Helping to create an entrepreneurial culture

A guide on good practices in promoting entrepreneurial attitudes and skills through education









Publications — Enterprise policy

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Introduction by Erkki Liikanen

In this publication you will find a selection of good examples of how the educational systems can help to promote the spirit of enterprise in young people, thus contributing to create a more entrepreneurial culture in our society.

This publication is the result of a process that started a few years ago, with the European Commission supporting the Member States in promoting the exchange of good practice in a number of key areas related to enterprise policy and to the promotion of entrepreneurship. The importance of education and training in this respect has been highlighted on several occasions. Entrepreneurship is today recognised as a basic skill to be provided through lifelong learning. The European Council of Lisbon and the European Charter for Small Enterprises have emphasised this aspect.

This awareness led to the organisation of a forum in Nice/Sophia Antipolis in October 2000, and to the adoption of a 'Best procedure project' jointly developed by the European Commission and by the EU Member States and Norway. The examples of good practice included in this publication have been identified in the context of such initiatives coorganised or coordinated by the Commission.

All these activities are part of a more general effort of the European Commission to promote SMEs and entrepreneurship, which includes the adoption of the Green Paper on 'Entrepreneurship in Europe' (¹) and of a set of other related documents in January 2003.

⁽¹) http://europa.eu.int/comm/enterprise/entrepreneurship/green_paper/index.htm

Europe needs to foster the entrepreneurial drive more effectively. It needs more new and thriving firms willing to embark on creative or innovative ventures. Encouraging the enterprise spirit is a key to achieving these objectives. Education can contribute to encouraging entrepreneurship, by fostering the right mindset, by raising awareness of career opportunities as an entrepreneur or a self-employed person, and by providing the relevant business skills.

Entrepreneurial skills and attitudes provide benefits to society, even beyond their application to business activity. In fact, personal qualities that are relevant to entrepreneurship, such as creativity and a spirit of initiative, can be useful to everyone, in their working activity and in their daily life.

The European Commission found that there is today in most EU Member States — although in varying degrees — a policy commitment at governmental/ministerial level to promote the teaching of entrepreneurship in the education system.

However, this has not yet led to making entrepreneurship a common feature or a widespread subject in our education systems, nor has the training of teachers on how to bring the concept of entrepreneurship into the classroom been sufficiently developed. Also, the establishment of indicators and the collection of quantitative data in this field are still very limited: this makes it difficult to monitor progress achieved.

Some 21 examples of good practice are proposed here in promoting entrepreneurial attitudes and skills in young people through education, from primary school to university. A short description is provided for each good practice, along with contact details of the organisation or institution promoting that particular practice, so that further information can be easily obtained. I hope that these examples of good practice are of interest to all involved in education and in the promotion of entrepreneurship, in particular policy makers, teachers, schools and universities, and business associations.

Only by working together will we be able to promote the development of entrepreneurial attitudes and skills in our society. This will offer — though probably more in the longer term — an important contribution to creating more jobs and improving economic growth and competitiveness in Europe, as required by the European Council of Lisbon.

Why education for entrepreneurship?

Encouraging the enterprise spirit is a key to creating jobs and improving competitiveness and economic growth throughout Europe.

Although variables like the number of new start-ups (rate of entrepreneurship) or the psychological attitudes of people towards self-employment (latent or potential entrepreneurship) may be influenced by a number of different factors, there is certainly a cultural aspect that needs to be taken into account. The image of entrepreneurs as positive role models has never been as strong in Europe as in the US. Becoming an entrepreneur has long been seen as an unsafe and risky option, not particularly appealing and less socially rewarding than other, more traditional professions. The educational systems have not in the past been geared towards the development of entrepreneurship and self-employment, the final goal of the educational path being rather to produce employees working in a big company or in public administration.

However, things have been changing fast in recent years, and there is a growing awareness in Europe that initiatives should be developed in order to promote an enterprise culture, and to encourage risk-taking, creativity and innovation. Entrepreneurship is finally seen as a basis for growth.

As a result, the importance of entrepreneurship as one of the basic skills to be provided through lifelong learning is recognised today. The Lisbon European Council and the European Charter for Small Enterprises (²) have stressed this point. In particular, the European Charter for Small Enterprises commits the EU to teach business and entrepreneurship at all school levels, and to develop training schemes for managers.

⁽²⁾ Adopted by the General Affairs Council and welcomed by the Feira European Council in June 2000. Information available at: http://europa.eu.int/comm/enterprise/enterprise_policy/charter/index.htm

Also, in February 2001, the Education Council adopted a report on the future objectives of the education systems (³). Key areas identified include strengthening the links between educational institutions and businesses, and developing the spirit of enterprise throughout the education and training systems.

Although a few exceptional individuals are born entrepreneurs, the development of an entrepreneurial attitude can be encouraged in young people, starting in school. Also, the relevant technical and business skills need to be provided to those who choose to be self-employed and/or to start their own venture — or might do so in the near future.

However, entrepreneurship should not be considered just as a means for creating new businesses, but as a general attitude that can be usefully applied by everyone in daily life and in all working activities.

What does 'education for entrepreneurship' mean?

There seems to be a general recognition of the importance of including two different elements or concepts within the definition of entrepreneurship teaching:

- a broader concept of education for entrepreneurial attitudes and skills, which involves developing certain personal qualities and is not directly focused on the creation of new businesses; and,
- a more specific concept of training in how to create a business.

The objectives of teaching about entrepreneurship — to be adapted to the different levels of education — will therefore include:

- promoting the development of personal qualities that are relevant to entrepreneurship, such as creativity, spirit of initiative, risk-taking and responsibility;
- raising students' awareness of self-employment as a career option (the message being that you can become not only an employee, but also an entrepreneur);

⁽³⁾ Report from the Education Council to the European Council adopted by the Education Council on 12 February 2001.

Detailed work programme on the follow-up of the objectives of education and training systems in Europe jointly adopted by the Council and Commission on 14 February 2002. (OJ C 142, 14.6.2002).

 providing the business skills that are needed in order to start a new venture.

As regards the development of personal qualities of the individual that are relevant to entrepreneurship, the following objectives for education — in particular at the lower levels (primary and secondary) — were mentioned at the forum on 'Training for entrepreneurship' in Nice/Sophia Antipolis in October 2000.

- Pupils' and students' ability to solve problems should be increasingly encouraged. This implies encouraging ability in the fields of planning, decision-making, communication and the willingness to assume responsibility. These are typical aspects of management competence.
- Pupils and students should increasingly gain competence in fields such as the ability to cooperate, networking, learning to assume new roles, etc. These aspects lie especially in the field of social competence.
- In the course of their education, school pupils and students should develop self-confidence and the motivation to perform, learn to think critically and independently, and, particularly, gain the willingness and ability to learn autonomously. These are typically personal fields of competence.
- School pupils and students must learn the will to show personal initiative, proactivity and creativity, as well as being prepared to confront risks in conjunction with implementing ideas. These are typical entrepreneurial qualities.

Identifying good practice

In most EU countries, initiatives already exist addressing this issue. A certain amount of qualitative information on existing good practice in Europe in the field of education and training for entrepreneurship has been collected by means of previous activities carried out or coordinated by the European Commission.

Under the methodology of concerted actions developed by the Commission, the forums organised in 1998 in Stockholm ('Training for start-ups') and Baden (Workshop 1: 'Training for entrepreneurs') have favoured the exchange of good practice between the Member States and have

stimulated awareness at European level of objectives that need to be attained

More recently (in October 2000), the forum on 'Training for entrepreneurship' (4) in Nice/Sophia Antipolis — co-organised by the Commission and by the French authorities — tackled the subject of entrepreneurship from three different perspectives:

- in the educational system (from primary to tertiary level);
- in the vocational training system;
- in the companies themselves (intrapreneurship).

Subsequently, on the basis of the conclusions of this international forum and within the framework of the multiannual programme for enterprise and entrepreneurship (2001–05), a 'Best procedure' project on education and training for entrepreneurship was adopted.

Within that project, a number of key aspects of education for entrepreneurship have been identified. They include:

- entrepreneurship in primary and secondary school;
- training of teachers on the subject of entrepreneurship;
- cooperation between schools/universities and businesses aimed at the promotion of entrepreneurship;
- entrepreneurship chairs and activities at university level.

In order to carry out this project, a working group was set up, composed of national experts in this field. The experts were officially designated by the governments of all EU Member States and Norway. The aims of this group were: to bring together the necessary expertise; to provide information and data on entrepreneurship measures and programmes; and, finally, to ensure cooperation and an active involvement in the project of the national administrations of participating countries.

The 'Best procedure' project has been created (following a mandate from the Lisbon Council) in order to promote the exchange of best practice

^(*) More information on the forum on 'Training for entrepreneurship' can be found on the Internet at this address: http://europa.eu.int/comm/enterprise/entrepreneurship/support_measures/training_education/index.htm

and also to provide synergies between existing processes that go in that direction. The common element of projects under the 'Best procedure' is the analysis of issues of interest for the Commission and national administrations, with a view to gaining a better understanding of the nature of such issues, of the efforts being deployed and the identification of best practice.

The whole process aims at encouraging policy change in the Member States, one of the essential features of this methodology being that projects are carried out jointly by the Commission and by the national administrations concerned.

As a part of the 'Best procedure' project on education and training for entrepreneurship, a number of examples have been identified by the group of national experts as good practice cases on the basis of some previously-established general criteria. Most of them are presented in this quide.

The 'Best procedure' project on education and training for entrepreneurship has identified initiatives from across Europe aiming to promote the teaching of entrepreneurship at all levels of the formal education system, from primary school to university. The overall goal was to reach a better understanding of the nature and scope of existing measures and programmes.

In mapping ongoing activities and measures taken at national level by the EU Member States and Norway, the expert group found that, although numerous activities are currently being developed at all levels of education, many of them are neither integrated into the curriculum nor part of a coherent framework. Initiatives are often isolated, taken by individual institutions, by partnerships or by local authorities. Frequently, they are driven by external actors and not by the education system itself. Entrepreneurship is more likely to be taught as a separate subject or seen as an extra-curricular activity.

As a result of this situation, most students do not yet have the possibility of taking part in entrepreneurship courses and programmes.

It remains an open question as to whether it is preferable to have entrepreneurship included in the national curriculum, or to have this type of teaching as a supplementary and extra-curricular activity. However, unless they are integrated into a global strategy, not even the most interesting and innovative schemes will be the final solution. The education system needs to be prepared for this challenge from the inside. This means creating a solid framework for entrepreneurship teaching and giving to it a long-term perspective, having more teachers trained on this topic, and finally ensuring that these programmes are generally available for the students.

In conclusion, there has certainly been a significant shift in culture, as entrepreneurship is now widely recognised as an important issue to be taught. However, and although examples of good practice can be found in all countries, there is a strong need for further improvement and consolidation. What seems still to be lacking in most cases is a coherent structure, so that existing activities can have a place in the education system.

More information on the 'Best procedure' project on education and training for entrepreneurship, including the final report of the expert group, can be found on the web at the following address:

http://europa.eu.int/comm/enterprise/entrepreneurship/support_measures/training_education/index.htm

21 cases of good practice

A number of cases of good practice are presented in this guide on how the issue of promoting entrepreneurial attitudes and skills in schools and universities can be tackled. They are proposed as possible models.

In order to provide a structure and to facilitate the reading, these examples have been grouped into seven broad categories:

- 1. Policy measures of support and coordination.
- 2. Entrepreneurship in primary and secondary schools.
- 3. Initial vocational training at the level of secondary education.
- 4. Learning by doing and mini-enterprises.
- Cooperation between educational institutions and the business world.
- 6. Training of teachers on the subject of entrepreneurship.
- 7. Encouraging entrepreneurship and start-ups at university level.

Of course this is just a selection presenting some possible examples, while there are certainly many other cases of good practice in Europe.





Policy measures of support and coordination

A distinction should be taken into account between policy measures applied at the national level — aiming to promote the teaching of entrepreneurship by means of creating a framework or providing incentives — and specific practices or programmes developed by the schools.

Some initiatives provide an interesting example of how this issue can be tackled at central government level.

Policy commitment needs to be translated into concrete action. This may involve changing the national curriculum if the system is centralised, or providing assistance and incentives where schools are free to establish their own programmes. A range of support measures to encourage schools to get involved in education for entrepreneurship may include, among others: making funds available; providing advice and teaching material; promoting contacts with local businesses, etc.

Entrepreneurship education may involve different actors. It is important in this area that a structured cooperation is set up between the different ministries, agencies and associations involved.

1. Observatory of teaching practices for entrepreneurship (France)

Issue

Disseminating information and promoting the exchange of good practice are typical examples of tasks that can be usefully performed at central government level.

Good practice

The French Government has taken decisions aimed at fostering the entrepreneurial spirit. A national policy for raising awareness will be set up in order to promote entrepreneurship within the education system, and also to change attitudes and mentalities. To achieve this, different initiatives have been taken. One of them is the creation of an observatory of teaching practices for entrepreneurship in secondary and higher education. This looks at existing practices aimed at raising awareness of students and at providing specific training on entrepreneurship. It intends to run an inventory of educational institutions that are involved in these activities. The main objectives are to identify actions, collect data on programmes and courses, disseminate practices and information on entrepreneurship teaching in order to facilitate the exchange of experiences and also make their evaluation possible.

The observatory works under the supervision of a steering committee composed of three ministries, and several agencies and associations.

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Observatory (OPPE) website: http://www.entrepreneuriat.net

2. Special commission on 'entrepreneurship and education' (the Netherlands)

Issue

Central government can facilitate the development of entrepreneurship education by means of offering incentives to schools.

Good practice

In the Netherlands, a special commission on 'entrepreneurship and education' has been created at national level by the Minister for Economic Affairs and the Minister for Education, with a role of stimulation and coordination. Members of this commission are representatives of government, all education sectors (primary, secondary, vocational and university level), business and social organisations.

Among the objectives of this commission are: promoting awareness and support for entrepreneurship in education; identifying obstacles and finding solutions; stimulating the development of pilot projects.

Specific measures aim to promote pilot projects and to collect good examples that can be easily adopted by other educational institutions, at all levels of education (from primary school to university). Financial support is provided by the Ministry of Economic Affairs for the development of learning methods and materials for the curricula, and for other activities such as the organisation of seminars, teacher training, etc. The idea is that central government should not impose, but facilitate.

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Entrepreneurship in primary and secondary schools

Teaching and learning about entrepreneurship involve developing knowledge, skills, attitudes and personal qualities appropriate to the age and development of the pupils.

At the level of primary education, entrepreneurship teaching will aim to foster in the pupils those personal qualities such as creativity, spirit of initiative and independence that contribute to the development of an entrepreneurial attitude, which will prove useful in their life and in every working activity. In this phase, autonomous and active forms of learning should be developed. Moreover, this teaching can provide early knowledge of and contact with the world of business, and some understanding of the role of entrepreneurs in the community.

At the level of secondary education, entrepreneurship teaching will include raising awareness by students of self-employment as a possible career option (the message being that you can become not only an employee, but also an entrepreneur); learning by doing; and specific training on how to create a business.

1. From primary 1 to plc, Scotland (UK)

Issue

Entrepreneurial attitudes can be encouraged in young people throughout their educational path. This type of teaching can be particularly effective if introduced in a structured way in the education system, starting from an early age.

Good practice

In recent years, an infrastructure has been put in place in Scotland in order to provide enterprise education from primary school. There are programmes in place addressing school children from the age of five onwards that have a wide coverage in the Scottish system. Progress in primary schools has been achieved largely through a partnership of public and private funding. High profile members of Scotland's entrepreneurial and corporate sectors are donating funds, matched by the Scottish Executive, to provide every primary school pupil in Scotland with at least two enterprise experiences by the age of 12.

The Scottish Executive has allocated additional resources for the period 2003–06 aimed at delivering a wider programme of 'enterprise in education' in both primary and secondary schools: the vision is of a system that affords young people opportunities for vocational training, enterprise experiences and experiential entrepreneurial activities.

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2. The Västerbotten project 'PRIO 1' (Sweden)

Issue

Pilot projects or initiatives that were firstly developed at a local level and proved particularly successful, may be at a later stage extended and become regional or even national policies.

Good practice

During 1997–2000, the municipality of Skellefteå school project has addressed all levels of education, from pre- and compulsory basic level to upper secondary and post-secondary level. Some 50 teaching projects were started in schools, 42 teachers received specific training (through the 'Crea pilot' initiative) and 100 businesses and other organisations were involved in school projects. Most projects that were run in Skellefteå in 1997–2000, and similar ones in some other municipalities, are now integrated in the schools' everyday activities.

The experiences from these projects resulted in the county-wide project PRIO 1, which has been going on since 2000. The county administration has worked actively in order to have all 15 municipalities in the county involved in this work and around 260 different projects have been carried out. As a result, more than 550 businesses in the county of Västerbotten are now involved in school activities. More than 1 600 employees in schools and 11 000 students/children have taken part in education fostering entrepreneurship. A number of active networks have been built between the schools in the county, and between schools and local businesses.

Contact:

County Board of Västerbotten Ms Eila Eriksson Tel. (46-90) 10 73 20 Fax (46-90) 10 72 00 E-mail: eila.eriksson@ac.lst.se http://www.prio1.nu/

3. The 'entrepreneurial city' in primary schools (the Netherlands)

Issue

Promoting the development of entrepreneurial attitudes in pupils from an early age means stimulating active forms of learning, that draw on the creativity and imagination of children.

Good practice

The 'entrepreneurial city' is a project based on learning by doing. This has been put into practice by creating various 'learning landscapes' in the 'entrepreneurial city'. A learning landscape is a project in which children are trying to accomplish a certain goal, for example, setting up their own power station at school or starting their own third world shop. These projects appeal to basic entrepreneurial qualities, such as independence, creativity and cooperation. A critical success factor is the involvement of people outside the school (parents, entrepreneurs, etc.). Nowadays, more than 30 educational landscapes have been developed and several schools in different parts of the Netherlands have participated.

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4. Leaving certificate vocational programme for second level schools (Ireland)

Issue

At the secondary level of education, programmes aimed at stimulating entrepreneurial attitudes and skills may have a wide application, as they will prepare the students for future working life.

Good practice

In Ireland, the leaving certificate vocational programme (LCVP) for second level schools is a priority of the Department of Education and Science and is designed to enhance senior cycle (15–18) education by adding a strong vocational dimension. The programme combines academic study with a dynamic focus on self-directed learning, enterprise, work and the community. A large proportion of schools (509) and students (37 407) are involved. A dedicated team of teachers manages the programme, which links with local businesses and the local community and is supported by central government. The programme has a cross-curricular, interdisciplinary emphasis. Its approach is very much based on learning by doing, its overall objective being to produce the skills and qualities of self-reliance, innovation and entrepreneurship.

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Initial vocational training at the level of secondary education

It is within initial vocational training at the level of secondary education that specific training on how to start up a business could be particularly effective. In fact, in this type of school, students are very close to entering the labour market, and self-employment may be a valuable option for their career given that the number of new jobs created by existing enterprises is not sufficient (at least in some geographical areas) to solve the problem of unemployment.

Also, the advantage of this type of training is that it can be very specific and adapted to the business opportunities offered by the local economy.

However, in many cases a real focus on self-employment is missing in vocational training courses and only the technical aspect is taken into account, since the main task is seen as being to train skilled workers.

1. Administration, management and commercialisation in small enterprises (Spain)

Issue

Vocational training in secondary schools can be very well focused and adapted to the local economic and social environment, providing an effective link between education and working life.

Good practice

This is theory-and-practice training specifically addressed to self-employment and the creation of enterprises. This training is compulsory for all students in intermediate vocational training (compulsory education, 16 years of age + 2) and by those in advanced vocational training (baccalaureate, 18 years of age + 2) in 45 specialities corresponding to different sectors of economic activity. It is possible to estimate that more than 100 000 students, spread across about 2 000 public and private schools, receive this module. The aims of the training are nationwide and its contents are jointly established by the Ministry of Education and by the autonomous regions, with the possibility of adapting these contents to their productive environment. Carrying out a project on the creation of an enterprise is included in this training. In the opinion of the various agencies involved, placement in the productive system, including self-employment, is improving remarkably.

Contact:

Ministerio de Educación, Cultura y Deporte Centro Nacional de Recursos para la Orientación Profesional Tel. (34) 91 701 84 65 E-mail: sop@educ.mec.es http://www.mec.es/fp/cnrop/ index.html

2. 'Virtual enterprises' in the Sivitanidios Technical School of Athens (Greece)

Issue

At this level of education, learning by doing can be particularly effective. Good practice developed within one particular institution can be used as a possible model by other schools wishing to introduce this type of programme.

Good practice

This specific case is defined as a 'best practice' example by the Greek Ministry of Education and offered as a guide for the entire vocational training system. The introduction of virtual enterprises as a complement to other training methods was attempted in order to widen the scope of practical training for students of secondary education. The trainees participating in the scheme attend a theoretical course during the morning hours and operate the virtual enterprises in the afternoon. The results of this scheme will be made available to all other interested technical schools in an effort to promote entrepreneurship nationwide.

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Learning by doing and mini-enterprises

In the teaching of entrepreneurship, theoretical studies need to be balanced by a strong component of 'learning by doing'. In fact, the easiest way to learn about entrepreneurship is by doing something entrepreneurial in practice.

Schemes based on 'learning by doing' — for instance by means of pupils and students creating and running mini-enterprises — are widely used in many countries to develop entrepreneurial skills, in particular at secondary level.

International networks exist that promote this type of programme, offering successful models that can be easily and efficiently applied by every school wishing to introduce entrepreneurship in their educational offer (either as a curricular or as an extra-curricular activity).

In a number of European countries, the contribution offered by such programmes to the promotion of entrepreneurship education is already significant. However, these schemes should be further integrated into the education systems, and be made more generally available to the students.

1. Junior Achievement-Young Enterprise (JA-YE Europe)

Issue

International expertise and programmes in the area of entrepreneurship education can provide an excellent background for initiatives to be taken both at a national or local level and by individual educational institutions.

Good practice

Young Enterprise Europe as an international organisation was established in 1993, including non-profit organisations from 20 countries throughout Europe and the Mediterranean area. Since September 2002, it has merged with another international network that promotes entrepreneurship education, 'Junior Achievement'. The new organisation is now called 'JA-YE Europe' and represents 37 European member nations.

The aim of the new organisation is to help further diffuse a mentality for entrepreneurship among young students. Among their enterprise education activities, members of 'JA-YE Europe' organise school programmes at the national level, based on 'learning by doing', by means of students creating and running mini-companies during one school year. These are real enterprises operating in a protected environment, producing and selling real products or services. Other JA-YE programmes have been developed for primary, middle and secondary education, and universities may also now participate. European events are organised on a regular basis. Overall, about 600 000 students are involved each year in managing mini-companies.

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2. Project 'Junior' — Young enterprises Initiate — Organise — Implement (Germany)

Issue

Experiencing entrepreneurial activity in practice is likely to stimulate in young people a positive attitude towards entrepreneurship.

Good practice

The 'Junior' project provides a special framework for running an enterprise for young students above 15 to 20 years of age. They operate like a real enterprise: selling shares, conducting market research and developing products or services. In 2002–03, Junior was operating in 13 federal states and, since the start in 1994, more than 16 000 students have participated in about 1 000 enterprises. One result of this activity is that students expressed a positive attitude towards entrepreneurship, and saw themselves as potential entrepreneurs.

Contact:

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3. Project 'Cyberprise': mini-enterprises and ICTs (Belgium)

Issue

The practice of creating and running mini-enterprises can also be an effective vehicle for introducing knowledge and experience of new information and communication technologies (ICT) into the school programmes.

Good practice

In 2002–03, the Minister for Secondary Education of the French Community promoted the expansion of the 'minibusinesses' programme in Wallonia and Brussels. This was made possible by means of a partnership between the Training Institute for the Professions and SMEs, the Inter-University Centre for Further Education, and Jeunes Entreprises asbl (in the meantime a new partner, Creaform asbl, has joined). This collaborative effort entailed a further development of the information and communication technology (ICT) aspect for mini-enterprises in the form of training for their ICT directors, an increase in electronic communications between mini-enterprises, and the promotion of electronic commerce among existing mini-enterprises. A particularly important feature is the creation of a 'virtual market' where mini-enterprises can advertise and sell their products.

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Jeunes Entreprises asbl Tel. (32-2) 245 13 80 Fax (32-2) 245 01 87 E-mail: lje@lesjeunesentreprises.be http://www.lesjeunesentreprises.be

IFAPME

Tel. (32-71) 23 81 38 Fax (32-71) 23 81 39 E-mail: pmecreation@ifapme.be http://www.ifapme.be

Website of the programme: http://www.cyberprise.be

4. Practice firm as a learning environment in entrepreneurship education (Finland)

Issue

Virtual firms can be created that allow the students to experience different management roles inside a company, thus preparing them to be self-employed or to work in an SME.

Good practice

A practice firm is a training method based on the simulation of entrepreneurial life in order to study the changing operations and the preconditions of running a successful enterprise. The target groups for practice firms are the unemployed, students at commercial and technical schools, high schools, colleges and universities, employees in 'real' companies, people with disabilities, and future entrepreneurs. In cooperation with the teachers and experts of working life (learning network), the students plan and set up the operational system of an enterprise and run it like a real firm. Studying in a practice firm includes financing negotiations with a real bank manager and, at the final stage, closing of the books. The students work in facilities similar to a real office. They have various roles as managing director, manager of sales, marketing, accounting, etc., according to the organisation of the firm. The roles change so that the students have the opportunity to work in different positions. Every practice firm has a real firm as a mentor company. A practice firm's business plan will be revised by teachers, partners and bank managers in order to ascertain that it is realistic. A coordinating organisation for worldwide practice firm education is Europen e.v.

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Cooperation between educational institutions and the business world

In the area of entrepreneurship education, initiatives are very often taken at a local level and independently by individual educational institutions. In many cases, this is done by means of involving local enterprises and business associations. Private–public partnerships are very important in this area, and good models of this cooperation can be found in a number of countries.

This aspect is typically of a horizontal nature, as most entrepreneurship-oriented activities and programmes may benefit from interaction between education and the business world. This is an important component of many other examples of good practice appearing in this publication under different headings. However, two cases that focus in particular on this type of cooperation are presented here.

1. The 'CREA' programme (France)

Issue

Helping students to get in contact with working life, and in particular with the world of enterprise, is an important aspect of programmes that have an orientation towards entrepreneurship. Motivating students by means of practical and meaningful activities is part of this approach.

Good practice

The 'CREA' training programme is implemented in the marketing and management departments of several university institutes of technology (IUTs). The aim is to foster an enterprise culture among students and promote entrepreneurship. Students take an active part in setting up, developing or taking over a business by helping entrepreneurs to implement their business plans. The cases are real, and a partnership is created including professionals (consultants, accountants) and representatives of business creation networks acting at a local level. While entrepreneurs provide the subject matter, partners assist the students throughout the programme.

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2. Introductory courses in entrepreneurship taught by experts from the business world (Luxembourg)

Issue

Making use of tutors coming from the business world, who have a direct experience in entrepreneurship, can be in some cases a valuable alternative to providing specific training to the teachers on this topic.

Good practice

The 'Introduction to entrepreneurship' programme was developed in technical secondary schools. Its aims include making students familiar with the various sectors of economic activity, providing them with specialised knowledge and techniques, and preparing them for in-company training. In the first and second years, the modules are jointly developed by teachers and by external experts from the business world. The programme is essentially based on case studies prepared by the experts in the light of their professional experience. This programme has succeeded in fostering direct contacts and tangible cooperation between schools and enterprises.

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Training of teachers on the subject of entrepreneurship

Training for teachers on how to bring the concept of entrepreneurship into classes can be provided both as part of the curriculum of colleges for teachers (initial vocational training) and as further vocational training available during their career.

Improving the ability of trainers to understand and to teach entrepreneurship is a crucial aspect. In fact, without their enthusiasm and active involvement, it is unlikely that much progress could be achieved in this area. A lack of motivated and trained teachers creates a barrier to the implementation of entrepreneurship courses and programmes.

At present, the provision of specific training for the teachers on the subject of entrepreneurship needs to be greatly increased all over Europe (s).

One possible alternative to providing adequate teacher training is the use of 'tutors' from the business world, who bring their expertise into the schools. However, this should be considered as a complementary solution, very helpful within specific circumstances and programmes, but which cannot replace building the relevant abilities within the educational structure.

 $[\]sp(s)$ Conclusions of the 'Best procedure' project on 'Education and training for entrepreneurship'.

1. Teacher training in enterprise education at the University of Strathclyde, Scotland (UK)

Issue

Teachers may learn how to motivate students, and how to encourage entrepreneurial behaviour in class, by means of trying to be entrepreneurial themselves.

Good practice

A distinctive feature of this programme is that teachers gain experience in running an enterprise by working in small groups. This involves making and selling a product, offering a service or improving the environment. There is little prescription given to the teachers/students. The situations are real. Students select their enterprise, produce a business plan or action plan and take all the decisions. Most of the time they do not attend classes but consult with the tutor when the need arises. When the enterprise is over, the students are required to present an oral report, as well as a written assignment (including a balance sheet). The assignment covers the skills and attitudes gained through participating in the enterprise, as well as how this experience can be transferred and used as enterprise education in schools.

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2. The Marco Polo project (Italy)

Issue

Teachers may learn about entrepreneurship by means of direct contacts with local SMEs and with entrepreneurs.

Good practice

The Marco Polo project, put in place by the chamber of commerce in Padova, in conjunction with the national, regional and local authorities, has introduced a range of instruments for promoting the teaching of entrepreneurship. This initiative has involved so far about 80 % of secondary schools in the city of Padova, and was aimed at students who are about to enter the labour market. Based on courses intended to promote an enterprise culture, on business games and on work placements, as far as the students are concerned, the project has received the active support of more than 500 enterprises in the region, making them aware of the advantages of encouraging this type of training. The Marco Polo project has targeted around 200 schoolteachers, helping the diffusion of an enterprise culture amongst them through specific training, placements and seminars in successful small and medium-sized companies in the region of Veneto, where they were in direct contact with local entrepreneurs. This training included the creation of teaching material, and had the final objective of preparing the teachers for running entrepreneurship classes within the schools developed as part of this initiative.

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Encouraging entrepreneurship and start-ups at university level

It is in higher education, both within undergraduate and postgraduate courses, that entrepreneurship teaching may have a strong focus on the creation of a new business, and therefore produce more tangible results.

At the level of tertiary education, entrepreneurship teaching will provide the students with specific training on how to start and to run a business, including the capacity to draft a real business plan and the skills associated with methods of identifying and assessing business opportunities.

Moreover, it will encourage and support embryonic business ideas (for instance, by providing special loans, business facilities, mentorship, etc.) so that well-researched projects can be put into practice and finally reach the market.

The offer of this type of training should not be limited to certain courses or faculties (such as economics and business courses), as entrepreneurial qualities and skills may be needed in every sector of human activity.

1. Business plan competition of the city of Vienna — Wissenschaftszentrum Wien (Austria)

Issue

Learning how to prepare a business plan is an essential component of training on how to start a new venture. Besides the theoretical aspects, this type of teaching should be applied to concrete cases and take advantage of interaction with the business world.

Good practice

All participants in the business plan competition are undergraduates enrolled in one of the founding universities of the 'Gründerplattform der Wiener Universitäten'. They are usually in the final cycle of their degree course. The competition involves devising a plan for setting up a business. The aim is to motivate students to work out not only a proper business proposal but a fully-fledged business plan in multidisciplinary teams (for instance, electrical engineering students from the technical university working with business administration students from the University of Economics, etc.). The main purpose is to develop the capacity to draw up a business plan and to present (and represent) it convincingly to potential stakeholders (for example, banks or investors). Motivating the students to actually go ahead and set up the business is secondary to the main purpose and, while it is a byproduct worth pursuing, it is not the main point of the exercise.

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2. Study plan for the Norwegian School of Entrepreneurship (Norway)

Issue

Practical experience and interaction with the business environment, outside the native country, will contribute to creating a mindset that is open to innovation and change, and will prepare the students for the challenges of their future working life.

Good practice

The primary focus of the programme is to educate and inspire science and engineering students on the possibilities of entrepreneurship. Knowing that a successful start-up is dependent on a team with balanced skills, the programme is also available to business students.

This programme is in three phases.

- A spring pre-course is intended to provide the students with a basic understanding of business-related topics, and to prepare them for the summer term.
- 2. The summer term is an intensive three-month period spent abroad, currently in San Francisco, Boston or Singapore (Shanghai from 2004). After a challenging screening process, the students work as interns in high-potential start-up companies. In addition, they follow classes at local universities where they write a complete business plan. This environment of high workload, steep learning curve, challenging personal interaction and new cultural experiences has proven to be a very good testing ground for entrepreneurial traits.
- 3. Upon returning to Norway, the students write and present a project on the application of what they have learnt to the Norwegian business environment. The students also get an opportunity to talk to venture capitalists and to compete for a start-up grant.

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3. The teaching of entrepreneurship at undergraduate level across different disciplines and courses, DKIT — Dundalk Institute of Technology (Ireland)

Issue

Entrepreneurship teaching should not be confined to students following business courses. Entrepreneurial skills can be necessary in every field of activity.

Good practice

At the DKIT, entrepreneurship as a module in its own right appears in more than 12 different courses, at certificate, diploma, degree and postgraduate levels, and is offered across five different academic departments. Courses include: business studies; accounting and finance; community studies; cultural resource management; music; food science degree; sports and community leadership, etc. Entrepreneurship and innovation modules are also now being introduced to the institute's new engineering degrees. This means that, almost without exception, all full-time students in the institute will have the option of completing an entrepreneurship module at some point in their undergraduate studies. While the content of the entrepreneurship syllabus will vary slightly between courses and levels, the core of the module tends to remain unchanged. The undergraduate syllabus for entrepreneurship is delivered over two semesters. The first contains the knowledge-based theory, while the second focuses more on practical application including working in teams to develop a business plan for a new product or service.

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4. Temporary entrepreneurial position (TOP), University of Twente (the Netherlands)

Issue

Entrepreneurship education at this level can offer concrete assistance to those students who have a business idea, and want to try it on the market.

Good practice

The programme offers to potential/starting entrepreneurs a variety of different facilities without charge to keep the start-up and operating costs as low as possible during the first critical year. For instance, an interest-free loan is offered of about EUR 15 000, to be paid back within five years, beginning in the second year. Access to the TOP programme is decided on a business plan for a company in the incubation phase. To write a sound business plan, students can follow the course 'becoming an entrepreneur' and they can ask advice from a programme manager.

One of the facilities which is crucial for the TOP programme is to tap in to the University's knowledge potential in the field where the business or product idea is based. By offering the entrepreneur a physical place in a research group, the knowledge is easily accessible. The TOP programme is a tailor-made programme for the starting entrepreneur, and in this respect there may be differences in the type of support provided that originate from particular needs of the entrepreneurs. The assistance of a mentor is foreseen, while a commission has the role of monitoring and giving advice.

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5. Science enterprise challenge (UK)

Issue

Teaching entrepreneurship and basic management skills can be particularly important within courses of science and technology, in order to bring scientific knowledge and research closer to the market and encourage commercialisation of results.

Good practice

The aim of 'science enterprise challenge' is to establish a network of centres in UK universities, specialising in the teaching and practice of commercialisation and entrepreneurialism in the field of science and technology. A total of 12 science enterprise centres was established in UK universities in the first round, supported by funding from the government, and another one was created during the second round of funding. The aims are: to foster the commercialisation of research and new ideas; to stimulate scientific entrepreneurialism; to incorporate the teaching of enterprise into the science and engineering curricula; to act as centres of excellence for the transfer and exploitation of scientific knowledge and expertise.

'Science enterprise challenge' intends to raise awareness of the importance of business and entrepreneurship at all levels within universities, and to legitimise commercial activity as a valid aspect of academic life. It also promotes cooperation between academics and the business world to ensure the commercial exploitation of technological innovation. Centres work closely with leading research departments within their own institutions, and receive substantial input from business leaders and entrepreneurs.

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More information on Enterprise DG

Additional useful information on the work of Commissioner Erkki Liikanen and the Directorate-General for Enterprise is available through printed publications and on the web.

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Enterprise Europe is a free-of-charge newsletter published quarterly in the 11 Community languages by the Directorate-General for Enterprise. It covers the whole range of Enterprise DG's work, announcing new initiatives as well as providing practical information.

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CORDIS focus is published twice a month in English, French, German, Italian and Spanish. It provides a review of the main developments in all aspects of European Union research and innovation activities, covering general policy developments, programme implementation, calls for tenders and results, events, legislative activities, and much more. http://www.cordis.lu/focus/en/src/focus.htm

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