Entrepreneurship Education: Progression Model
The Danish Foundation for Entrepreneurship – Young Enterprise works to ensure that more students at all levels of the Danish educational system are introduced to and participate in entrepreneurship education and training thus integrating entrepreneurship as a part of the educational system. The cornerstone of the Foundation is that entrepreneurship can be learned and taught.

August 2013

Summary Key Words:
Entrepreneurship education, general education, action, creativity, environment, attitude
Introduction

The Danish Foundation for Entrepreneurship – Young Enterprise covers, since its beginning in 2010, all levels of education thus ensuring progression in entrepreneurship education – from primary school to higher education, that is more than one million students and their teachers. We suggest that new ways of framing entrepreneurship education are necessary to ensure that progression. This article provides a way of approaching dimensions of entrepreneurship education. We point at new learning outcomes and the pedagogical and didactical challenges that may occur when dealing with the progression in entrepreneurship education. The article was first written and published in Danish in the spring 2013, and is printed to be distributed among teachers, staff and policymakers within the Danish Education System. This English version, we hope, can be discussed and perhaps inspire outside Denmark.

In the light of globalisation and big changes in society, economy, the labour market and the employment situation, countries worldwide have determined to integrate entrepreneurship and innovation in their school and education system. Also Denmark has set a strategic goal of integrating entrepreneurship and innovation in the education system and let it run like a common thread from primary school to completed education – from ABC to PhD (Moberg 2011). This has increased the number of courses and the number of participants in entrepreneurship programmes and training at all educational levels (Blenker et al. 2011; Vestergaard et al. 2012).

At the same time, the understanding of the concept of entrepreneurship continues to expand. From a narrow association with business start-up to a broader view (Fayolle & Gailly 2008) which now encompasses social as well as cultural entrepreneurship. The purpose of entrepreneurship education therefore seems complex: it is to impart to pupils and students the knowledge and competences that can be used in many different contexts (Pittaway & Cope 2007; Surlemont 2009; Gibb 2010; Neck & Greene 2011). Entrepreneurship education thus becomes part of a future-orientated ideal of ‘general education’ intended to give pupils and students the competences to discover opportunities and to create value in a wider context. At the same time, entrepreneurship education and teaching must give pupils and students the tools for handling the many challenges associated with life in a globalised, uncertain and changeable world (Baumann 2000; Giddens 1991; Gibb 2010; Venkataraman et al. 2012). The expansion of the concept therefore affects the purpose of entrepreneurship education, which is broadly defined in this way:
• To give the individual the opportunity and the tools for forming his or her own life
• To educate dedicated and responsible fellow citizens
• To develop knowledge of and ambitions for creating companies and jobs
• To increase the creativity and innovation in existing organisations
• To establish growth, development and welfare

In order to operationalise this complex purpose, we will in the following establish a ‘Model for understanding Progression’ (henceforth referred to as ‘Progression Model’). The model exemplifies overall dimensions which can function as a framework for the development of learning outcomes in the school and education system. The ambition is to ensure a common understanding of the concept as well as an understanding of the progression of learning outcomes, and of the entrepreneurial education that results from the unfolding of learning outcomes as didactical practice in schools and institutions.

In order to accommodate this ambition the present Progression Model prescribes a continuous development of learning outcomes for entrepreneurial skills and competences to be acquired by students throughout their education – viewed as a joint and continual effort in a diverse school and education system. The Progression Model is a theoretical framework suggestion, the validity of which must be tested in practice. It serves as the starting point for dialogue and for the involvement of new perspectives in relation to the future development of progression, learning outcomes and teaching methods.

The theoretical starting point of the model

As entrepreneurship and innovation increasingly becomes part of the objective for education worldwide, research in the field intensifies. Despite this, there is still no consistent or precise knowledge of which kind of entrepreneurship education gives which results. This is due partly to the lack of longitudinal surveys, partly to a complex correlation between content and form, and partly to uncertainty regarding the intended outcomes of such education (Fiet 2001a, 2001b; Honig 2004). Thus, over time several different paradigms for entrepreneurship education have been established. These paradigms range from a causal and linear understanding of planning, through an approach which focuses on students’ “mindsets”, to a process-related entrepreneurial and methodical approach (Neck & Greene 2011; Sarasvathy 2001; Sarasvathy & Venkataraman 2011; Blenker et al. 2011). Within the paradigms and research in the field there is however a number of basic dimensions which appear as overriding prerequisites for establishing a functional understanding of entrepreneurship education. A key perspective, for instance, is the emphasis on the aspect of action, and that entrepreneurship education must be based on the practical actions of pupils and students.
Another key element is the development of creativity, which includes the ability to get ideas, to discover and create opportunities as well as the capacity for problem-solving (De Bono 1992; Dyer et al. 2011; Byrge & Hansen 2010; Guildford 1950; Tanggaard 2008).

There is also an emphasis on environmental knowledge and interaction with the world outside educational institutions, for instance the cooperation with different external partners and stakeholders as well as the understanding of context and culture in a given social reality (Nielsen et al. 2009; Honig & Karlsson 2004; Darsø 2011). Finally, a fourth aspect deals with the pupils’ and students’ attitudes, faith and belief in their own possibility as well as ability to define their own destiny and act in an entrepreneurial way (Blenker et al. 2011). This fourth theme is often summed up by Bandura’s (1995) notion of “self-efficacy”.

Based on this the Progression Model offers a way of seeing with four complementary and interdependent dimensions: Action, Creativity, Environment and Attitudes. The four dimensions are defined in the following and thus represent a theoretical framework for the particularly entrepreneurial aspects in different teaching contexts.

**Action**

Action is understood as a pupil’s or student’s ability and desire to implement value-creating initiatives, as well as the ability to realise these initiatives through cooperation, networking and partnerships (Kirketerp 2010; Venkataraman et al. 2012; Sarasvathy & Venkataraman 2011; West 2004). At the same time it is the ability to communicate in a purposive way and to organise, specify, plan and lead activities. The dimension of action also includes the ability to analyse and handle risk (Knight 1921).

**Creativity**

Creativity is understood as the ability to discover and create ideas and opportunities (Shane & Ventakamaran 2000). It is also the ability to combine knowledge, experience and personal resources from different areas in new ways (Sarasvathy 2001; Herlau & Tetzschner 2004). Creativity is also the ability to create and revise personal perceptions, to experiment and improvise in order to solve problems and meet challenges (Tanggaard 2010).

**Environment**

Understanding the environment is perceived as knowledge about and understanding of the world, locally as well as globally. Likewise it is the ability to analyse a context socially, culturally and economically as a setting for value-creating actions and activities (Ven-
Kataraman et al. 2012). Understanding the environment is also an understanding of global issues and problems, such as for instance sustainability, environmental issues and resources.

**Attitude**

Attitude is the personal and subjective resources with which students meet challenges and tasks. It is the faith in one’s own ability to act in the world and thus to realise dreams and plans (Pajares 1996). Personal attitude is based on the ability to work consistently and overcome ambiguity, uncertainty and complexity. It is also the ability to accept and learn from others’ and own failures (Kirketerp 2010; Detienne & Chandler 2004) and to make ethical evaluations and reflections.

In the model below the four entrepreneurial dimensions are embedded in an interaction with the core subject and curriculum. The four dimensions are thus based on the curriculum of the school and the educational institution, depending on the educational level and field.

In the model entrepreneurship education is understood as an integrated part of the teaching and education, based on the objectives and contents of the individual educational institution. Thus, it is emphasised that the different types of core subject knowledge will form the four dimensions. Because the different subjects, professions and study programmes have different types of core subject knowledge, there will be variations in the way the dimensions are unfolded to become for instance social, economic and cultural value. So the ambition should
be that all students acquire innovative and entrepreneurial competences, not that everyone holds the same skills or that they have acquired them in the same way. In the model the four dimensions are placed, so that each can be unfolded individually during teaching. The dimensions are however mutually correlated and should therefore interact with one another, especially in teaching which contains entrepreneurial processes.

On the basis of this the model forms a way of seeing that can be used as:

- **An image of the individual student’s entrepreneurial development and ‘general education’**. The model is able to mirror how the individual student has acquired knowledge and competences within these dimensions in close relation with the core subject knowledge of his or her specific educational level, programme and field.

- **A starting point for the evaluation and development of subject and content**. Schools and educational institutions can use the model for self-observation in order to explore in which way the four dimensions are or become part of their educations.

- **A basis for the development of new forms of assessment and exams**. The model may be used as a unifying frame of reference in this work, so that the assessments support one another throughout the educational process.

**Progression**

In order to strengthen the four dimensions in relation with the core subject knowledge of the school and the educations throughout the education system, it is essential that students make continuous experiences with value-creating entrepreneurial processes as part of the teaching. Experience is here understood as the personal active involvement in processes and the experience of connections between theory and practice which tie together the four dimensions with the core subject knowledge.

Through experience students can reflect upon the innovative and entrepreneurial practice which is the result of activities that the four dimensions prepare the ground for. In this way continuous entrepreneurial and innovative experiences serve as a foundation for the individual’s future action, reflection and learning (Dewey 1916a, 1933b; Elkjær 2009).

The progression in entrepreneurship education and in the ‘general education’ of the individual does not take place only through more knowledge about innovation and entrepreneurship. It happens through the relation between growing core subject knowledge throughout
the education, more entrepreneurship education related to the four dimensions as well as more numerous and more comprehensive experiences with innovation and entrepreneurial processes.

The graphical illustration is a model which expands both with regard to the depth and the extent of skills, knowledge and competences. It also illustrates that the four entrepreneurial dimensions are an important part of the entire educational process. At the same time, the model illustrates how students gather still more numerous and more comprehensive experiences with innovation and entrepreneurial processes throughout their educational process.

The four entrepreneurial dimensions in teaching will change over time: the youngest pupils in primary school meet with the familiar and close relations in the local area and family, whereas the grown-up students get involved in complex situations that challenge their need for knowledge and reflection. Likewise the opportunities for action and for the independent initiation of value-creating projects are different from one level to the next. Creativity and the ability to act in a creative and solution-oriented way also change over time, just as the personal attitude and the activities that support its development are different in the beginning and in the end of the educational process. In the following, this development is exemplified by a number of learning outcomes which develop over time – from primary school to the end of the educational process.

The following examples will show how the four dimensions envision important nuances in entrepreneurship education, and they illustrate how the growing level of knowledge and reflection which pupils and student acquire through their education is a premise for progress. These examples do not embrace all learning outcomes in all educational contexts, but start with a number of essential knowledge areas based on the four entrepreneurial dimensions.5
Value-creation
Pupils can distinguish between activities and solutions that create value for others and activities and solutions that do not.

Students can use their professional competence in value-creating initiatives, either through their own businesses, existing organisations or as a project team.

Communication
Pupils can communicate verbally and produce simple written communication.

Students can vary their written, verbal and digital communication in a strategic manner depending on the target group and situation.

Cooperation
Pupils can cooperate and they have a beginning awareness of the network they are part of.

Students can cooperate in different social contexts and reflect on these. Students can build and be part of a team. They can professionally use and extend networks.

Initiation
With teacher support and guidance pupils can establish small projects and activities.

Students can initiate long-term activities on their own, and on the basis of mature reflection they can create economic, social or cultural value.

Action
Creativity

Idea and opportunities
Pupils enjoy unfolding their fantasies and ideas through play and creative activities.

Applied knowledge
Pupils can convey their knowledge through creativity, fantasy and artistic expressions.

Solutions
Pupils can experiment and improvise in organised courses and situations.

Students are trained to see opportunities and can moreover create ideas and opportunities that can be transformed into economic, social or cultural value.

Students can combine and transform their professional knowledge in new ways. They can both act in a structured and analytical way and break with conventional knowledge and structured procedures.

Students can find alternative ways and solutions, when they meet with obstacles, and do it with limited resources.
Environment

Culture
Pupils know about cultural phenomena, customs and habits and know that these vary locally and globally.

Contexts
Pupils can seek and use moderate professional knowledge in a context consisting of the immediate surroundings: school, family, parents, friends and local environment.

Market
Pupils understand the idea of buying, producing and selling a product.

Economy
Pupils have a basic understanding of the concept of money and are able to use simple ways of calculation for making small budgets and accounts.

Students can analyse and reflect on cultural conditions that mean something to individuals, groups and decisions. They are able to challenge established assumptions on the basis of their extensive knowledge about different cultures and culture patterns.

Students can use their professionalism in various private industries and public areas through entrepreneurship, locally, nationally and globally.

Students can evaluate and use different strategies for entering a private market or a public area. Students understand economy and market as an integrated part of society.

Students can analyse economic problems, seek financing and participate in strategic meetings with investors and other stakeholders.
Belief in own abilities
Pupils have a basic self-confidence and a general belief that they can handle assigned tasks. They have a beginning faith that through own initiatives they can influence their own conditions in the world.

Handle ambiguity
With the support from teachers or other grown-ups pupils can act in situations characterised by ambiguity.

Accept failure
Pupils accept that they and others can fail.

Ethical values
Pupils can basically relate to simple ethical problems in their surroundings and can distinguish between good and less good initiatives.

On the basis of a high self-efficacy students can handle complex situations and create visions that can be transformed to value-creating scenarios in the real world.

Students can act in situations characterised by ambiguity and handle risk. They can reflect on risks and on activities in relation with these.

Students are able to acknowledge and learn from their own failures and reflect on others’ failures and successes.

Students can take a position on ethical problems at a high level of abstraction and reflection in relation to their professional knowledge, as well as consider transformative actions in relation to culture, democracy and sustainability in a globalised world.
Pedagogical and didactical challenges

The model and the shown progression in learning outcomes and experiences allow for the establishment of a collective understanding of entrepreneurship education at many levels and in different educational settings. Thus, the individual schools and institutions can incorporate the professional knowledge, contents, didactics and methods in a form which is relevant in their specific context. However, the model requires that all four entrepreneurial dimensions are taken into account at all schools and institutions, and that students throughout their education gain experience with several entrepreneurial and innovative processes. This is a precondition if innovation and entrepreneurship shall form a common thread through the educational system.

The Progression Model may be used for the planning of teaching and call for a discussion and dialogue about whether to integrate entrepreneurship education in the existing teaching practice and curriculum or whether to develop new teaching methods and practices. This goes for the superior level in ministries, organisations and municipalities as well as for the individual school or educational institution. It also goes for the individual teacher whom the model impels to integrate core subject knowledge and entrepreneurship in their teaching to ensure that pupils and students acquire valuable experiences that they can use in the future.

The focus on the interaction between core subject knowledge, entrepreneurship and entrepreneurial experience requires a certain view of learning. Students need to gain concrete experiences with being creative and with acting in the outside world, and it is necessary that these acquired experiences are of such depth and quality that they may serve as a starting point and a motivation for future activities – also after students have finished their education. At the same time it is essential that pupils and students during this process develop a high self-esteem and that they build up a number of success stories throughout their education. When using the notion of experience certain requirements are imposed on the content and form of the teaching; the teaching should not only be designed in a form which is centred round the educator as the only communicator of knowledge about entrepreneurship and innovation; it should be designed so that students get involved in processes based on their own interests and ideas as well as on a mix of their own and their educators’ approach to the core subject knowledge. In such an educational design students are active in creating value in the world on the basis of different core subject areas of knowledge. In this way, entrepreneurship and innovation may constitute complete subjects in themselves, but to an equal extent they may be “embedded” elements in existing core subjects and professional knowledge areas.
(Pittaway & Edwards 2012). This may be a challenge for teachers regardless of the level or of the context in which they meet pupils and students. Therefore, in order to bring about the cultural change which is part of the national strategy on the area, future teachers must be educated in new ways and today’s teachers must receive supplementary education. The four entrepreneurial dimensions may serve as a starting point and a framework for the development of these educational programmes for teachers, and thus ensure that the progression throughout the education system is not fragmented and limited to specific educations or periods of the educational process.

The four entrepreneurial dimensions may serve as a starting point and a framework for the development of these educational programmes for teachers, and thus ensure that the progression throughout the education system is not fragmented and limited to specific educations or periods of the educational process.

The coupling of the four entrepreneurial dimensions, core subject knowledge and experience in the Progression Model means that there is no single educational programme, course or method which alone can establish an entrepreneurial education. It requires a continuous effort to learn to act in an innovative and entrepreneurial way regardless of whether you start a business or create social or cultural innovation.

The question is therefore whether the education material and programmes currently used in entrepreneurship education can stand alone, or whether they must be supplemented by a number of new and still to be developed models for the acquisition, learning and teaching of innovative and entrepreneurial competences. Pedagogically and didactically the Progression Model constitutes a possible frame for the development of new methods and activities which can be part of a multiform education system.

Educations which have one of the four dimensions as their core subject competence such as market related subjects, or educations which have the creative dimension as their core professional competence, are especially challenged by the model. The model envisages that the individual education in these circumstances can get inspiration from the other dimensions and consider how competences and core subject knowledge within one specific dimension may interact with the other dimensions.

One of the challenges of integrating entrepreneurship in the education system is that many of the existing assessments do not take due account of entrepreneurial experiences and competences. The present model may serve as the starting point for a new learning taxonomy which can inspire new forms of assessments and exams and which encompasses the four dimensions as parameters for assessing the students. At the same time these assessments and exams may create a framework for valuable entrepreneurial experiences. In this view, an exam is not only a backward-looking event, but an integrated learning process aimed at future entrepreneurial activities, at the establishment of innovative competences and at the shaping of entrepreneurial individuals and mindsets.
References


Dewey J. (1933b): How we think: a restatement of the relation of reflective thinking to the educative process, D.C. Heath and company, University of Michigan.


Notes


Strategy for Education and Training in Entrepreneurship (2009), Danish Ministry of Science, Technology and Innovation, Danish Ministry of Culture, Danish Ministry of Education, Danish Ministry of Economic and Business Affairs. Published by Danish Agency for Science, Technology and Innovation.

2 The broader view is present in this definition of entrepreneurship made by the Danish Foundation for Entrepreneurship – Young Enterprise: “Entrepreneurship is when you act upon opportunities and ideas and transform them into value for others. The value that is created can be financial, cultural, or social.” This broad understanding of entrepreneurship leads to the definition of entrepreneurship education as: “Content, methods and activities supporting the creation of knowledge, competencies and experiences that make it possible for students to initiate and participate in entrepreneurial value creating processes”. Report: Impact of entrepreneurship education in Denmark - 2012: The Danish Foundation for Entrepreneurship – Young Enterprise Ejlskovsgade 3D, 5000 Odense C, Denmark; http://www.ffe-ye.dk/media/256547/effektm_ling_2012_eng_til_net.pdf

3 Equivalent to the Danish concept of “dannelse” and the German “Bildung”. This involves the individual’s introduction to any present cultural context, education, emancipation and thereby the abilities to contribute to a given culture and develop this according to critical reflection.

4 Equivalent to the Danish concept of “dannelse” and the German “Bildung”. See previous note.


6 The Danish national strategies for entrepreneurship and innovation (The Danish government 2009, 2012. See note one).