

Entrepreneurial thinking and action – an educational responsibility for Europe

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SUMMARY

In a general sense, entrepreneurial thinking and action relates to all those in employment, as an attitude to work and working behaviour, and it is accordingly becoming a key factor in competence. For independent entrepreneurs it is also, in a more specific sense, a fundamental precondition for successfully establishing and operating an enterprise. This applies above all to small and medium-sized enterprises, whose contributions to employment, training, gross value added, turnover, innovation, competitiveness and social-policy objectives make them the mainstay of the European economy.

Entrepreneurial thinking and action is not a single competence – it combines a bundle of (key) abilities, such as initiative, creativity and single-mindedness. The leading organisations of German trade and industry have developed a plan for promoting entrepreneurial thinking and action, which systematically takes account of these abilities in general secondary education; they are then developed during training into an entrepreneurial attitude to work. Specific skills going as far as management and setting up in business are to be offered in continuing education/training and in higher education. Various coordinated measures are required in the individual phases, in order to put in place sustainable entrepreneurship education.

Keywords

Education policy; enterprise; Europe; lifelong learning; economy policy; Community institutions

Entrepreneurship as a complex bundle of skills

Studies on the future of work show that future career histories may increasingly reveal switches between employment and self-employment, and periods of continuing training and unemployment (see Plath, 2000, pp. 583 ff., and for further information Paulini-Schlottau, 2004, p. 11). In modern work forms with flat company hierarchies, employees will be acting as entrepreneurs in the enterprise, or 'intrapreneurs'. ⁽¹⁾ It follows from this that the importance of entrepreneurial thinking and action ⁽²⁾ will continue to increase, not only in Germany but across Europe.

Thus the term entrepreneur covers both the original meaning of a person working on his own behalf and the new meaning of a person working on behalf of others, also known as an 'intrapreneur'. In both cases the entrepreneur actively seeks out and identifies market potential, and exploits it for business purposes through innovative productivity based on new combinations of production factors (see Eickhoff, 2006, p. 51). While 'entrepreneur' is used in both senses, in this article entrepreneurship is also used to cover what may be referred to elsewhere as entrepreneurial spirit, entrepreneurial initiative or a culture of self-employment. ⁽³⁾

But what distinguishes an entrepreneur? What characteristics and abilities should an entrepreneur possess? In what work situations does an entrepreneur typically need to act competently? To answer these questions, two fields of work, namely basic research ⁽⁴⁾ [for the pre-establishment and establishment stages ⁽⁵⁾] and management training (for the post-establishment stage) will be examined in detail. An evaluation of a total of 26 specialist sources resulted in

⁽¹⁾ For use of the term 'intrapreneur(ship)', see Pinchot, 1988, p. 7, Wolff and von Wulffen, 1999, p. 252, and Paulini-Schlottau, 2004, p. 15.

⁽²⁾ In view of the European perspective underlying this article, the word 'entrepreneurship' is used as a synonym for entrepreneurial thinking and action.

⁽³⁾ For the variety of concepts underlying the term 'entrepreneurship', see also Hekman, 2006, pp. 22 f. See also European Commission/DG Enterprise, 2003, pp. 7 and 12; Sternberg, Brixy and Schlafner, 2006, p. 34; and <http://www.desire-project.org> (data accessed on 05.09.2006).

⁽⁴⁾ The USA and the UK have a lengthy history of entrepreneurship research. In some European countries, particularly those of Central and Eastern Europe, entrepreneurship research is a very new field (see Klandt and Münch, 1990, p. 172).

⁽⁵⁾ The establishment stage is usually divided into three (essentially temporary) parts, namely the pre-establishment, establishment and post-establishment stages (see, for example, Weihe, 1994, p. 107). Entrepreneurial activity can then be systematised into two (essentially functional) fields of activity, enterprise establishment and enterprise management (see Eickhoff, 2006, pp. 57 f.).

the 102 skills ⁽⁶⁾ listed in the Annex, which are required to establish and manage an enterprise.

The entrepreneurial skills imparted demonstrate that this is a complex bundle of skills, which largely consist of what are known as key skills. ⁽⁷⁾ ⁽⁸⁾ The list can only be indicative in nature (see Eickhoff, 2006, pp. 65 and 67). It lacks deeper meaning because it is not selective, explicit or complete, and cannot be operationalised. In addition, some of the skills, such as representation of the enterprise vis-à-vis the outside world, involve actual tasks, from which skills can only be derived. Thus it must be acknowledged that the criticism that the meaningfulness of lists of tasks of this kind is limited is justified (see Frese, 1987, p. 89). They are too general, and are hence applicable to too many activities and skills. Moreover, it is doubtful whether the empirical basis of such lists is workable.

The wealth of entrepreneurial skills imparted does not serve the aim pursued here. So we shall bundle the core skills.

Core skills can be divided into three areas of content:

1. innovation,
2. enterprise establishment, and
3. enterprise management.

Thus these areas represent summaries of the entrepreneurial skills imparted (see Eickhoff, 2006, pp. 85 ff).

1. Core innovation skills

The entrepreneur must be able to develop innovations and enable them to claim a position on the market. To this end, he must:

- 1.1. ... be able to develop and produce new products and/or product qualities;
- 1.1. ... be able to develop and implement new production processes;
- 1.1. ... be able to develop and introduce new organisational structures;
- 1.1. ... be able to identify and exploit new procurement markets;
- 1.1. ... be able to open up and exploit new sales markets.

⁽⁷⁾ The debate on key skills and competences goes back to the 1970s, and is closely associated with the name of Mertens. He understood key skills as being superordinate educational goals, as keys to facilitate access to special knowledge (see Gonon, 2006, p. 427).

⁽⁸⁾ To date basic research has devoted particular attention to the skills of motivation to perform, readiness to take risks and creativity/innovation (see Schmitt-Rodermund and Silbereisen, 1999, p. 116).

2. Core enterprise-establishment skills

Essentially, this area applies only to self-employed entrepreneurs. However, it also contains some key skills that it is also desirable for employed entrepreneurs to possess.

An entrepreneur must:

- 2.1. ... be able to obtain all the information necessary to establish the enterprise;
- 2.2. ... be able to draw up and implement an establishment plan;
- 2.3. ... be able to negotiate agreements relevant to establishment;
- 2.4. ... be able to undertake formal company registration.

3. Core enterprise-management skills

This area is directed at the post-establishment stage, and again applies equally to self-employed and employed entrepreneurs.

An entrepreneur must:

- 3.1. ... be able to set complex operating targets
- 3.2. ... be able to plan specifically targeted operating processes;
- 3.3. ... be able to take decisions in all areas of operation;
- 3.4. ... be able to support implementation of the decisions;
- 3.5. ... be able to supervise achievement of operating targets, both supporting the process and giving it a final inspection.

Plan of the leading organisations of German trade and industry

Entrepreneurship education is of particular importance to Germany, since Germany has below-average levels of entrepreneurial spirit and establishment activities (see Sternberg, Brixy and Schlapfner, 2006, p. 12), and it is feared that this will have negative effects on competitiveness, economic growth and employment. On the one hand, those surveyed by the Global Entrepreneurship Monitor (GEM) doubt whether they possess the abilities and experience necessary for entrepreneurial activity. ⁽⁹⁾ On the other, fear of failure is particularly marked in Germany. ⁽¹⁰⁾ Both points – self-doubt and fear of failure – are decisive reasons for Germany's below-average

⁽⁹⁾ See Sternberg, Brixy and Schlapfner, 2006, p. 20. Incidentally, the control survey of experts shows that this self-doubt is not necessarily justified (*ibid.*, p. 21).

⁽¹⁰⁾ See Sternberg, Brixy and Schlapfner, 2006, p. 22. Eurobarometer 2004 shows that fear of failure is not a characteristic limited to Germany (see Verwaltungsausschuss des Programms für Unternehmen, 2005, p. 22).

entrepreneurial activity. To address this, the GEM report calls for improvements in establishment skills training and promotion of a social culture of self-employment. ⁽¹¹⁾

In what follows, we shall present a plan by the leading organisations of German trade and industry as represented in the Kuratorium der Deutschen Wirtschaft für Berufsbildung (KWB). ⁽¹²⁾ This plan is currently under discussion in Germany, and can also make a valuable contribution to European initiatives. It has been agreed with all areas of trade and industry and submitted to experts from the worlds of VET practice (including experts from companies operating across Europe or globally), and VET research and policy. The comments received to date on the position paper have been positive.

Aim of the plan

At the end of October 2006, the European Commission and the Norwegian Government held a conference on entrepreneurship education in Oslo. The key outcome of the conference was the adoption of the Oslo Agenda for Entrepreneurship Education in Europe. ⁽¹³⁾ In the list of objectives and measures, item A4 says:

'Launch national strategies for entrepreneurship education, with clear objectives covering all stages of education. Such strategies should call for the active involvement of all relevant actors (public and private), and establish a general framework while defining concrete actions. These will range from the inclusion of entrepreneurship into the national curricula to providing support to schools and teachers. The overall goal will be to ensure that young people can progress coherently in acquiring entrepreneurial competences across all stages of the education system.'

⁽¹¹⁾ See Sternberg, Brixy and Schlapfner, 2006, pp. 25 f., 31 ff. and 43 f. Promotion of a culture of entrepreneurship is being intensified across Europe (see European Commission/DG Enterprise, 2003, pp. 12 and 25).

⁽¹²⁾ The KWB is the central coordinating body for German trade and industry, whose general mandate is 'to coordinate employers' interests and to develop and articulate joint positions on vocational education and training on behalf of German trade and industry' (Diedrich-Fuhs, 2006, p. 311). The organisations responsible for the KWB are the Confederation of German Employers' Associations, the Association of German Chambers of Industry and Commerce, *Zentralverband des Deutschen Handwerks* [National association of German craft trades], *Hauptverband des Deutschen Einzelhandels* [National German retail trade association], Federation of German Industries, *Bundesverband des Deutschen Groß- und Außenhandels* [Federation of German wholesalers and exporters], *Bundesverband der Freien Berufe* [Federation of liberal professions] and the German Farmers' Association (ibid.).

⁽¹³⁾ See www.ec.europa.eu/enterprise/entrepreneurship/support_measures/training_education/doc/oslo_agenda_final.pdf (data accessed on 09.07.2007).

The proposed entrepreneurship education plan, which covers all stages of education, ⁽¹⁴⁾ sets out to demonstrate a way of achieving this goal. The plan is designed as a curriculum, in the sense of the outcome of didactic reflection (see Jongebloed and Twardy, 1983, p. 176). Such reflection covers all didactic issues – target group, intentions (aims), content, methods, and monitoring of teaching/learning outcomes (see Böhm, 2000, p. 118). The aim is to expand previous approaches to entrepreneurship education into a coherent overall plan covering all stages of education. The aims of the individual stages build on one another, so that every stage involves a specific increase in competences in the form of continuous professionalisation. In a spiral curriculum ⁽¹⁵⁾ of this kind, tried and tested topics, methods and checks on teaching/learning outcomes then need to be geared to the target group and the intentions of the individual stages. This will result in a coherent overall programme.

Entrepreneurship education in different stages of education ⁽¹⁶⁾

The starting point is the observation that children and young people should already be integrated into entrepreneurship education. Within the framework of initial and continuing education and training in schools, enterprises, and also institutions of higher education, according to the learner's interests and abilities and the opportunities available in the relevant sectors, schools, institutions of higher education and enterprises, competences ⁽¹⁷⁾ ultimately extending to independent enterprise management and setting up in business will be acquired in the form of lifelong learning. ⁽¹⁸⁾

Under the spiral curriculum, each individual stage of development – from child to adult – is associated with a different objective as regards entrepreneurship. Children and young people (primary and general secondary education) will familiarise themselves with entre-

⁽¹⁴⁾ With regard to the comments that follow, see, in particular, Kuratorium der Deutschen Wirtschaft für Berufsbildung, 2006a.

⁽¹⁵⁾ In a spiral curriculum, the structure of the teaching/learning process is geared to the learners' stage of development and maturity. Thus topics will be addressed in early stages of development and then repeatedly taken up and consolidated in subsequent stages (see Bruner, 1970, pp. 61 ff.).

⁽¹⁶⁾ See Eickhoff, 2007a.

⁽¹⁷⁾ Competences are an individual's relatively stable behavioural options, or dispositions, as opposed to skills, which are the requirements imposed by a job (see Sloane, Twardy and Buschfeld, 2004, p. 108).

⁽¹⁸⁾ For the integration of entrepreneurship into the lifelong learning process, see also European Commission/DG Enterprise, 2003, p. 15, and Commission of the European Communities, 2006, p. 5.

preneurship as a positive basic attitude. ⁽¹⁹⁾ They will obtain a general overview of enterprises' functions and their contributions to society. To this end, young people need to acquire a conscious perception of enterprises and to recognise entrepreneurship as an economic/competition factor, as an opportunity for reintegration of the unemployed and disadvantaged, and as a contribution to social cohesion in less-developed regions (see Commission of the European Communities, 2006, p. 3).

For older young people (vocational training), entrepreneurship is an entrepreneurial attitude to work, which is required of entrepreneurs and will in future be increasingly required of employees (see European Commission/DG Enterprise and Industry, 2005, p. 8). This stage will be known as sensitisation. Such an attitude to work plays a major part in employability, and also opens up, if applicable, new career prospects in self-employment. From these points of view, entrepreneurship education also helps to reduce youth unemployment, which represents a major challenge in parts of Europe at least. ⁽²⁰⁾

Some occupations and sectors offer particularly favourable conditions for establishing/taking over a business as a self-employed person relatively soon after training. This applies, for example, to the retail trade and many service sectors. In occupations like this, an introduction to self-employed activities should be provided actually during training. Young people should try out their entrepreneurial skills in training, for example in planning games or student firms, ⁽²¹⁾ and should then decide whether to seek a career as an entrepreneur or intrapreneur. This decision calls for a degree of maturity as regards entrepreneurship.

In order to be able to establish or take over and/or run an enterprise, many competences are required, as described above. These competences should, above all, be developed in continuing training. Entrepreneurship must already be addressed in continuing training

⁽¹⁹⁾ Entrepreneurship education is a key element of the 2005 European Youth Pact (see Commission of the European Communities, 2006, p. 4).

⁽²⁰⁾ See Rump and Eilers, 2006, p. 83, who see entrepreneurship as an aspect of employability. For youth unemployment in Europe, see Deutscher Industrie- und Handelskammertag, 2006, p. 16.

⁽²¹⁾ An international group of experts were able to identify 82 student-firm programmes in Europe (see European Commission/DG Enterprise and Industry, 2005, p. 22). This method in particular demonstrates many strengths for sustainable entrepreneurship education (for details, see European Commission/DG Enterprise and Industry, 2005, pp. 23 f.). For more practical examples of methods of promoting entrepreneurial thinking and action in the context of initial vocational training, see Kuratorium der Deutschen Wirtschaft für Berufsbildung, 1984 and Kuratorium der Deutschen Wirtschaft für Berufsbildung, 2006b.

of skilled workers, in order to work towards entrepreneurial working behaviour. In management training and in seminars on setting up in business, the emphasis is on specific (enterprise) management competences and competences for setting up in business (specific approach). This also applies to entrepreneurship events in higher education. Against this background, a simplified transition between vocational and academic education (in the sense of permeability, which was a focal point of the Cedefop Agora in Thessaloniki in February 2007) (see Cedefop, 2007) could provide an additional impetus for entrepreneurship education across all stages of education. To summarise, both continuing VET and higher education are devoting their attention to the actual acquisition of entrepreneurship competences.

Figure 1. **Entrepreneurship as an educational responsibility for Europe** ⁽²²⁾

Target group	Objective ⁽²³⁾	Entrepreneurship as	Suggestions for implementation
Children (primary/ secondary level)	Familiarisation	Positive basic attitude	Integration of economy into syllabuses Advanced teacher training
	Sensitisation	Entrepreneurial attitude to work	Promotion of key competences integrated with subject content Method-based promotion
Young people (vocational training)	Maturity	Occupation-based introduction to self-employment	Subject-specific supplementation for particular occupations (additional skills training/ optional components)
	Competence	Entrepreneurial working behaviour	Continuing training for skilled workers Training of managers
Adults (continuing education/ training and higher education)	Optimisation	(Enterprise) management competence and competence to set up in business	Seminars on setting up in business Coaching, guidance, workshops, seminars

⁽²²⁾ Based on Kuratorium der Deutschen Wirtschaft für Berufsbildung, 2006a, p. 2.

⁽²³⁾ Based on systematisation of sensitisation – maturity – competence (see Braukmann, 2003, p. 109). The Consortium for Entrepreneurship Education suggests the graduation Basics, Competency Awareness and Creative Applications (see Consortium for Entrepreneurship Education, 2006, p. 5).

Persons who have been active as entrepreneurs for a long time, and are perhaps even facing an expansion of their entrepreneurial activities, for example by managing another branch or office, have to evaluate their success hitherto and identify and analyse their strengths and weaknesses. This stage should come under the heading of optimisation, in the sense of a continuous improvement process.

Trade and industry see need for education-policy action

There remains the question of the need for education-policy action and the implementation of sustainable entrepreneurship education across all stages of education. In primary and secondary schools providing a general education, the topic of the economy/trade and industry should be integrated into teaching syllabuses. Furthermore, teachers must be given appropriate skills training. Since it is teachers who convey an initial and, at the same time, lasting impression of enterprises and of trade and industry, they must be specifically prepared for these tasks in their training and advanced training. Periods of work experience in enterprise and regular cooperation with enterprises are particularly helpful (see Commission of the European Communities, 2006, pp. 5 and 12). Thus particular emphasis should be placed on team-teaching concepts, in which teachers and enterprise representatives simultaneously design the teaching. It is also very helpful to teachers if they are provided with curricular recommendations, plans, and topic-based media.

Since many entrepreneurial skills are key skills, which are usually coupled with specialist content, existing regular syllabus content can be used in vocational training. Appropriate competences are imparted by integrating them into the specialist content. For example, it goes without saying that customer orientation is integrated into business and quality assurance into occupations in industrial production. Entrepreneurship education then creates supplementary references to enterprise/competition strategy and promotes the necessary entrepreneurial competences – for example, the ability to empathise with customers and a meticulous approach to the production process. Methods involving more activity on the part of learners themselves – for example, case studies, planning games or projects – are particularly successful in imparting the entrepreneurial competences mentioned.

For occupations with a clear association with entrepreneurship, further provision needs to be created in order to integrate entre-

preneurship into training even more intensively. Suitable measures here are continuing training programmes in parallel with training, known as supplementary skills training, or the creation of appropriate options within training. ⁽²⁴⁾

In the context of vocational training too, teachers and enterprise trainers should be trained in entrepreneurship. For example, methods particularly suited to the topic or current projects should be demonstrated to them. It is precisely in an exchange of experience between practitioners that an important impetus for entrepreneurship education can be identified.

In continuing vocational training and higher education, entrepreneurship can be integrated into existing topics – for example in manager training or lecture series in higher education. However, it can also be a topic *per se* – for example, in seminars on setting up in business. Programmes in continuing training and in institutions of higher education are often supplemented by further guidance and coaching. In this way, entrepreneurs can fall back on individualised external assistance in the specific work situation/with the specific problem.

Example of implementation: vocational training in the German retail trade

In Germany, basic and vocational training courses are regulated by rules harmonized at federal level. These rules define the content of and examinations for these courses. A typical career in the retail trade begins with training as *Verkäufer* [salesperson] (two-year training course) or *Kaufmann im Einzelhandel* [management assistant in the retail trade] (three years). Optional training courses offer the chance to acquire know-how for more specialised tasks. For example, training courses for *Handelsassistent – Einzelhandel* [commercial assistant] (approx. 400 teaching hours) and *Handelsfachwirt* [commercial specialist] (over 500 teaching hours) qualify students for middle management positions, e.g. as deputy or assistant departmental manager. The training course for *Betriebswirt* [management expert] (over 700 teaching hours) prepares students for the positions

⁽²⁴⁾ For enterprise acceptance of supplementary skills training programmes and optional training components for entrepreneurship education, see Paulini-Schlottau, 2004, p. 96. Over 50 % of enterprises responding in an empirical study were in favour of supplementary skills training programmes, and around one third were in favour of optional components. Only 11 % of enterprise representatives responding saw a need for compulsory integration into training.

of manager, departmental manager or independent trader. There are also business management courses qualifying students for senior management posts.

The retail trade opens up prospects for independent work at an early stage, which is why companies with branches set their sights on and promote up-and-coming executives while they are undergoing training. As part of the reorganisation of the training course for *Kaufmann im Einzelhandel* in 2004, the qualification 'Fundamental principles of entrepreneurial independence' was added. Additional qualifications can be acquired alongside the normal training without having any impact on the final examination. The retail trade showed at an early stage that this module held little appeal for students, and highlighted the need for conversion to an optional qualification relevant to the final examination (see Kuratorium der Deutschen Wirtschaft für Berufsbildung, 2006a, p. 3). This need was satisfied with an amendment of the training regulations in 2007.

The *Handelsassistent* or commercial assistant is expected to assume specialised, organisational and managerial tasks in an independent and responsible manner and to implement business- and human-resource management instruments. Preparatory courses in, for example, leadership/communication/self-management and human-resource management provide a sound basis for acquiring entrepreneurial skills. The same applies to courses leading to the qualification of *Handelsfachwirt* or commercial specialist. These specialists are expected to assume the tasks of planning, managing, conducting and supervising tasks and situations specific to the retail trade in an independent and responsible manner using business- and human-resource management instruments. Course content relating to entrepreneurship includes business management and personnel management. Aspects of business management include entrepreneurial independence and business plans.

The *Betriebswirt* or management expert is expected to identify solutions to a company's managerial problems in a competent, targeted and responsible manner. This includes strategy formulation and implementation as part of the sustainable management of the company and the management/coordination of the production processes of the company in line with the regulatory framework.

This example of implementation demonstrates that the regulatory framework conditions are sufficient to implement entrepreneurship in accordance with needs. Independent work is a career option at a very early stage in the retail trade, which is why entrepreneurship is offered as an optional subject even in the three-year course to qualify as *Kaufmann im Einzelhandel*. Subsequent training options

include numerous subjects with a direct link to entrepreneurship. This potential should be harnessed in preparatory courses, in other words at microdidactic level. To avoid unwanted duplication between various stages of training, the model set out in Figure 1 (in particular the objectives) should be taken into account.

Methodological considerations are dominant elsewhere

An international comparison shows no shortage of – methodological – approaches to entrepreneurship education. There is a longer tradition of entrepreneurship education in the UK and the USA than in Central and Eastern Europe. The approaches developed there and in other countries and the experience acquired can provide a valuable impetus for European entrepreneurship education. ⁽²⁵⁾ Against this background, we shall present some approaches to entrepreneurship education. Since the range of provision and approaches from regional to (inter)national level is extremely complex, our examination can only serve by way of example.

Entrepreneurship education is widespread in the United States of America (USA). Young, well-trained Americans are currently increasingly striving to achieve entrepreneurial independence (see Bygrave, 2007). The Kauffman Center for Entrepreneurial Leadership Clearinghouse on Entrepreneurship Education (CELCEE) offers a special programme for young people and young adults. In this context, it should be pointed out that the USA currently has some 2 100 special college/university courses in entrepreneurship. In the early 1990s, the figure was still under 400. In these courses, participants are specifically prepared for entrepreneurial activities (with regard to these comments, see Rosenberg, 2006).

The academic institution with the world's longest tradition of entrepreneurship education is Babson College ⁽²⁶⁾, which is still a leader in this field today. Here, the approach involves cross-disciplinary integration of entrepreneurship into teaching, research and practice. Regular conferences are also held for an extended target

⁽²⁵⁾ The Commission of the European Communities assesses the need for action as being primarily at national and local level (see Commission of the European Communities, 2006, p. 12). For a comprehensive description and comparison of the various education systems in Europe, see http://www.fit-for-europe.info/webcom/show_page.php?wc_c=15878&wc_id=1 (data accessed on 05.09.2006).

⁽²⁶⁾ See www3.babson.edu/eship (data accessed on 29.06.2007).

group. The action-oriented curriculum includes, *inter alia*, more than 75 practical case studies of various problems from the fields of enterprise establishment and enterprise management. ⁽²⁷⁾ As a rule, colleges and universities in the USA also cooperate with incubation centres within or outside institutions of higher education, business-plan competitions, various consultancy and coaching organisations, business angels and venture capitalists (see Förderkreis Gründungs-Forschung, 2005, p. 135).

In 1987, Steve Mariotti founded the National Foundation for Teaching Entrepreneurship (NFTE) ⁽²⁸⁾. The programme is specifically tailored to young people in low-income regions. Since its establishment, the Foundation has already reached more than 150 000 young people. Furthermore, to date over 4 100 teachers have been trained as multipliers in entrepreneurship education. This approach has become widespread in the USA and in another 13 countries. The individual curricula and teaching materials are aimed at students in high-school, middle-school and post-secondary education.

The focus of entrepreneurship education is also currently on young people in the UK (see Harding, 2007). Within the framework of the International Entrepreneurship Educators Programme of the National Council for Graduate Entrepreneurship (NCGE) [see National Council for Graduate Entrepreneurship (no date)], for example, a target list comprising the following entrepreneurial outcomes has been developed:

1. Entrepreneurial behaviour, attitude and skill development
2. Creating empathy with the entrepreneurial life world
3. Key entrepreneurial values
4. Motivation to Entrepreneurship career
5. Understanding of processes of business entry and tasks
6. Generic Entrepreneurship competencies
7. Key Minimum Business how to's
8. Managing relationships.

Teaching staff can enrol in a 3-day introductory course in this entrepreneurship education programme. The aim is to introduce them to the particular philosophy and the state of the art, among other things.

The South East England Development Agency (SEEDA) [see South East England Development Agency (no date)] of the South East England Higher Education Entrepreneurship Group (heeg) is

⁽²⁷⁾ For other methods used in higher-education entrepreneurship education, see German Federal Ministry of Education and Research, 2000.

⁽²⁸⁾ See www.nfte.com (data accessed on 29.06.2007).

a model of good practice for regional entrepreneurship education networks. The aim is to structure cooperation between the individual higher education institutions (HEIs) more effectively, to support identification of skills training needs in this area, and to disseminate tried and tested approaches to entrepreneurship research in the region. To this end, the various HEIs offer lectures, workshops and excursions.

In Wales, an approach has been established involving dovetailing of entrepreneurship education in 35 colleges and universities (for this Welsh approach, see Llywodraeth Cynulliad Cymru Welsh Assembly Government, 2003), which serves as a benchmark across national borders. Here, within 18 months, the number of entrepreneurship students increased from a good 3 000 to over 12 000. In addition to colleges and universities, the network also includes incubation centres and spin-offs established in the region.

In addition to the traditional strongholds (particularly the USA and the UK), other countries are also increasingly establishing entrepreneurship education. One of these countries is Israel, whose plans were presented to German experts in June 2007 at the workshop on entrepreneurship as a subject in vocational education and training, held under the auspices of the German-Israeli programme for cooperation in VET. In Israel, entrepreneurship education is being taken up by some schools, from primary schools to vocational schools. It focuses in particular on general and economic viability, for example self-organisation, setting and pursuing goals, and basic economic skills. It is also aimed at promoting the integration of particular target groups – for example immigrants.

Some promising starting points for entrepreneurship education have also recently been developed in Central Europe. In Austria, for example, in 2007 a collection of material for teachers and trainees was published under the heading of *Unternehmergeist in der Lehre* [Spirit of entrepreneurship in teaching] (see Austrian Federal Ministry of Economics and Employment; Wirtschaftskammer Österreich, 2007). This also includes a computer-based enterprise planning game. In addition, entrepreneurship education has been taken up in the experimental *Schumpeter-Handelsakademie* talent-promotion model. Here, the topic is drawn together into an overall educational plan for high-performing young people (see Aff et al., 2006, p. 1). The regular entrepreneurship-based teaching is supplemented by additional components, such as coaching, portfolio files and extracurricular joint ventures (see Aff et al., 2006, p. 8).

Between 2003 and 2006, in the EU pilot project Development of Entrepreneurial Spirit in Europe (DESIRE), ⁽²⁹⁾ 18 project partners from ten countries drew up, specifically in the trade sector, five course modules on sensitisation and on the subjects of economics and law, setting up in business in Europe, motor vehicle technology and confectionery technology, with relevant case studies and a plan for advice on setting up a company.

The Junior Achievement ⁽³⁰⁾ programme has been in existence since 1919. It is in place in more than 100 countries worldwide, and reaches some 7.5 million students a year. Provision is aimed at students in elementary schools, middle grades and high schools. Various modular thematic building blocks have been developed for each of these target groups. They are based on the specific objectives for the individual stages of learning. In elementary schools, the aim is for students to familiarise themselves with basic economic concepts and to recognise the importance of education for the individual employment options. Students in middle grades and junior high schools familiarise themselves, above all, with the economic benefits of attending higher secondary schools and with the world of work. In high schools, students are provided with information enabling them to make reasoned decisions on their (working) future. At this stage, the aim is also for them to develop further general competences for their working life. The overall programme is based on experimental, action-based learning. ⁽³¹⁾

Students in Free Enterprise (SIFE) ⁽³²⁾ is an international programme aimed at students in particular, but also at other target groups. In Australia, for example, a competition to develop innovative products and services was held under the heading of 'Entrepreneur's Challenge'. At the Russian State Pedagogical University in St Petersburg, some 70 students took part in ten workshops on the bases for setting up and running an enterprise. In China, farmers were trained in basic economics (e.g. the association between supply and demand, efficient use of resources), new farming methods, and using the Internet to research information.

⁽²⁹⁾ For more on this project, see www.desire-project.org (data accessed on 11.07.2007).

⁽³⁰⁾ For more on Junior Achievement, see www.ja.org (data accessed on 03.07.2007) and Junior Achievement (no date).

⁽³¹⁾ For an overview of Junior Achievement provision for young people aged 13 and upwards, see Hekman, 2006, pp. 211 ff. and 216 f.

⁽³²⁾ For more on SIFE, see www.sife.org (data accessed on 03.07.2007).

Summary of examples of good practice

In the countries considered here, entrepreneurship education is organised across different stages of education. As a rule, it also incorporates expert practitioners, such as successful entrepreneurs or business angels. This is extremely valuable in terms of creating proximity to practice and integrating practical experience. The institutions concerned – schools and high schools – are often integrated into subject-based networks. The relevant concepts are, however, dominated by methodological components, with similar, usually action-based, methods being employed everywhere – case studies, junior/student enterprises, entrepreneurial success stories, and so on. Other didactic issues, such as goal and content components, are pushed into the background. While the Consortium for Entrepreneurship Education in Columbus, USA, describes the promotion of entrepreneurship competences as a task of lifelong learning, it does assign specific (educational) objectives to individual stages of education, at the same time taking account of practical experience from working life in addition to formalised skills training measures (see Consortium for Entrepreneurship Education, 2006, p. 5). One question remains unanswered, however, namely how the skills training proposals mentioned there are coordinated with one another to form a coherent concept. Since the methods adopted in the relevant approaches to entrepreneurship education are similar to one another, the didactic added value of entrepreneurship education across previous stages of education is unclear. No harmonisation of individual curricula in the sense of a spiral curriculum, with objectives, focal topics and methods building on one another and geared to the relevant target group, is to be seen. Thus while the approaches serve as a basis for the plan of the leading German trade and industry organisations, the plan continues them on the basis of a spiral curriculum in creating the overall concept.

Particular importance of entrepreneurship in SMEs

All enterprises with a workforce of up to 249, an annual turnover of a maximum of EUR 50 million and a balance-sheet total of not more than 43 million euros are categorised, under an EU definition (see European Commission Recommendation, 2003/361/EC), as small and medium-sized enterprises (SMEs). This represents some 23 million European enterprises, equivalent to approximately 99 % of all enterprises. Overall, European SMEs provide around 75

million jobs, or about two thirds of all jobs (see European Commission/DG Enterprise and Industry, 2006). Thanks to their economic performance and innovative achievements, SMEs can be regarded as the backbone or ‘real giants’ of the European economy (European Commission/DG Enterprise and Industry, 2006; see also UNICE, 2006, p. 1).

In recent years, the European Commission has devoted increased attention to supporting SMEs. ⁽³³⁾ Against this background, the European Charter for Small Enterprises was published in 2000. Its ten lines for action explicitly include entrepreneurship education. ⁽³⁴⁾ This point is taken up again and expanded in the Green Paper on Entrepreneurship in Europe. ‘Entrepreneurship policy aims to enhance entrepreneurial vitality by motivating and equipping entrepreneurs with the necessary skills’ (European Commission/DG Enterprise, 2003, p. 12). At the time, the objective was for entrepreneurship education to help to make the EU ‘the most competitive and dynamic knowledge-based economy in the world’ by 2010. ⁽³⁵⁾ Even following adaptation of the Lisbon strategy to focus on stronger and sustainable growth and on more and better jobs, entrepreneurship education remains a focal topic of the EU (see Commission of the European Communities, 2006, p. 3).

Entrepreneurship in SMEs

Owing to the importance of SMEs, entrepreneurship education should be geared to sustainable – in other words durable, operating robustly on the market – enterprises. In principle, this applies to both employed and self-employed entrepreneurs. In the case of entrepreneurial self-employment, it must also be taken into account that SMEs are usually planned and launched in a family context and, in the post-establishment stage, increasingly need to be coordinated with family life. ⁽³⁶⁾ This means that they involve particular framework conditions which need to be taken into account in relevant policy lines for action, for example by providing assistance in reconciling family

⁽³³⁾ For a more comprehensive summary of the European initiatives, see Hekman, 2006, pp. 38 ff.

⁽³⁴⁾ In this article, entrepreneurship education is used as a synonym for promotion of entrepreneurial thinking and action.

⁽³⁵⁾ Conclusions of the Presidency, Lisbon European Council, 23 and 24 March 2000.

⁽³⁶⁾ See Piorkowsky, 2002, pp. 2 and 11, also Lang-von Wins et al., 2002, p. 114, who confirm in an empirical study that finding a balance between working and private life is the greatest problem for enterprise founders in the post-establishment phase. Piorkowsky sees family enterprises as ‘hybrid systems in which the two areas that interfere with one another [family household and enterprise; MTE] must be harmonised in order for a sustainable positive trend to ensue’ (ibid. 2002, p. 6).

and self-employed entrepreneurship. As a result of their smaller size, SMEs are also particularly severely affected by administrative requirements and regulations, and are often left out of account by regional initiatives. The fact that the European Commission has acknowledged this aspect is demonstrated by, for example, the European Enterprise Awards, offered for the first time in 2006, which reward particular qualities in the promotion of regional entrepreneurial activities (see Cedefop, 2005).

SMEs depend on well-trained skilled workers⁽³⁷⁾ who, in addition to their specific know-how, also bring with them a particular level of vocational independence⁽³⁸⁾ and a degree of identification with the enterprise. However, empirical investigations have shown that entrepreneurship characteristics of this kind are far from being as pronounced as is desirable (see Rump and Eilers, 2006, p. 90). Thus as long ago as 2004, BUSINESSEUROPE⁽³⁹⁾ – the official representative body for European enterprises – called for expansion of entrepreneurship education measures. Among other things, BUSINESSEUROPE is promoting integration of entrepreneurship into school syllabuses. In its view, if sustainable entrepreneurship education is to be put in place, national ministries of education, the European Commission and enterprises themselves must all play their part (see UNICE, 2004a and UNICE, 2004b).

The proposed plan of German trade and industry takes account of the special situation of SMEs. In its general formulation, it creates scope for employees in SMEs to be trained in entrepreneurship, so that in the flat hierarchies typical of SMEs, they can think and act like entrepreneurs. In its specific formulation, it also makes it possible for know-how to be developed with a view to establishing/taking over an SME.

⁽³⁷⁾ In Eurobarometer 2005, 16 % of entrepreneurs responding stated that better-trained workers were best for the development of their SMEs (see European Commission/DG Enterprise and Industry, 2006). Fulfilment of the need for skilled workers was the second most important point.

⁽³⁸⁾ For the distinction between self-employment, general vocational independence, entrepreneurial self-employment, simulated self-employment and entrepreneurial thinking and action, see Zedler, 1998, pp. 186 f.

⁽³⁹⁾ The European employers' organisation UNICE has been renamed BUSINESSEUROPE.

Enterprises promote entrepreneurship

German trade and industry have recognised the far-reaching importance of entrepreneurship, and are actively involved in structuring and implementing it. For example, a KWB survey of trade and industry networks shows that many enterprises promote entrepreneurship in students and trainees.

Thus enterprises combine to form regional networks. They cooperate, for example, with schools of all types and, in this context, offer enterprise information events or workshops. They are also active in various topic-based projects, including Junior, business@school, StartUp, and Go! to school. Here, they incorporate their practical know-how by acting as mentors.

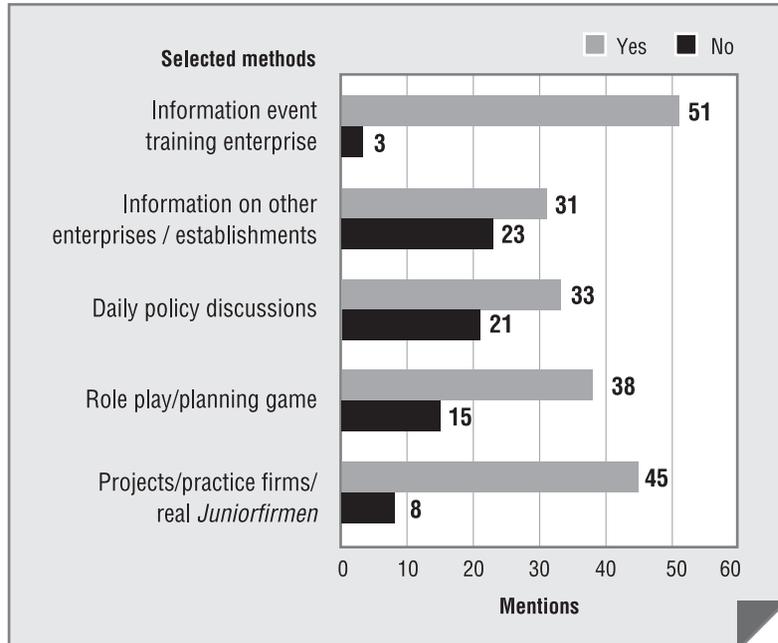
Within the framework of training, they promote their trainees' entrepreneurship competences. Some enterprises have established a *Juniorfirma*. Also common are information events and role play/planning games, in which the subject is taken up. A number of examples from practice were presented in a KWB workshop on entrepreneurship in training (see Kuratorium der Deutschen Wirtschaft für Berufsbildung, 2006b, pp. 22 ff) – Max Bahr GmbH & Co. KG conducts a series of seminars at the start of training, Daimler AG offers its trainees the computer-based planning game TopSim Car, the Joseph-duMont-Berufskolleg in Cologne organises project weeks for prospective booksellers, and ThyssenKrupp Nirosta GmbH has a *Juniorfirma* in the form of a learning island.⁽⁴⁰⁾ A cooperation project from the retail trade was also presented at the workshop.

Entrepreneurship competences are also promoted as required in (job-based) continuing training. Examples of this are process organisation and employee management, which are an established component of HR development programmes for the next generation of managers.

Enterprises can also be integrated into entrepreneurship education within the framework of training and continuing training under regulatory policy. As experts from the world of practice, they are involved in drawing up and revising training and advanced training regulations. Here, they advise, *inter alia*, on the extent to which entrepreneurship should be incorporated into the relevant syllabuses.

⁽⁴⁰⁾ With reference to the approaches of DaimlerChrysler AG and the Joseph-duMont-Berufskolleg, see also Eickhoff, 2007b.

Figure 2. **Entrepreneurship education in training in enterprise** ⁽⁴¹⁾



In higher education, enterprises seek to cooperate with institutions of higher education – particularly with chairs of entrepreneurship education, but also with other chairs. They involve themselves in teaching programmes, offer students work experience, or make it possible for them to learn about enterprises. Some enterprises also support the establishment of sponsored chairs of entrepreneurship education and business-plan competitions.

⁽⁴¹⁾ See Kuratorium der Deutschen Wirtschaft für Berufsbildung, 2006b, p. 12.

Summary from the perspective of German trade and industry

From the perspective of German trade and industry, the following key points arise (see Kuratorium der Deutschen Wirtschaft für Berufsbildung, 2006a):

Entrepreneurship is primarily an entrepreneurial mindset in young employees and entrepreneurial working behaviour in adult employees. It involves many key skills.

Hence entrepreneurship education is above all a question of method. For example, risk-awareness is a personal attitude that can be developed in planning games.

Entrepreneurship education needs to be rooted in regulatory policy in schools offering a general education, and this is also desirable in training and advanced training of teachers in schools and enterprises. In vocational training, it should be linked to existing training content; it is not essential to expand this content in order to develop an entrepreneurial mindset. For occupations with a particular affinity for entrepreneurship, optional choices and supplementary skills training should be created.

Entrepreneurship education must also be stepped up in continuing vocational training and higher education. Here, specific provision should be established for developing (enterprise) management competences and the competences required to set up in business.

The proposed measures for sustainable entrepreneurship education across all stages of education are expected to provide a key impetus for the promotion of entrepreneurship in Europe, and hence for strengthening European SMEs.

Annex

Analysis of the literature on entrepreneurial skills ⁽⁴²⁾

Ability to achieve aims	Ability to be creative	Ability to communicate
Ability to motivate	Accessibility and receptiveness to contact	Adaptability
Allocation of resources	Assertiveness	Attraction of customer loyalty
Capacity for analysis	Capacity for critical analysis	Capacity for identification
Capacity for teamwork	Capacity to assess the environment	Conflict management
Conscientiousness	Cooperativeness	Creation of new organisational forms
Creativity	Crisis management	Customer-oriented approach
Decisiveness in uncertain situations	Desire for independence	Desire for power
Desire to create	Desire to dominate	Determination
Development, production and marketing of new products	Disciplined nature	Dynamism
Dynamism and agility	Economical use of limited resources	Efficient working and learning techniques
Employee-oriented management	Enterprise organisation	Ethical and normative judgement
Extroversion	Financing	Flexibility
High level of intelligence	Identification and overcoming of limits on growth	Identification of opportunities
Identification, evaluation and exploitation of change	Identifying and solving problems	Imagination
In touch with reality	Independent thinking and action	Information management
Inner belief in supervision	Integrity	Introduction of new production processes

⁽⁴²⁾ See Eickhoff, 2006, pp. 63 f. and 68.

Knowledge of proprietary rights/trademark law	Leadership ability	Making profitable use of previous experience
Market research and influence	Mobility	Motivation through performance
Negotiating skills	Network management	Observation of the technology market
Ongoing administrative responsibilities	Opening up of new procurement markets	Opening up of new sales markets
Overall view	Persistence	Personal initiative and independence
Persuasiveness	Planning	Predictive thinking and action
Processing of enquiries	Project management	Readiness to take action
Receptiveness	Reflectiveness	Reliability
Representation of the enterprise externally	Representation of the enterprise to those within and outside it	Resilience
Risk-awareness and willingness to take risks	Sectoral knowledge	Self-confidence and self-reliance
Sense of responsibility	Sensitivity and wish to empathise	Setting and, if necessary, correcting targets
Single-mindedness	Spontaneity	Stress resistance
Supervision	Systemic thinking	Talent for communication
Talent for organisation	Tenacity	The courage to make changes
Time management	Tolerance of ambiguity/ambivalence	Tolerance of frustration
Victory mindset	Willingness to experiment	Willingness to innovate
Willingness to perform	Willingness to take decisions	Winning through in competition

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