governor, county municipalities, municipalities, school managements, teachers, employees' and employers' organizations and the local business sector, with clear assignment of responsibility among the various stakeholders

Goals

Primary goal

The education system shall contribute to productive work and innovation by encouraging acquisition of knowledge and skills, enjoyment and mastery of work, independence and community feeling in pupils, students and teachers at all levels, and development of a culture propagating entrepreneurship.

6.1 Goals at all levels of education and training

- A comprehensive and well-founded focus on entrepreneurship that includes public and private sector parties
- Increased collaboration between educational institutions and business and community life
- Entrepreneurship focus in regional development policy
- Increased contact with education systems in other countries, increased contact with international networks and greater opportunities for pupils and students to gain international experience, a training that provides variation and challenges in various learning arenas

6.2 Goals of primary, lower and upper secondary education and training

- School-owners who pave the way for entrepreneurship in training
- Pupils with social and professional subject curricula skills and attitudes that promote creativity and innovation
- Increased competence in teachers in schools concerning providing entrepreneurship training
- Schools that develop and utilize varied work forms and new methods
- More pupil and youth enterprises at lower secondary level and in upper secondary education and training, and more pupils taking part in this
- Increased use of partnership agreements and similar collaboration with local businesses

6.3 Goals of higher education

- Increased extent and breadth of entrepreneurship provision for students
- More student enterprises and more students participating in these
- An increased degree of collaboration between universities/colleges and the business sector
- Doctoral scholars in the fields of entrepreneurship and innovation
- Training in entrepreneurship provided in more programmes of study
- An increased range of entrepreneurship courses for teachers

6.4 Goals of teacher training

- Increased competence in entrepreneurship in providers of teacher training
- Reinforcement of work on entrepreneurship in the general teacher training programme
- Increased collaboration between teacher training and local business life
- More teachers and school managers who take courses in entrepreneurship

Measures

Those responsible: KD/ The Directorate for Education and Training, KRD, NHD

Time frame: 2006-2008

Financing: The Directorate for Education and Training

Those responsible: KD/ The Directorate for Education and Training

Time frame: annually in the period allotted to the scheme

Financing: KD/ The Directorate for Education and Training, NHD and KRD

Those responsible: KD/ The Directorate for Education and Training

Time frame: continually

Financing: The Directorate for Education and Training

Those responsible: KD/ The Directorate for Education and Training, KRD and NHD

Time frame: Annually in the project period

Financing: KD/ The Directorate for Education and Training, KRD and NHD

7.1 Measures that apply to all levels of education

7.1.1 Better knowledge base

Facts concerning the extent and practice of entrepreneurship training at all levels of education will be collected through research-based work. Reports from research-based findings are an important part of the material that will provide an opportunity to measure progress, identify areas of focus and disseminate information. Existing knowledge will be included in this mapping.

7.1.2 Entrepreneurship conferences

Annual national conferences will be arranged with a view to developing knowledge through subject-related lectures, presentations of good examples and dissemination of experience. The conferences will be nationwide and aimed at all levels of education in the education system. The conferences will have to exploit experiences from other countries' work on entrepreneurship in education. Collaboration with other players in implementation of the annual entrepreneurship conference must be considered each time.

In addition to the national conference, regional conferences will be arranged where the main target group will be teachers and school managers. These conferences will be initiated and organized by regional agencies and may be financially supported by KD/the Directorate for Education and Training, NHD and KRD. The Directorate for Education and Training will arrange special seminars for limited target groups.

7.1.3 Exchange of experiences and dissemination of good practice

The information collected about entrepreneurship shall be disseminated to players through existing networks. A description of good national and international examples is included in this information dissemination. A good knowledge base concerning various methods and models of entrepreneurship will strengthen this development in both basic education and the university and college sector. Knowledge and experience of entrepreneurship will be disseminated to players through existing networks and via the Directorate for Education and Training's website under the menu item "areas of focus".

7.1.4 Collaboration with organizations and networks

Against the background of the draft of an action plan throughout a number of years, KD/the Directorate for Education and Training, KRD and NHD have given support to Junior Achievement-Young Enterprise Norway's work. The support has been renewed for a new period. Other nationwide organizations/associations and good local or regional initiatives can be supported on the basis of applications. The initiatives are a matter of efforts to develop competence in entrepreneurship in training. This can for example take place through establishment of networks.

7.1.5 Reinforcing international collaboration

International collaboration on entrepreneurship shall be reinforced and encouraged. It is particularly desirable to further develop collaboration with the EU's existing education programmes, the new Lifelong Learning Programme and programmes for entrepreneurship and innovation, and to strengthen Norwegian efforts and participation. In autumn 2006 in collaboration with the European Commission, KD and NHD will arrange an international conference on entrepreneurship in education.

7.1.6 Inter-ministerial reference group for follow-up of the strategy

Collaboration between the ministries takes place in an inter-ministerial reference group. This group has a broad range of contacts with State players within the ways and means system, players and institutions in the education sector, as well as private organizations. The group can contribute to cross-sector networks and creation of contact between various interests and players.

The many players and great activity place heavy demands on supervision and the ability to coordinate on those who are to shape policy. Stable frameworks around inter-ministerial collaboration are necessary to maintain continual focus on the field.

7.2 Measures in primary, lower, and upper secondary education and training

7.2.1 Collaboration between school and cultural life

In some regions pilot projects concerning cultural communication will be initiated in collaboration with primary and lower secondary schools and cultural education institutions. The pilot projects may also include collaboration with various parties, including Junior Achievement-Young Enterprise Norway, in development of pupil enterprises in upper secondary education and training. This may for example be relevant for the Programme for Music, Dance and Drama. For both primary, lower secondary and upper secondary education and training collaboration with cultural education institutions and other cultural life will have a central position. Good examples of this type of collaboration may be encouraged by provision of project funds.

7.2.2 Collaboration between schools and local business and industry

It is important both to develop and carry on networks between the business and industry sector, higher education and primary, lower and secondary education and training in order to enhance the competence in and about entrepreneurship.

Good practice of this type of work can be stimulated by separate project funding means.

Those responsible: KD/the Directorate for Education and Training and NHD
Time frame: 2006-2008
Financing: KD/The Directorate for Education and Training and NHD

Those responsible: KD, NHD and KRD
Time frame: 2006-2008
Financing: KD, NHD and KRD

Those responsible: KD/The Directorate for Education and Training
Time frame: 2006-2008
Financing: The Directorate for Education and Training

Those responsible: the Directorate for Education and Research
Time frame: 2006-2008
Financing: The Directorate for Education and Research and Junior Achievement-Young Enterprise Norway, in those projects where the EU is a collaborative party

Those responsible: The Directorate for Education and Training

Time frame: 2006-2008

Financing: KD/ The Directorate for Education and Training

Those responsible: KD/ The Directorate for Education and Training

Time frame: 2007

Financing: KD/ The Directorate for Education and Training

Those responsible: KD/ The Directorate for Education and Training

Time frame: 2006-2008

Financing: KD/ The Directorate for Education and Training

Those responsible: KD/The Research Council of Norway

Time frame: 2006-2008

Financing: KD

7.2.3 Development of active pupil working methods within entrepreneurship

Increased awareness, continuity and motivation in education in entrepreneurship are important. For this reason the Directorate for Education and Training wishes to focus on quality control of work on entrepreneurship in schools by encouraging development of tools for this. Development of more working methods with a broad approach to entrepreneurship will be stimulated by project funding.

7.2.4 Establishment of the new programme subject Entrepreneurship and Enterprise Development

From autumn 2007 a new programme subject will be established in upper secondary education and training within the Programme for Specialization in General Studies studies, in the programme area for Social Sciences and Economics Studies. The subject will receive the designation Entrepreneurship and Enterprise Development and comprise 140+140 teaching hours per year. The programme subject shall be available to all pupils in Vg2. The provision of this subject is a response to increased interest among young people in starting their own enterprises, and it shall contribute to linking school and working life even more closely together. Work on entrepreneurship is a suitable instrument for increasing motivation in pupils and their experiencing mastery of subjects.

7.2.5 Measures to reduce drop-out in upper secondary education and training

Good school projects with a broad entrepreneurship-related approach can be stimulated with the help of project funding. Work on entrepreneurship is a suitable instrument for increasing educational motivation and improving experience of mastery among pupils in everyday life.

7.3 Measures in higher education

Universities and colleges have a large degree of academic autonomy, and it will therefore to a large extent be up to the individual institution how it wishes to relate to various measures and to the establishment of various courses of study.

7.3.1 Better collaboration between the business sector and the university and college sector

Among other things through amendments to the Act relating to Universities and Colleges, these institutions have received clearer responsibility for collaboration with community life and working life, for dissemination of knowledge and for spreading understanding and utilization of scientific findings and commercialization in public administration, cultural life and business life. The Ministry of Education and Research wishes to encourage development of this collaboration, among other ways by superintending agencies in the HE sector.

7.3.2 The "Doctorate in Business" scheme

In Denmark there is a scheme involving a PhD in Business Studies where doctoral dissertations are written in a collaborative project between universities and the business sector. The objective is to foster researchers with an insight into the business-related aspects of research and development, to build personal networks to strengthen the interplay between enterprises and Danish/foreign enterprises, as well as promoting developmental opportunities for trade and industry. The Research Council of Norway has been given the task of preparing a proposal for such a scheme. The proposal shall be ready on 1 December 2006.

7.3.3 Research on entrepreneurship in education

The survey on entrepreneurship in the primary and lower secondary school, report from Kunnskapsparken in Bodø 2005, will be followed up in the remaining period of the Strategic Plan's period of function by a new survey that will deal with entrepreneurship in upper secondary education and training. Along with the report from 2005 this sub-report will provide a broad basis for evaluation of the status of entrepreneurship in the primary, lower and upper secondary education and training.

7.3.4 Collaboration with students

Efforts are being made to get public sector enterprises to link up with students at master's level to shed light on various academic issues connected with entrepreneurship. This will improve the level of knowledge in ministries and authorities, and it will increase interest and expertise in entrepreneurship in future academics.

7.3.5 Collaboration between higher education institutions within culture/art subjects and cultural institutions/business.

Universities and colleges with educational programmes within art, culture and graphic forms of expression can contribute within cultural entrepreneurship and design of products. In the Act relating to Universities and Colleges these institutions have a clear responsibility for collaboration with community and working life, for dissemination of knowledge of the enterprise, and for spreading understanding and utilization of scientific methods and findings in public administration, cultural life and business life. Today we see a positive development within this area, both in that the traditional art and culture education programmes are assimilating subjects linked to entrepreneurship, and in that new study programmes in the territory between culture/business/economics/innovation are being established. It is also important that the higher education institutions communicate the competence they have to cultural and business life.

7.4 Measures in Teacher Training

7.4.1 Establishment of courses of study within entrepreneurship

Each year applications are invited for a further and continuing education course of study arranged by the municipalities/county municipalities and commit themselves to participating with funds, and assume responsibility for collaboration with a college/university. The target groups of the course of study are teachers, school managers and student teachers. Within the same scheme special courses/seminars for teacher trainers can also be developed.

7.4.2 Development of competence in the general teacher training programme

Through initiatives by school managers, training institutions are developing post and further and continuing education programmes and pilot projects where instruction in entrepreneurship is being developed as an interdisciplinary subject focusing on pedagogical principles and suitable tools. In addition, colleges are obliged to work on entrepreneurship as a result of the framework plan. This should take place within the college's economic framework.

7.4.3 Competence development for teachers in the primary, lower and secondary education and training

Funds are being advertised for the raising of competence of teachers in primary, lower and upper secondary education and training organized by universities and colleges. This may be organized as post-education courses, but may also include trainee schemes and exchange of experience.

Those responsible: KD/ The Directorate for Education and Training
Time frame: 2006-2008
Financing: The Directorate for Education and Training

Those responsible: KD/ The Directorate for Education and Training, NHD, KRD etc.
Time frame: 2006-2008
Financing: KD, NHD, KRD

Those responsible: KD/ The Directorate for Education and Training, NHD, KRD
Time frame: 2006-2008
Financing: KD, NHD, KRD

Those responsible: The Directorate for Education and Training
Time frame: 2006-2008
Financing: KD

Those responsible: The Directorate for Education and Training
Time frame: 2006-2008
Financing: The Directorate for Education and Training

Those responsible: KD/ The Directorate for Education and Training, NHD, KRD etc.
Time frame: 2006-2008
Financing: KD, NHD, KRD

Evaluation and follow-up

8.1 Further follow-up

It is important that stable frameworks for the policy surrounding the Strategic Plan and follow-up of it be created. Entrepreneurship in education is a field characterized by many interested parties. Over time KD, KRD and NHD have developed well-functioning collaboration in this field. The inter-ministerial reference group has a central role in following up the plan. The Directorate for Education and Training is responsible for the practical implementation of the plan.

8.2 Financing

As far as possible the annual budgetary framework of the three ministries will ensure the financing of the work. In recent years the KD, NHD and KRD have allocated considerable sums to work on entrepreneurship in education. This means that within existing frameworks there is room for many of the measures in the plan. In the work of quality development in education and the Knowledge Promotion Reform it will be important for schools and school-owners to see various areas in context. In this way funds for competence development and other development work will also benefit work on entrepreneurship. Work on entrepreneurship has been encouraged, and will also be in the period covered by this Strategic Plan.

8.3 Evaluation

In order to be able to assess the effects of the strategy for entrepreneurship in education, it will be necessary to carry out evaluation. The results of this evaluation will be important for further efforts and for the extent and firm establishment of entrepreneurship in education.

The Strategic Plan and the effect of the proposed measures will be measured

An independent research institute will be given the task of evaluating the concentration on entrepreneurship in education. In order to be able to conduct a meaningful evaluation there will be a need for extended knowledge of the current situation. At the same time the findings among other things from the report by Kunnskapsparken in Bodø 2005 must be built upon. The new study should include entrepreneurship in upper secondary education and training. The sub-report should, with the inclusion of the report from 2005, give a broad foundation for evaluation of the the state of play of entrepreneurship in primary and secondary education and training. The evaluation shall constitute a support for the reference group in assessment of the work while the Strategic Plan is still in effect. The evaluation must assess the quality of entrepreneurship instruction both in the formal educational system and in schemes that are provided by external organizations.