

Order 121 - Study on Support to Indicators on Entrepreneurship Education

FINAL REPORT

Framework Contract No. EAC 19/06

13 July 2011

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A Final Report by GHK

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1 Introduction

1.1 Interest in Entrepreneurship Education

Since the Lisbon Agenda of 2000, the Commission and Member States have sought to develop greater levels of entrepreneurial activity across Europe and, in turn, identified the role of entrepreneurship education in supporting such an outcome¹. Entrepreneurial activity has been identified as a wider attribute than business activity alone representing an 'active and reactive spirit' such that, in 2006, 'the sense of initiative and entrepreneurship' was identified as one of eight key competences for lifelong learning in Europe². Subsequently, in the successor Europe 2020 Strategy, entrepreneurship education has been identified as a key tool of the Flagship Initiative 'Innovation Union' and an element that will play an important role in the 'Youth on the Move' and "An Agenda for New Skills and Jobs" Flagship Initiatives³.

Given these strategic aims, entrepreneurship education has been incorporated in the common objectives for the education and training systems of the EU as articulated in the Education and Training 2010 Work Programme (ET2010) and, in turn, forms part of the successor Strategic Framework for European Cooperation in Education and Training up to 2020 (ET2020)⁴. In 2009, analysis of progress achieved against the objectives of the Lisbon Agenda in Education and Training at EU and national levels identified that whilst progress had been made in the core competences of sense of initiative and entrepreneurship, substantial gaps remained in both the information and data that existed relating to entrepreneurship and, more specifically, entrepreneurship education⁵.

1.2 Aims of the Study

The overall purpose of this study undertaken by GHK within the framework contract for the provision of studies and other supporting services on Commission evaluations (Framework Contract No EAC 19/06) on behalf of Directorate-General Education and Culture (DG EAC) is to:

- undertake review and analysis of entrepreneurship education and training at school and VET level in ten selected Member States;
- provide a statement on development trends in entrepreneurship education in Europe;

¹ For example, following a mandate from the Lisbon Council, in June 2001, the 'Best Procedure project on education and training for entrepreneurship' was launched under the framework of the Multiannual Programme for Enterprise and Entrepreneurship (2001-2005). An Expert Working Group was created with a Final Report in November 2002 - identifying numerous, isolated and fragmented examples of entrepreneurship education and training – and led to an immediate follow-up Best Procedure project to take forward a number of key areas for further action. This Expert Group reported in 2004 and DG Enterprise has continued to develop its policies and guidance on entrepreneurship education; see <http://ec.europa.eu/enterprise/policies/sme/documents/education-training-entrepreneurship/>. See, also, European Commission (2001) Green Paper on Entrepreneurship in Europe, COM (2003) 27.

² Recommendation of the European Parliament and of the Council (18.12.06) on key competencies for lifelong learning, 2006/962/EC <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2006:394:0010:0018:en:PDF>

³ Europe 2020 A European Strategy for Smart, Sustainable and Inclusive Growth <http://ec.europa.eu/eu2020/pdf/COMPLETE%20EN%20BARROSO%20%20%20007%20-%20Europe%202020%20-%20EN%20version.pdf>

⁴ Council conclusions of 12 May 2009 on a strategic framework for European cooperation in education and training ('ET 2020') 2009/C 119/02 <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:C:2009:119:0002:0010:EN:PDF>

⁵ Accompanying document to COM(2009) 640 - Key competences for a changing world , Progress towards the Lisbon Objectives in Education and Training, Analysis of implementation at the European and national levels, SEC(2009) 1598 http://ec.europa.eu/education/lifelong-learning-policy/doc/joint10/sec1598_en.pdf

- propose a set of indicators of entrepreneurship education (as the basis for cross national monitoring) - identified through analysing entrepreneurship education in ten selected Member States; and,
- support Entrepreneurship Education meetings and events.

1.3 Study Methodology

The study method comprised:

- *short review of international studies of entrepreneurship education at primary and secondary (including VET) level: a desk-based review of academic and policy papers and material on entrepreneurship education at international, European and Member State level (see Annex 15 for the set of reference material); and,*
- *the selection and completion of ten Member State Case Studies on measures and indicators of progress of entrepreneurship education at primary and secondary (including VET) level: case studies were selected following the initial review of Member State material and based, principally, on the extent to which a national entrepreneurship education monitoring framework was identified as in place (see Section 4.1 for more detail on selection). Each Case Study involved the completion of a common template on entrepreneurship education policy, monitoring and data sources created through a combination of document review and stakeholder interviews.*

A full set of Case Studies are provided in the Annexes to this report.

1.4 Structure of the Report

Following this Introduction:

- Section 2 sets the international context for the Study including definition of entrepreneurship education;
- Section 3 develops a logic model for entrepreneurship education as the analytical framework for identification of indicators;
- Section 4 provides the results of the review of entrepreneurship education indicators across the Member State Case Studies;
- Section 5 reviews the key international data sets for entrepreneurship education; and,
- Section 6 draws conclusions against the Study aims and provides recommendations.

2 The Landscape for Entrepreneurship Education in Europe

2.1 Origins and International Context

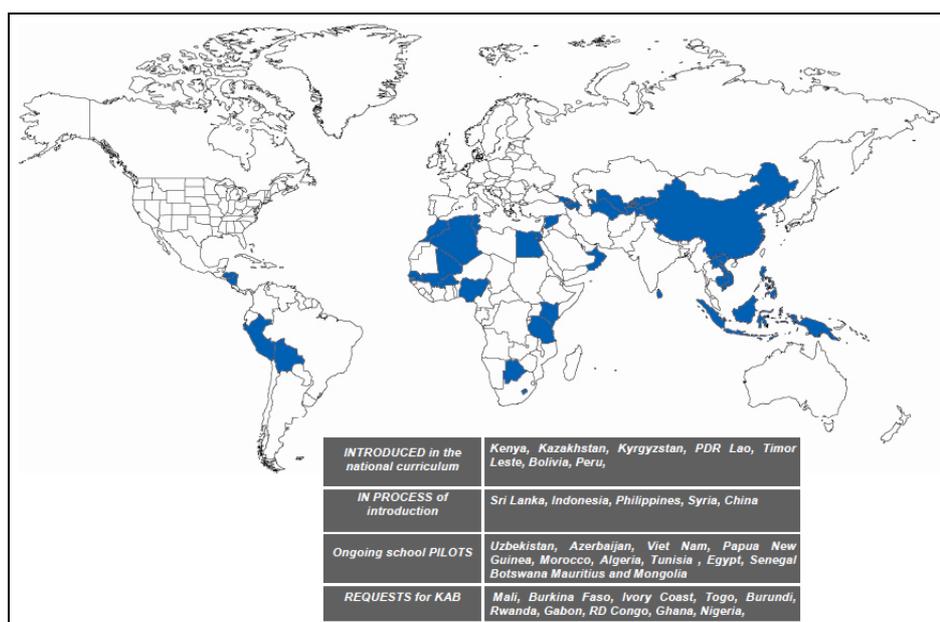
Entrepreneurship education started over a century ago, through pioneering organisations including Junior Achievement in Massachusetts which was founded in 1919. As part of the education curriculum, however, it has been present for only half this time, primarily at university level, and in the USA. It is only recently that entrepreneurship education has begun to establish itself across the rest of the world and at lower levels of education.

Despite its relatively recent arrival into policy and strategy development, entrepreneurship education is deemed of great importance due to the challenges faced by a globalised economy upon which entrepreneurship can have a large impact through the promotion of innovation, employment generation and social empowerment⁶. The challenge posed is to create entrepreneurial societies able to address problems which are increasingly interlinked and complex.

In the late 1980s/early 1990s, the International Labour Organisation (ILO) was involved in small and medium-sized enterprise (SME) development and vocational education through national projects implemented in collaboration with governments and private sector organisations. It was identified that entrepreneurs needed management skills and that entrepreneurship was inherent to the development of entrepreneurial attitudes; however, no training was available. In 1996, to fill this gap, ILO Geneva and International Training Centre Turin developed a training package that was later tested in Kenya. In 1998, the ILO's Recommendation No. 189 focused on a need to promote the development of entrepreneurial attitudes through education and training systems linked to job needs and the attainment of economic growth and development⁷.

Following the development of the Know about Business (KAB) scheme trialled in Kenya, training has been introduced to over 45 countries providing between 80 to 120 hours of teaching. It is currently integrated into national education systems to varying degrees, primarily across Africa, the Arab States, Asia and Latin America (see Figure 2.1).

Figure 2.1 Geographical distribution of countries currently implementing the KAB curriculum (*participating countries are shown in blue*).



Source: ILO <http://kab.itcilo.org/en/what-is-kab/countries-using-kab>

⁶ <http://members.weforum.org/en/initiatives/gei/EntrepreneurshipEducation/index.htm>

⁷ <http://www.ilo.org/ilolex/cgi-lex/convde.pl?R189>

Countries continue to approach the ILO to gain assistance for the introduction of KAB into national education systems, with identification by governments that entrepreneurial activity is inherent to economic success. The objective is that those educated with KAB adopt a positive approach to entrepreneurship and, over the longer term, reduce youth unemployment and create a positive enterprise culture.

In 2004, at the Second OECD Conference of Ministers responsible for SMEs, it was acknowledged that⁸:

‘developing an entrepreneurial culture and fostering entrepreneurial attitudes and values has moved high on government agendas. Education and training (including lifelong training) in entrepreneurship and creativity are the preferred instruments for encouraging entrepreneurial behaviour in societies, and evidence suggests that such programmes can have an impact on entrepreneurial activity and enterprise performance’

In 2008, the Global Education Initiative (GEI) of the World Economic Forum launched Entrepreneurship Education globally as a key driver for achieving sustained social development and economic recovery. More specifically this included a need to:

- Highlight and raise awareness of the importance of entrepreneurship education in spurring economic growth and in achieving the Millennium Development Goals;
- Consolidate existing knowledge and good practices in entrepreneurship education around the world in the form of a report to enable the development of innovative new tools, approaches and delivery methods;
- Provide recommendations to governments, academia, the private sector and other actors on the development and delivery of effective education programmes for entrepreneurship, and;
- Launch a process in which the recommendations can be discussed on the global, regional, national and local levels and implemented with the involvement of key stakeholders.

In taking forward their work, a report by GEI in 2009 was a call to action to both governments and key stakeholders to develop the human capital their countries need for the future through planting entrepreneurship education at the heart of the education system from primary to higher education. The GEI acknowledged the need for a fundamental review of educational systems and training of teachers to build an “entrepreneurial ecosystem” whereby entrepreneurship education can provide people with the chance to actively pursue opportunities available to them based upon local environment and culture⁹.

Subsequently, GEI have put in place an expert group to develop new and improved indicators of entrepreneurship education and which is focused on the study of activity, effect and regulatory indicators (see <http://europeanactiongroup.wordpress.com/category/indicators/>).

In 2010, the OECD re-affirmed the role of entrepreneurship education in supporting economic growth and, in particular, recovery from the recent economic crisis¹⁰. The first of five stated policy principles to drive innovation was to ‘empower people to innovate’. More specifically, it was argued that governments should seek to provide:

- Education and training systems (which) equip people with the foundations to learn and develop the broad range of skills needed for innovation in all of its forms, and with the flexibility to upgrade skills and adapt to changing market conditions;
- Practical experience to promote entrepreneurial mindsets, and;
- Foster an entrepreneurial culture by instilling the skills and attitudes needed for creative enterprise.

⁸ OECD (2004) “Promoting Entrepreneurship and Innovative SMEs in a Global Economy: Towards a More Responsible and Inclusive Globalisation”, 2nd OECD Conference on SMEs, Executive Summary of the Background Reports.

⁹ http://www.weforum.org/pdf/GEI/2009/EE_ExecutiveSummary.pdf

¹⁰ OECD (2010) “Ministerial report on the OECD Innovation Strategy. Innovation to strengthen growth and address global and social challenges: Key Findings” <http://www.oecd.org/dataoecd/51/28/45326349.pdf>

In summary, at a global scale, entrepreneurship education is identified as a core process in supporting immediate economic recovery and sustained social and economic development through the instillation in national populations of entrepreneurial mindsets, attitudes and skills. In achieving such outcomes, there remains the need to build 'entrepreneurial ecosystems' built upon the diversity of education and training systems in place.

2.2 The Lisbon Agenda and Europe 2020

Within Europe, entrepreneurship in education rose to prominence in 2000, when the Lisbon Strategy emphasised the need to create an environment for starting up and developing innovative businesses. In the same year, the European Charter for Small Businesses committed Member States and the Commission to taking action to support small enterprises in ten policy areas including education and training for entrepreneurship. Subsequently, DG Enterprise and DG Education and Culture, in particular, have been involved in a process of sustained activity through the various instruments at their disposal to encourage an entrepreneurial culture and greater rates of entrepreneurship across the Member States¹¹.

Following discussion in Lisbon, entrepreneurship was recognised as an attribute wider than business activity; an 'active and reactive spirit'. It was noted also, however, that the majority of European education did not concern itself with entrepreneurship and the need for schools to build entrepreneurship into the curriculum from an early age was identified to allow children to develop a set of skills which would promote entrepreneurial activity¹². In this regard, entrepreneurship education was incorporated in the broad common objectives for the education and training systems of the EU as articulated in the Education and Training 2010 Work Programme (ET2010).

In 2003, the Commission published a Green Paper on Entrepreneurship in Europe¹³ outlining the importance of entrepreneurial activity to ensure that Europe remained a competitive market in the global economy. The challenge lay in the diversity of people's attitudes across the EU Member States in addition to regional differences; this required the EU to identify the factors which allow entrepreneurial activity to thrive. Re-affirming the desire for greater levels of entrepreneurship, the paper highlighted also that "Education and training should contribute to encouraging entrepreneurship, by fostering the right mindset, awareness of career opportunities as an entrepreneur and skills".

The response from the consultation led to the adoption of an *Action Plan for Entrepreneurship* in 2004¹⁴. Despite earlier appreciation of the importance of entrepreneurial activity it was argued that there existed little concrete activity to ensure it was put into practice. The Green Paper consultation identified that there was not a single route to an Entrepreneurial Europe and instead a 'complex set of mutually interacting framework conditions, attitudes and skills' was required. Five strategic policy areas were identified:

- Fuelling entrepreneurial mindsets;
- Encouraging more people to become entrepreneurs;
- Gearing entrepreneurs for growth and competitiveness;
- Improving the flow of finance; and,
- Creating a more SME-friendly regulatory and administrative framework.

¹¹ See <http://ec.europa.eu/enterprise/policies/sme/documents/education-training-entrepreneurship/> ; http://ec.europa.eu/education/index_en.htm

¹² European Commission Report (2001) "The Concrete Future Objectives of Education Systems", <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2001:0059:FIN:EN:PDF>

¹³ European Commission (21.01.2003) "Green Paper on Entrepreneurship in Europe", http://eur-lex.europa.eu/smartapi/cgi/sga_doc?smartapi!celexplus!prod!DocNumber&lg=en&type_doc=COMfinal&an_doc=2003&nu_doc=27

¹⁴ COM(2004) 70 "Action Plan: The European Agenda for Entrepreneurship", <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2004:0070:FIN:EN:PDF>

As part of ‘fuelling entrepreneurial mindsets’, the Commission reiterated its focus on entrepreneurial education with work concentrating on exchanging experience on policy tools and promoting such education across the EU.

2.2.1 Entrepreneurship – one of the eight key competences for Lifelong Learning

In 2006, the ambition to foster an entrepreneurial culture and mindset across Member States took a further step forward through the Oslo Agenda for Entrepreneurship Education in Europe and the Commission Communication ‘Fostering entrepreneurial mindsets through education and learning’ COM (2006) 33 Final.

At this point also the benefits of entrepreneurship education beyond start-ups, innovation and new jobs took a step forward through the Recommendation of the European Parliament and the Council on Key Competences for Lifelong Learning which identified **‘the sense of initiative and entrepreneurship’ as one of eight key competences for everyone, and which should be instilled at all stages of education and training:**¹⁵

“Sense of initiative and entrepreneurship refers to an individual's ability to turn ideas into action. It includes creativity, innovation and risk-taking, as well as the ability to plan and manage projects in order to achieve objectives. This supports individuals, not only in their everyday lives at home and in society, but also in the workplace in being aware of the context of their work and being able to seize opportunities, and is a foundation for more specific skills and knowledge needed by those establishing or contributing to social or commercial activity. This should include awareness of ethical values and promote good governance.” (Recommendation of the European Parliament and of the Council (18.12.06) on key competencies for lifelong learning, 2006/962/EC p.8)

Subsequently, the Europe 2020 Strategy has identified entrepreneurship education as both a key tool of the Flagship Initiative ‘Innovation Union’ and as playing an important role in the ‘Youth on the Move’ as well as the “Agenda for New Skills and Jobs” Flagship Initiatives¹⁶.

2.2.2 Progress Towards the Lisbon Objectives in Education and Training

Member states have been supported in achieving the Lisbon Objectives through the open method of coordination (and other initiatives), and which uses indicators and benchmarks to inform evidence-based policy making and to monitor progress.

In 2009, Progress Towards the Lisbon Objectives in Education and Training: Analysis of implementation at the European and national levels,¹⁷ identified some advances in the key competence of ‘sense of initiative and entrepreneurship’ but the accompanying Indicators and Benchmarks 2009 document reflected substantial gaps in information and data on entrepreneurship and, in particular, entrepreneurship education. This reflected both issues with assessing the key competences more generally and the entrepreneurship competence in particular.

In May 2009, the Strategic Framework for European Cooperation in Education and Training up to 2020 (ET2020) further reaffirmed the need for entrepreneurship at all levels of education and training to enhance creativity and innovation (strategic objective 4)¹⁸. Indicators and benchmarks from the ET2010 are to be enhanced and expanded to promote creativity, innovation and entrepreneurship and, therefore, work to complete the current

¹⁵ Recommendation of the European Parliament and of the Council (18.12.06) on key competencies for lifelong learning, 2006/962/EC, <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2006:394:0010:0018:en:PDF>

¹⁶ Europe 2020 A European Strategy for Smart, Sustainable and Inclusive Growth, <http://ec.europa.eu/eu2020/pdf/COMPLET%20EN%20BARROSO%20%20%20007%20-%20Europe%202020%20-%20EN%20version.pdf>

¹⁷ Accompanying document to COM(2009) 640 - Key competences for a changing world , Progress towards the Lisbon Objectives in Education and Training, Analysis of implementation at the European and national levels, SEC(2009) 1598, http://ec.europa.eu/education/lifelong-learning-policy/doc/joint10/sec1598_en.pdf

¹⁸ Council conclusions of 12 May 2009 on a strategic framework for European cooperation in education and training (‘ET 2020’) 2009/C 119/02, <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:C:2009:119:0002:0010:EN:PDF>

European framework of indicators and benchmarks as the evidence base for policy making continues.

This work includes the need to develop assessment frameworks for the key competences (including entrepreneurship) and the Draft Background Paper for the Belgian Presidency meeting for Directors-General for school education: assessment of key competences (July 2010) has been produced which identifies a framework for assessment (of progress) at national, institutional and learner level¹⁹ but the basis for understanding the translation of policy into practice around the key competence of entrepreneurship remains open to further development.

2.3 What is Entrepreneurship Education

Core to the development of indicators and benchmarks for entrepreneurship education remains the issue of definition. There has been an inherent lack of a common definition – with scholars using the terms, for example, entrepreneurship education, enterprise education and entrepreneurial education interchangeably within the academic literature – but recent years has seen the emergence of common understandings.

In a recent review of the literature on entrepreneurship education, Mwasalwiba (2010) found that scholars most commonly define entrepreneurship education as some kind of educational (or training process) that is aimed at influencing individuals' attitudes, behaviour, values or intentions towards entrepreneurship, either as a possible career or to enhance among them an appreciation of its role in the community (i.e. creating an entrepreneurial society)²⁰. Significantly, though he found relative agreement that the major rationale for entrepreneurship education is more economic than social (with entrepreneurship seen as a panacea to a range of economic problems, especially employment), there has been a partial convergence towards a behavioural view of an entrepreneur with entrepreneurship education seeking principally to influence attitudes, values and the general community culture. In this way, scholars are reluctant to associate entrepreneurship education strictly with new venture creation as a sole educational objective.²¹

This distinction between entrepreneurial attitudes, values and behaviour in contrast to skills is similarly reflected in the recent OECD review of entrepreneurship education which divided the multiplicity of entrepreneurship education activity into three separate (but overlapping) categories on the basis of overarching aims and objectives:²²

- *The acquisition of key (or core) skills:* these may relate to literacy, numeracy, communications, ICT and problem solving. They represent the fundamental requirements for operating effectively in a working environment, and for career planning and the process of identifying and accessing appropriate work opportunities;
- *The development of personal and social skills:* a whole raft of skill areas or personal attributes may be subsumed within this category, including: team working; self-confidence; self-awareness; risk taking; problem solving; creativity; and the desire to innovate; and,
- *Skills relating to business start-up or financial literacy:* such as drafting business plans, marketing, financial management, sales, and human resource management. Participants often undertake an exercise in setting up and running their own company. In some

¹⁹ European Commission (2010), Draft Background Paper for the Belgian Presidency meeting for Directors-General for school education: Assessment of Key Competences; see also Villalba, E. (2009) Measuring Creativity: Proceedings for the Conference 'Can creativity be measured?', Brussels, May 28-29, 2009; Publications Office of the European Union: Luxembourg

²⁰ Mwasalwiba ES (2010), Entrepreneurship education: a review of its objectives, teaching methods, and impact indicators, Education and Training, Vol. 52, No. 1, pp/ 20 – 47

²¹ Mwasalwiba ES (2010), op.cit.

²² OECD (2009), Evaluation of Programmes Concerning Education for Entrepreneurship: Report by the OECD Working Party on SMEs and Entrepreneurship

programmes, the inclusion of a financial element enables participants to develop the ability to plan personal and family budgets.

Most recently, High Level Reflection Panels convened by DG Enterprise and DG Education and Culture to inform the 2010 report 'Towards Greater Cooperation and Coherence in Entrepreneurship Education' have found a broad consensus between Member States on the aims and objectives of entrepreneurship education.

Stakeholders were clear that entrepreneurship education should develop both general competences (for example, self-confidence, adaptability, risk-assessment, creativity, etc.) and specific business skills and knowledge creation.²³ Thus, entrepreneurship education is seen as comprising a dual approach:

It can be 'mainstreamed' into the curriculum, at all levels, where it tends to focus on general competences such as creativity, initiative and self-reliance; and,

It can be taught as a component of a separate subject, typically from the upper secondary level onwards. It tends to have a stronger focus on learning the skills and know-how of setting up and running a business and to be an elective rather than mandatory part of the curriculum.

Stakeholders also recognised the substantial implications for how entrepreneurship education is currently delivered across Europe, including the need for a more structured and systematic approach to its delivery within and across national education systems. This implication contrasted with the very uneven landscape across countries, municipalities, schools, lecture theatres and classrooms noted by the Panel and, ultimately, a significant need for Member States to embed and deepen implementation of entrepreneurship education.

²³ DG Enterprise and Industry, European Commission (2010), Towards Greater Cooperation and Coherence in Entrepreneurship Education: Report and Evaluation of the Pilot Action High Level Reflection Panels on Entrepreneurship Education initiated by DG Enterprise and Industry and DG Education and Culture

3 A Framework for Indicators of Entrepreneurship Education

3.1 An Intervention Logic for Entrepreneurship Education

A range of studies on the development of entrepreneurship education across Europe have consistently highlighted the substantial variety in development and practice of entrepreneurship education in Europe (see Annex 15 for a full set of references). Nevertheless, recent developments - and the emerging consensus internationally and across Europe on the definition, aims, and objectives of entrepreneurship education – has allowed the production of an intervention logic as a useful reference point to consider the subsequent development of indicators of entrepreneurship education.

Figure 3.1 is a development of the logic model created during the High Level Reflection Panels (DG Enterprise, 2010, p.12)²⁴, and provides a draft logic model for entrepreneurship education (whilst recognising that any such generic logic framework is flexible in respect of individual member state contexts). The logic model specifies what activities will be undertaken with what expected results and impacts - showing the different stages in the chain of events surrounding entrepreneurship education - and serves as a reference point in considering the development of indicators.

Given the need for systemic delivery of enterprise education, Figure 3.1 commences with the development of a ‘National framework’, or a regional framework if this is more appropriate in the national context (for example, in countries such as Spain and Germany). Moving up the logic chain from the development of the ‘National framework’, the ‘Operations’ stage combines embedding the systems, processes and procedures for teaching and learning of core competence, as well as business management skills. This may occur through both formal and non-formal education and training. It is from these operations or activities that a series of ‘Outputs’ can be defined around the development of these competences and skills. From the ‘Outputs’, a range of ‘Results’ (principally around attitude and perception), ‘Intermediate Impacts’ (entrepreneurial behaviour) and, finally, higher level ‘Global Impacts’ can be defined (including increased rates of business start-ups, more productive and innovative businesses and, ultimately, enhanced social cohesion).

3.1.1 Metrics and Indicators of Entrepreneurship: Initial Overview

In turn, the stages of the logic model act as a framework whereby metrics and indicators can be defined which identify activity and progress within each stage of the logic model (Figure 3.2). The first row of Figure 3.2 sets out and describes the logic model as set out in Figure 3.1 and, subsequently, under each column, example indicators are provided which allow measurement of progress in empirical implementation of the logic model.

3.1.1.1 *Inputs: national / regional frameworks and understanding*

The first step in the intervention logic is the development of a national (or regional) framework. There is evidence that Member States across the EU have taken a range of approaches to date – including highlighting different metrics and indicators:

- In some countries, entrepreneurship education strategies are in place and have been for some time, while in other countries, they are in preparation;
- Other countries have taken an “embedded approach”, embedding entrepreneurship education within wider strategies or related policy documents, for example, as part of wider lifelong learning or education strategies; and,
- In a number of countries, entrepreneurship education is part of the national curriculum.

²⁴ DG Enterprise (2010) Towards Greater Cooperation and Coherence in Entrepreneurship Education: Report and Evaluation of the Pilot Action High Level Reflection Panels on Entrepreneurship Education initiated by DG Enterprise and Industry and DG Education and Culture, http://ec.europa.eu/enterprise/policies/sme/promoting-entrepreneurship/education-training-entrepreneurship/reflection-panels/files/entr_education_panel_en.pdf

Figure 3.1 An Entrepreneurship Education Intervention Logic (Source: adapted from DG Enterprise, 2010)

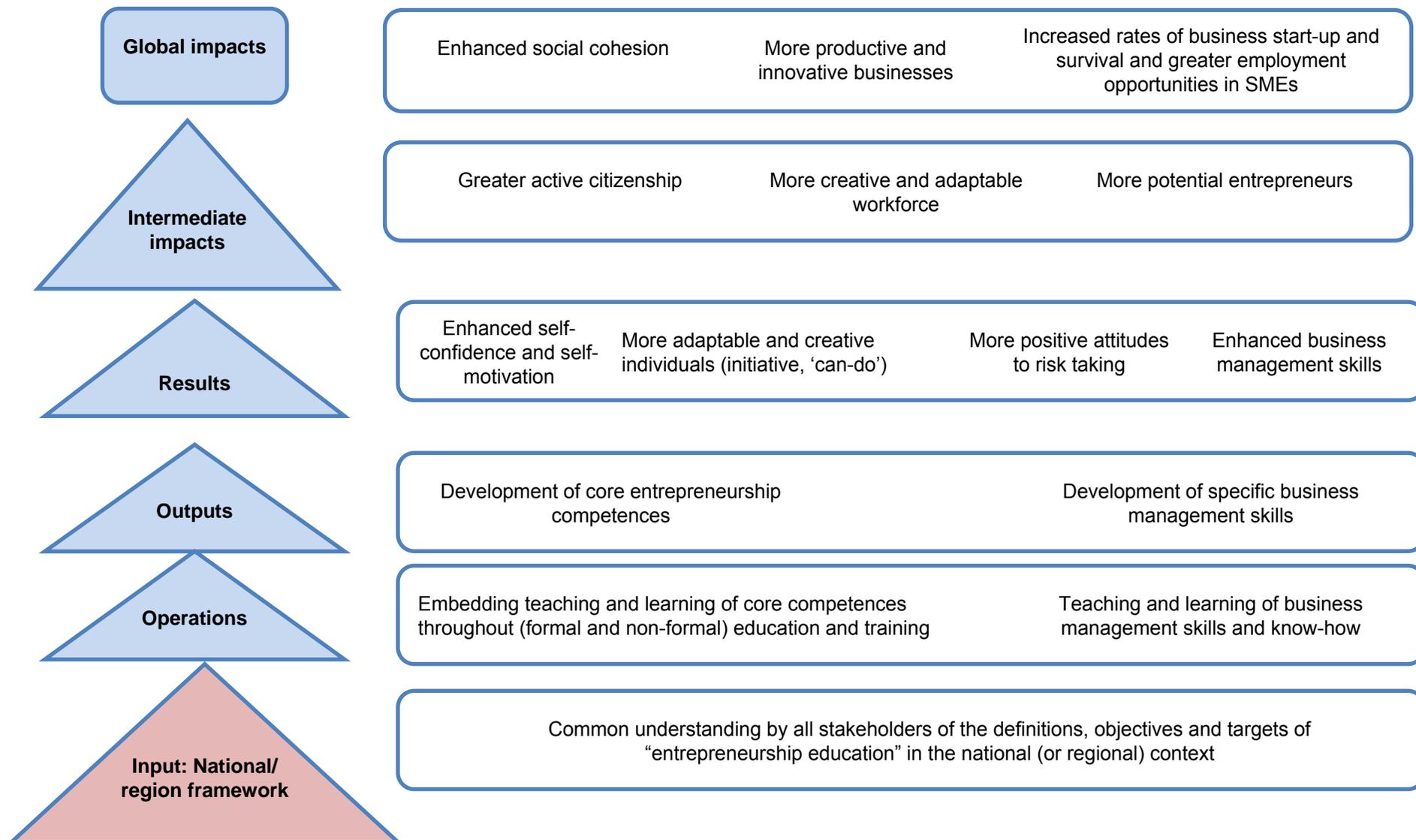


Figure 3.2 Entrepreneurship Logic Model and associated Indicators

Logic Model adapted and extended from DG Enterprise (2010). Example indicators identified through international literature review

Input	Operations	Outputs	Results	Intermediate Impacts	Global Impacts
Common understanding by all stakeholders of the definitions, objectives and targets of 'entrepreneurship education' in the national (or regional) context	Embedding teaching/learning of core competences throughout education and training Teaching/learning of business management skills and know-how	Development of core entrepreneurship competences Development of specific business management skills	Enhanced self-confidence and self-motivation More adaptable and creative individuals More positive attitudes to risk taking Enhanced business management skills	Greater active citizenship More creative and adaptable workforce More potential entrepreneurs	Enhanced social cohesion More productive and innovative businesses Increased rates of business start-up and survival and greater employment opportunities in SMEs
Entrepreneurship Education Strategy in place	% of educational institutions with entrepreneurship integrated into the institution	% of students gaining a qualification in entrepreneurship education	% of school leavers who believe they have the skills/knowledge required to start up a business	% of population who would rather be self-employed	Rate of new firm formation and survival
Entrepreneurship Education Action Plan in place	% of educational institutions with entrepreneurship education integrated into the curriculum	% of students exhibiting entrepreneurial competences	% of students who became interested in becoming an entrepreneur due to school studies	% of working age population who are seeking to establish a business within xx years	% of students who start up a business after xx years of entrepreneurship education completion
Entrepreneurship Education Monitoring Framework in place	% of educational institutions with entrepreneurship education integrated into the core curriculum	% of students engaging in entrepreneurial activity	% of students considering self-employment as a career		% of under 25s who have started their own business
Public funding of entrepreneurship education	% of teachers receiving entrepreneurship education training at pre-primary, primary, secondary or HE/VET levels	% of students receiving entrepreneurship education in pre-primary and early years			% of working age population (18-64) who are self-employed
Private funding of entrepreneurship education	Proportion of entrepreneurship education activity delivered at regional or local levels	% of students receiving entrepreneurship education in primary education			Start ups per HEI as proportion of students
	% of educational institutions who engage with the local business	% of students receiving entrepreneurship education in			

community	secondary education
% of educational institutions with links to businesses or business associations	% of students receiving entrepreneurship education in VET and HE
	% of students receiving entrepreneurship education as part of compulsory studies
	% of working age population (18 – 64) who have received entrepreneurship education

In those countries that have made some progress towards national strategies and action plans focused on entrepreneurship education there is, however, a paucity of defined targets and indicators, and a lack of baseline data or systematic data collection through which progress can be monitored.

Concerning metrics of inputs in particular, Sweden, for example, as part of its National Strategy for Entrepreneurship 2005-2008, noted the development of six regional entrepreneurship strategies.

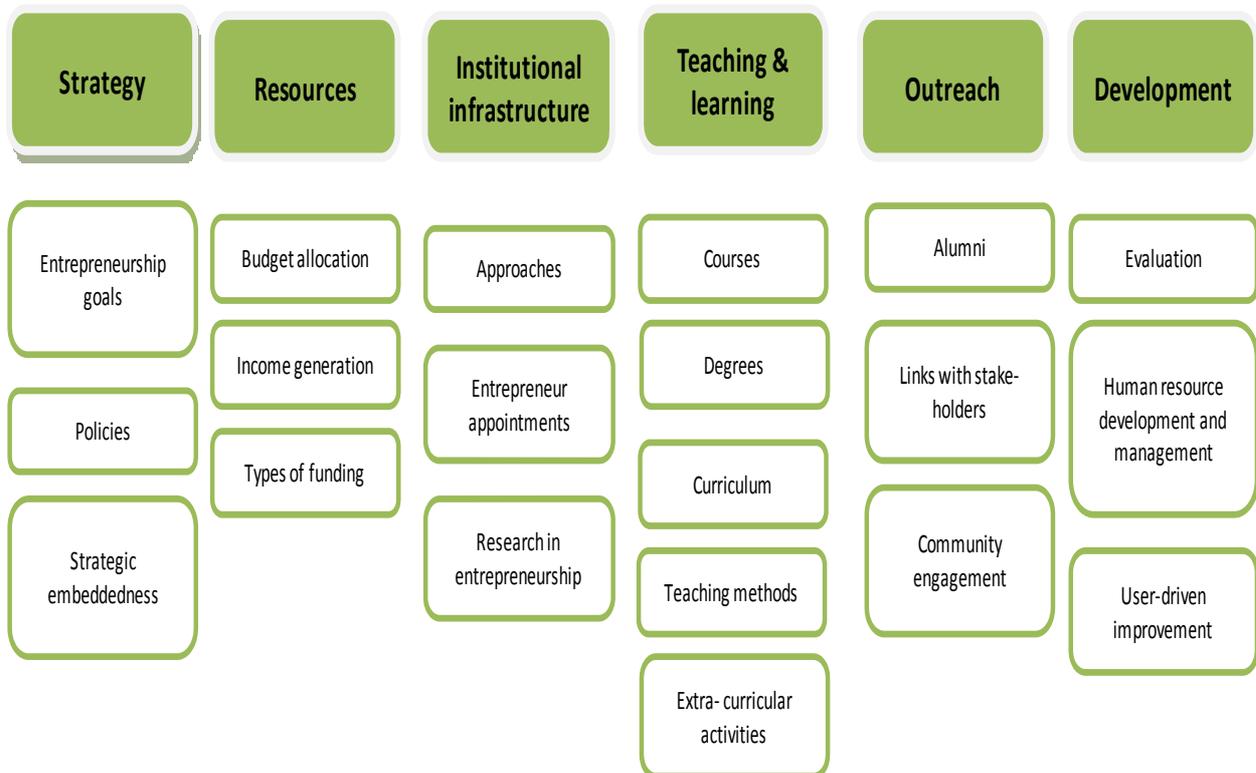
3.1.1.2 *Indicators of operations and outputs*

Although most member states recognise that entrepreneurship education is important in promoting wider entrepreneurship within society, there is no clear picture of whether this policy commitment is being translated into concrete actions at the various levels of education, due to the lack of systematic data collection.

At the primary and secondary level, there is little research-based evidence available. At the level of higher education, however, this gap has been addressed recently by DG Enterprise, which commissioned a survey to provide information on teaching of entrepreneurship in European higher-education institutions, including examples of good practice and policy recommendations (DG Enterprise, 2008).

As part of the project, the study identified six dimensions to the teaching of entrepreneurship education, together with a number of individual elements under each dimension (as shown in Figure 3.3). The study suggested that the six dimensions can be used as a framework for conducting benchmark studies of the teaching of entrepreneurship education within HEIs. It was noted, however, that individual elements are by no means exhaustive, and can be modified according to local circumstances and data availability. The study went on to identify a sample of metrics and indicators as being relevant for each of the six dimensions.

Figure 3.3 The six dimensions and related elements of entrepreneurship education (Source: DG Enterprise, 2008)



Again, the Swedish National Strategy for Entrepreneurship 2005-2008 noted earlier is an example of the monitoring of operational aspects - such as number of teachers provided with entrepreneurship education training; the development of new entrepreneurship education courses; and the number of students participating in entrepreneurship education.

Similarly, recent work on good practice in entrepreneurship education based on the concept of 'building blocks' (for example, national policy framework, teacher engagement and training, involvement of business and private associations, etc.) provides further potential for indicators of operations and outputs²⁵.

3.1.1.3 *Indicators of results and impact*

It is in the arena of results and impact that most international work has taken place – but which has provided some of the greatest challenges both in terms of defining hard and soft outcomes and recognising that the effects of any entrepreneurial education programme may not become apparent until a length of time after completion of the programme, and thus, a longitudinal approach may be necessary in evaluation.

A recent study by the OECD addressed the issue of evaluation within entrepreneurship education programmes, including the challenges of developing indicators (OECD, 2009a). The study found that many entrepreneurial education programmes aim to generate not only 'hard' outputs such as delivering training programmes but also 'soft' outputs and results, such as a shift in attitude towards entrepreneurship.

Rather than just focusing on 'hard' evidence such as the numbers of participants starting a business following education or training, it is also important to assess 'softer' results such as changes in attitude and mindset, despite the methodological difficulties that such an approach presents. This is especially so given recognition of entrepreneurship as a key competence rather than just a narrow economic outcome. To assess both hard and soft impacts is likely to require a combination of qualitative and quantitative approaches - linking quantitative measures of success, such as traditional output-related performance indicators, with qualitative assessments of attitude or perception shifts.

The evaluation of individual programmes has shown a variety of positive results, such as risk-taking and the formation of new ventures; increases in the likelihood of becoming self-employed; income; the growth of firms; promoting the transfer of technology from University to the private sector, and job satisfaction. The problem arises, however, in assessing such results at the level of the student body, economically active population, etc. given the substantial numbers involved.

One well-established source of relevant results indicators is the Global Entrepreneurship Monitor (GEM), which has been surveying entrepreneurship since 1999, and now covers 59 countries worldwide (see Section 5.1 also). In recognition of the lack of internationally comparable data on entrepreneurship education and training, GEM launched a specific study to address this gap (GEM, 2010). As the report notes (GEM, 2010: p5), little comparative data exist on how many people receive training in business start-up activity, whether some people are more likely to receive training than others and whether the training makes any difference in their subsequent entrepreneurial behaviour.

Research in 2005 (Bécharde and Grégoire, 2005) showed that there was a lack of evidence related to the impact of education and training on entrepreneurial activity, but there is some evidence that education and training may enhance skills and attitudes towards entrepreneurship. The GEM data addresses these issues through their general population survey and follow-up interviews, and can potentially provide information for a baseline understanding of the results and impact of entrepreneurship training.

²⁵ DG Enterprise and Industry, European Commission (2010), Towards Greater Cooperation and Coherence in Entrepreneurship Education: Report and Evaluation of the Pilot Action High Level Reflection Panels on Entrepreneurship Education initiated by DG Enterprise and Industry and DG Education and Culture; European Commission (2010), Draft Background Paper for the Belgian Presidency meeting for Directors-General for school education: Assessment of Key Competences

GEM uses a concept of “gain from training” as a numerical measure for estimation of the effect of training in starting a business (GEM, 2010: p34). The concept is broken down into four themes, each with associated indicators (see Table 3.1).

Table 3.1 “Gain from Training”: Themes and Indicators (Source: GEM, 2010)

Themes	Indicators
Awareness	Know someone who recently started a business
Attitudes	Good opportunities for starting a business in my area Have skills and knowledge to start a business Would not start a business in case it might fail
Intention	Expect to start a business in next 3 years
Activity	Nascent or new entrepreneur (under 42 months old)

The GEM study shows that a “gain from training” varies significantly according to the context. It appears, however, to be particularly effective in western European countries with low rates of early-stage entrepreneurial activity, such as Belgium, France, Germany and the United Kingdom.

In addition to the data provided by the GEM survey, the European Commission carries out regular Eurobarometer surveys on entrepreneurship covering the EU and elsewhere, to gauge opinion on entrepreneurial attitudes and mindsets (European Commission, 2009; see Section 5.2 also). The aim of the surveys is to examine the motivation, choices, experiences and obstacles linked to self-employment. Examples of relevant indicators that could be useful for monitoring the results and impact of entrepreneurship education include the role of school education in fostering a spirit of entrepreneurship, the image of entrepreneurship in individual countries, and the desire of respondents to become self-employed.

In this regard, also, Eurobarometer results and impact indicators provide at least slightly for a breadth of entrepreneurship education outcome closer to that of a key competence. Historically, and in the above overview, entrepreneurship remains associated closely with the outcome of new firm formation, and whilst expanded economic outcomes such as employability are now acknowledged, the idea of individual’s achieving an entrepreneurial mindset is intended to provide the capacity to contribute to social as well as commercial activity at home, in work and in society²⁶.

3.1.1.4 *Indicators of global impact related to entrepreneurship*

While this report is focused on indicators related to entrepreneurship education, it is also useful to look at more general entrepreneurship indicators, given that one of the global impacts in the logic chain is increased rates of business start-up and survival.

In 2006, the OECD and Eurostat launched a joint project on the Entrepreneurship Indicators Programme (EIP) to develop comparable statistics on entrepreneurship and its determinants (OECD, 2009b). The EIP covers 23 geographical units (including one region, Andalusia in Spain), with the aim of constructing a framework of indicators relevant to entrepreneurship that could be used by different countries to collect internationally comparable data.

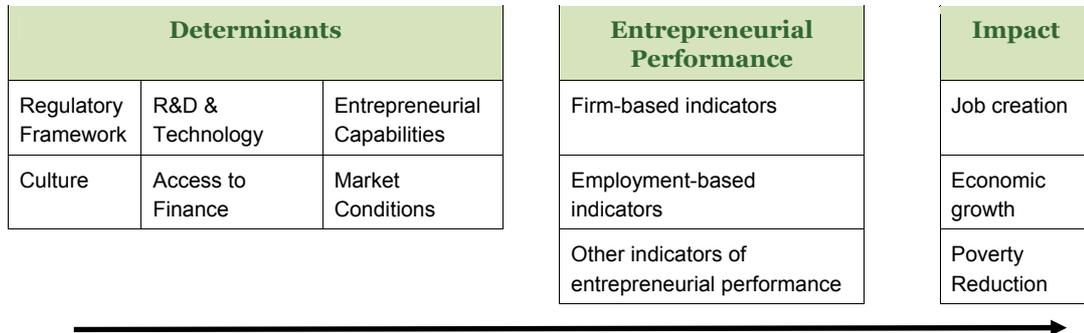
The overall rationale for the project is to help policy makers assess the impact of policy decisions related to entrepreneurship, and in the long term, those related to higher-level objectives for the economy and society, such as job creation, economic growth and employability. These policy decisions also include those related to entrepreneurship education.

In order to conceptualise entrepreneurship for the development of indicators, a model was constructed under three headings: determinants of entrepreneurship, entrepreneurial performance, and impact. As Figure 3.4 shows, for each of these three dimensions, the

²⁶ Recommendation of the European Parliament and of the Council (18.12.06) on key competencies for lifelong learning, 2006/962/EC, <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2006:394:0010:0018:en:PDF>

framework does not propose one single measure, but identifies instead further sub-categories, to help define a range of relevant indicators to analyse different aspects of entrepreneurship.

Figure 3.4 A Framework for Entrepreneurship Indicators (Source: OECD, 2009b)



While the framework has three dimensions, the collection of data concerns just two categories of indicators: indicators of determinants, which measure the factors affecting entrepreneurship, and performance indicators, which measure the amount and type of entrepreneurship that takes place in a country.

The ‘indicators of determinants’ are drawn from various existing data sources, including OECD databases (e.g. the Indicators of Product Market Regulation and the Tax Database) and other datasets produced by international organisations and research institutes, such as the World Bank (Doing Business), the Global Entrepreneurship Monitor, and the European Commission (Eurobarometer on Attitudes to Entrepreneurship) (OECD, 2010).

The basis for measuring core indicators of entrepreneurial performance is business demography, for example, indicators of firm creation and destruction, and a variety of measures of survival, growth and innovation and performance. High priority is placed on measuring the creation of firms with employees, the number of high-growth firms, and the number of young high-growth firms (gazelles).

A range of indicators collected through the EIP have the potential to contribute to this study on indicators for entrepreneurship education. In particular, indicators included under the sections “Entrepreneurial Capabilities” and “Entrepreneurial Culture” could have relevance. These include, for example, under capacities: “Population aged 18-64 with training in starting a business” and under culture, “Preference for self-employment”, “Entrepreneurial perceptions”, “Positive image of entrepreneurship and entrepreneurs” and “Negative image of entrepreneurship and entrepreneurs”. Similarly, those related to entrepreneurial performance can feed into the framework in terms of global impacts, particularly in terms of business start-up and survival rates.

3.2 Summary

In summary, initial review highlights that the common availability of indicators related to entrepreneurship education across Europe is both extremely patchy and narrow in coverage. There are a number of recent initiatives launched by international organisations (such as the EU and OECD) which aim to provide some of the missing data, but there are still substantial gaps in the process. These indicator initiatives sit alongside myriad entrepreneurship education activities at Member State level and which evidence substantial differences in approaches to entrepreneurial education. The coordinated approach of the ‘logic model’ can bring initiatives together under a common framework (such as those at international and national level) but the diversity of approaches implies the need for a flexible framework of indicators and metrics that can guide, but not necessarily prescribe, organisations and institutions in their monitoring and evaluation of initiatives.

4 Indicators for Measuring Entrepreneurship Education in Europe

4.1 The Selection of Ten Member State Case Studies

As set out in Section 1.2, the main aim of the Study is to review and analyse policy frameworks for entrepreneurship education in ten selected Member States to support the development of indicators as the basis for cross-national monitoring.

On this basis, Case Study selection sought initially to identify those Member States having made the greatest progress towards the development of a comprehensive entrepreneurial education system - with the expectation that such systems would, in most likelihood, incorporate defined outcomes, targets and associated monitoring and evaluation frameworks.

Initial review of summary material at European and international level (and as set out in Section 3 above) highlighted, however, that entrepreneurial education systems – as against project-based initiatives – remain in their relative infancy across Member States (especially at school system level) leading, in turn, to limited (if any) evidence of monitoring and indicator systems. Indeed, when mapped against the intervention logic set out in Section 3.1, the conclusion found was similar to that written by the earlier High Level Reflection Panel:

“However, the level of progress made in national strategy development and implementation is highly variable. Only a minority of countries have well developed strategies. Typically they provide broad frameworks for action, with the setting of specific targets and indicators being rather under-developed. In general, there is a significant need for Member States to embed and deepen implementation of entrepreneurship education.

Much entrepreneurship education practice tends to be ad hoc, varies vastly in quantity and quality, is not treated systematically in the curriculum, and has relied heavily on the enthusiasm and commitment of individual teachers and schools. Some activity is structured and ambitious; much is not; some schools have no entrepreneurship education at all²⁷.

Given this position, Case Studies were selected on evidence that at least initial national (and associated regional) strategies, plans, programmes or other mechanisms had been put in place to guide the development and delivery of policy and practice in entrepreneurship education - and which might therefore legitimately be expected to provide the first steps towards the production of a national (or regional) logic and monitoring framework for entrepreneurship education (Table 4.1).

Table 4.1 Selected Entrepreneurship Education Case Studies

Case Study	Reason for Selection
Belgium	National Flemish strategy in place. Active evaluation of strategy outcomes
Denmark	National strategy in place. National Foundation established to promote entrepreneurship education
Finland	Longstanding national strategy (1994). Entrepreneurship education incorporated into curricula.
Ireland	No common strategy although a policy statement in production. Entrepreneurship education established in curricula as a specific subject.
Netherlands	National Strategy in place with biennial evaluation.
Poland	No common strategy. Entrepreneurship education included as a specific subject in secondary schools.

²⁷ DG Enterprise and Industry, European Commission (2010), Towards Greater Cooperation and Coherence in Entrepreneurship Education: Report and Evaluation of the Pilot Action High Level Reflection Panels on Entrepreneurship Education, p. ii

Sweden	National strategy. Visible reforms of education system to promote entrepreneurship education.
UK	National strategies across the Devolved Administrations (England, Northern Ireland, Scotland and Wales) and a range of national programmes and actions
Germany (regional)	National statement to support regional government to promote entrepreneurship education. Baden-Württemberg identified as best practice
Spain (regional)	No national strategy but entrepreneurship education in all curriculum levels across regions. Several regions identified as best practice

Each Case Study entailed a desk-based review of national policy and other documentation, and a small number of interviews with national stakeholders.

Annexes 1 to 13 provide each of the Member State Case Studies in full, including a list of those individuals consulted. The following sections provide summary analysis of the findings.

4.2 Overview of Member State Entrepreneurship Education Indicators

4.2.1 The extent of entrepreneurship education indicators across Member States

Table 4.2 provides a summary of the range of entrepreneurship education indicators identified through the Case Studies, against the stages of the logic model. Given the lack of entrepreneurship education monitoring frameworks in place across the Case Study Member States, indicators were collated on the basis of interviews with key Ministry or programme officials and a process of documentary review as the basis for completion of logic model indicator templates for each Case Study (see Annexes).

Summary collation highlights the existence of just over 30 common indicators, of which around twenty were mentioned 4 or more times across the Case Studies (out of a possible 13 mentions given the UK's Devolved Administrations as separate Case Studies).

Only Flanders (Belgium) and Denmark were identified as having a monitoring framework in place for entrepreneurship education. Over half of the 13 Case Studies did have an enterprise or entrepreneurship strategy which made reference to entrepreneurship education.

Unsurprisingly then, Belgium (Flanders) collects the most indicators relating to entrepreneurship education – a total of 20 if all indicators are considered. However, if the one-off Effecto indicators are dismissed, 11 indicators are collected. Consequently, Belgium (Flanders), Denmark, Finland and Germany collect similar levels of indicators. Whilst for Belgium (Flanders) this is through a framework of monitoring, for Finland, Denmark and Germany the indicators are largely collated on a more ad hoc basis.

Table 4.2 Summary of the indicators in use across the Case Study Member States by logic model

Indicator	Belgium – Flanders	Denmark	Finland	Ireland	Netherlands	Poland	Sweden	UK - England	UK – Northern Ireland	UK – Scotland	UK - Wales	Germany	Spain	TOTAL	
INPUT	EE Strategy		✓	✓			✓	✓ ²⁸		✓	✓	✓		7	
	EE Action Plan	✓		✓		✓			✓		✓			5	
	EE Monitoring/ Evaluation Framework	✓	✓ ²⁹											2	
OPERATIONS	% of educational institutions with entrepreneurship integrated into the institution		✓			✓		✓				✓	✓	5	
	% of secondary educational institutions with entrepreneurship integrated into the institution		✓				✓	✓						3	
	% of educational institutions with EE integrated into the curriculum		✓			✓	✓						✓	4	
	% of educational institutions with EE integrated into the core curriculum							✓						1	
	% of secondary or VET educational institutions with EE integrated into the core curriculum			✓			✓	✓						3	
	% of teachers receiving EE training at pre-primary, primary, secondary and VET levels	✓ *	✓	✓											3
	Proportion of EE activity delivered at regional or local levels	✓ *													1
	% of primary schools engaging in EE activity									✓					1
	% of post-primary (secondary) schools engaging in EE activity									✓					1
	% of educational institutions who engage with the local business community					✓									1

²⁸ Strategy for Entrepreneurship broadly, including reference to enterprise education

²⁹ Entrepreneurship Framework of Monitoring in place, rather than EE explicitly.

Indicator	Belgium – Flanders	Denmark	Finland	Ireland	Netherlands	Poland	Sweden	UK - England	UK – Northern Ireland	UK – Scotland	UK - Wales	Germany	Spain	TOTAL
% of businesses who are involved with enterprise activity			✓							✓				2
% of students receiving EE (collated at pre- primary and early years, primary education, secondary education and VET levels)	✓ *	✓			✓	✓								4
OUTPUT % of students receiving EE (no specific mention of level of education)	✓ *	✓				✓		✓			✓	✓	✓	7
% of students receiving EE as part of <i>compulsory</i> studies at secondary level						✓								1
% of students receiving EE as part of <i>compulsory</i> studies (no specific mention of level of education)	✓										✓	✓		3
% of teachers who have taught EE over the past academic year			✓											1
% of students exhibiting entrepreneurial competences	✓ *				✓ 30									2
% of students who became interested in becoming an entrepreneur due to school studies	✓ *		✓										✓	3
% of students engaging in entrepreneurial activity								✓	✓		✓		✓	4
% of students considering self-employment as a career				✓							✓		✓	3
% of students gaining a qualification in EE	✓ *		✓									✓		3
Start ups per HEI as proportion of students								✓			✓			2
Ratio of male to female engagement with EE	✓ *								✓			✓	✓	4

³⁰ % of students at primary level who had increased awareness of entrepreneurship following E&E activity, % of students at secondary/upper secondary vocational level showing same increased awareness.

Indicator	Belgium – Flanders	Denmark	Finland	Ireland	Netherlands	Poland	Sweden	UK - England	UK – Northern Ireland	UK – Scotland	UK - Wales	Germany	Spain	TOTAL
% of working age population who are seeking to establish a business within 3 years	✓		✓		✓					✓ ³¹		✓		5
% of school leavers who believe they have the skills/ knowledge required to start up a business	✓ *					✓		✓	✓	✓				5
% of working age population (18 – 64) who have received EE	✓	✓					✓ ³²					✓ ³³		4
% of population who would rather be self-employed	✓	✓	✓		✓		✓							5
% of students who start up a business after 3 years of EE completion	✓		✓		✓							✓		4
IMPACT % of under 25s who have started their own business	✓									✓ ³⁴	✓	✓		4
% of working age population (18-64) who are self-employed ³⁵	✓	✓	✓	✓ ³⁶			✓	✓ ³⁷				✓	✓	8
Rate of new firm formation	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓		1 1

Source: Collated following Case Study Review. “*” denotes project level indicator

4.2.2 Indicators by stage in the logic model

A total of 32 indicators were collected across the Member State Case Studies. This includes 10 operations related indicators, 6 output indicators, 11 outcome (results) indicators and 5 impact indicators (see Figure 4.1). Indicators were most likely to be collected by Member States at the outcome (results) or impact stages.

³¹ Collated by age band, 18 to 24 years.

³² Total population rather than working age population

³³ Collated by age band, 18 to 44 years.

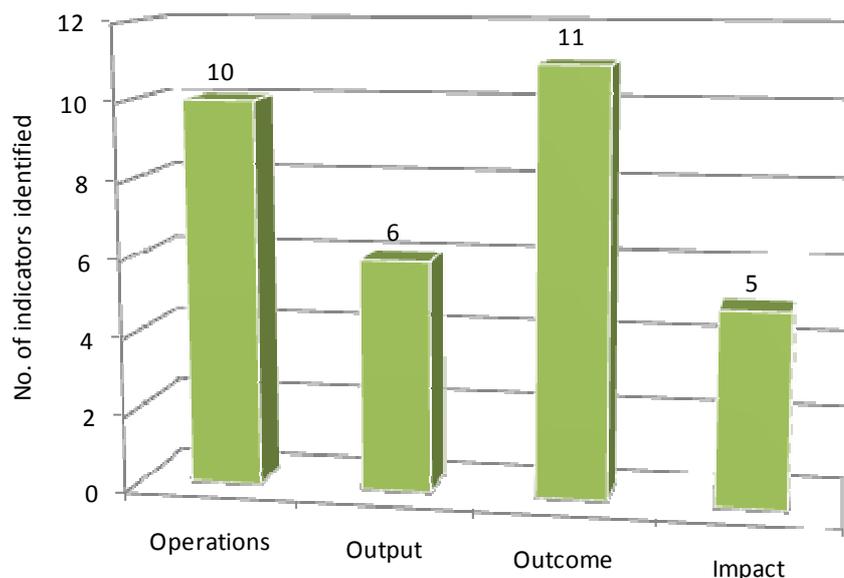
³⁴ Also collated by Young Enterprise Scotland so that comparison can be made between YES alumni and the wider population. Collated by age group, including 18 to 24 years.

³⁵ This indicator is also collected by Member State countries and feeds into the quarterly European Labour Force Survey

³⁶ Data is collected on all people over 15 years of age – and by those who have paid or no paid employees and break down by gender

³⁷ Collated additionally by age range providing opportunity for those self-employed aged 16 to 24 to be assessed.

Figure 4.1 Share of indicators indentified in the Case Studies by stage in the logic model



Source: Collated from Member State Case Studies

4.2.2.1 Operations

Operations indicators are related to measures of the supply infrastructure for entrepreneurship education. At the operations level, Member States are found to primarily capture data through ad hoc national studies, often one-off surveys or evaluations, or through project level monitoring. These studies have included indicators which relate to:

- the share of institutions who have entrepreneurship embedded into the institutions;
- the share of institutions who have entrepreneurship embedded into the curricula; and,
- the share of teachers receiving entrepreneurship education training.

Operations indicators collated through the study were found to be primarily qualitative, relying upon interviews with stakeholders from institutions, or based upon monitoring of project level activity such as Young Enterprise. There is little consistency across the member states as to how the data is collated with each country utilising different sources and methods.

In Finland, for example, a number of ad hoc studies³⁸ have sought to gauge the opinions of education professionals on the importance of entrepreneurship education. These surveys established a baseline of professionals' views of entrepreneurship education in Finland at a time when the curricula was being reformed, including the share of teachers who had taught entrepreneurship over the past 12 months, the share of professionals who had participated in entrepreneurship training and the share of teachers planning on strengthening their entrepreneurship education offer in the future. The surveys were largely commissioned to assess the impact of curricular reform and are unlikely to be repeated.

Whilst Denmark, Poland and Sweden all collate information on the share of institutions that have entrepreneurship embedded into the institution or their curriculum, this is largely the result of entrepreneurship education being a compulsory element of schooling. For example, in Poland, participation in entrepreneurship education is compulsory for all students and institutions at the higher secondary level of education. Consequently, the Ministry of Education are able to state that 100% of institutions are involved with entrepreneurship education.

³⁸ For example, Seikkula-Leino, Jaana (2006) [Perusopetuksen opetussuunnitelmaudistus 2004–2006 ja yrittäjyyskasvatuksen kehittäminen](#); Paikallinen opetussuunnitelmatyö yrittäjyyskasvatuksen näkökulmasta. Opetusministeriön julkaisuja 2006:22 and Seikkula-Leino, Jaana (2007) [Opetussuunnitelmaudistus ja yrittäjyyskasvatuksen toteuttaminen](#). Opetusministeriön julkaisuja 2007:28.

4.2.2.2 *Outputs*

Generally, each of the Member States has been found to collate an indicator relating to entrepreneurship education outputs but, again, the process and particular indicator varied considerably across Member States. For example, in Belgium (Flanders) the collation is relatively ad hoc (the share of students receiving entrepreneurship education was collated in 2008/2009 through the Effecto Study but is unlikely to be repeated) whilst in England this indicator was collated as part of the 2007 Household Survey of Entrepreneurship (and which again is unlikely to be repeated).

Denmark and Sweden collate data of the share of students receiving entrepreneurship education annually through national bodies – however, for Denmark the indicator is linked to Young Enterprise and may not fully cover the breadth of enterprise activities. Poland, in contrast, can state that 100% of its higher secondary students are engaged in entrepreneurship education as this is compulsory within the curricula (so technically not measured by a survey or monitoring) whilst, in Wales, Welsh Baccalaureate Monitoring enables the share of students engaged in entrepreneurship education activity to be measured on an annual basis.

A common indicator across Member States around the share of the working age population who have received entrepreneurship education is also visible – for example, in surveys which are connected to GEM studies in Germany, Sweden and Belgium (Flanders).

4.2.2.3 *Outcomes*

A range of outcome indicators were identified across the Member States. A key distinction is between those collected by the international GEM survey at national level on an annual basis and others achieved on a less comprehensive manner through singular surveys or project level monitoring. Indicators include:

- the share of students considering self-employment as a career- collated in different manners across the Member States;
- the share of the working age population (aged 18 to 64) who are seeking to establish a business within 3 years, collected through GEM; and,
- the share of school leavers who believe they have the skills and/or knowledge to start a business, collected through GEM.

Whilst more qualitative and aspirational in nature, these indicators also provide the opportunity for views and opinions to be monitored longitudinally and compared over time, dependent on the engagement of Member States with the GEM study. Such indicators will illustrate how entrepreneurial attitudes have been created and can be compared to the policy and curricula landscape of countries.

These indicators can be linked also to related impact indicators which generally seek to measure entrepreneurial behaviour in a more quantitative manner (for example, such as the share of the working age population who are self employed) although it must be noted that it is difficult to attribute such activity directly given that the journey of students into the work place is generally not mapped by Member States.

Exceptions to this are some of the monitoring undertaken by Junior Achievement and Young Enterprise and, for example, the Effecto study in Flanders which has sought to monitor attitudes of students towards entrepreneurship education across educational initiatives. The study, released in 2009, looked at the short term impact of measures of entrepreneurship education on students in secondary education, particularly the factors which determine attitudes toward entrepreneurship, the impact on entrepreneurial attitudes and competences.

4.2.2.4 *Impacts*

The most systematic collation of indicators related to entrepreneurship education occurs at the level of impacts, and is related to the annual international GEM survey and common indicators collected by most national offices of statistics within each Member State. For example:

- the share of the population who would rather be self-employed – collected through the GEM survey;
- the share of under 25s who have started a business– collected through the GEM survey;
- the share of the working age population (aged 18 to 64) who are self-employed – collected through the quarterly European Labour Force Survey, through national offices of statistics on an annual basis or through GEM;
- % of students who start up a business after 3/4 years of entrepreneurship education completion, collected in Flanders through project level monitoring and through a singular survey in Germany connected to GEM; and,
- the rate of new firm formation - collected through national offices of statistics within each Member State.

These indicators include a set of quantitative statements on impacts but it should be noted that some of the indicators are related to the wider policy interest in entrepreneurship within a country and potential high level global impacts of entrepreneurship education rather than the state of entrepreneurship education per se.

4.2.3 Additional indicators collated by Member States

A number of Member States are collecting data which is not mirrored in other Case Study countries, as shown in Table 4.3.

Table 4.3 Indicators collected by only 1 Member State

Indicator	Country	Source
% of educational institutions with EE integrated into the core curriculum	Sweden	Swedish Agency for Education - national, annual monitoring
Proportion of EE activity delivered at regional or local levels	Belgium (Flanders)	Effecto in depth survey - one off in 2008/09
% of primary schools engaging in EE activity	Northern Ireland	Project Level monitoring (e.g. Young Enterprise NI)
% of post-primary (secondary) schools engaging in EE activity	Northern Ireland	Project Level monitoring (e.g. Young Enterprise NI)
% of educational institutions who engage with the local business community	Netherlands	EIM Independent Evaluation undertaken every 2 years
% of businesses who are involved with enterprise activity	Scotland	SME Survey as part of Determined to Succeed - one off survey of <500 businesses in 2005
% of students receiving EE as part of compulsory studies at secondary level	Poland	Compulsory EE at Secondary level
% of young entrepreneurs (under 30 or between 15 and 34) from all entrepreneurs	Finland	Membership Registry (Federation of Finnish Enterprise, Statistics Finland Labour Force Survey)

Source: Collated following Case Study Review.

Primarily the indicators in Table 4.3 have been collated through either one off studies or project level monitoring, rather than as part of a national monitoring effort:

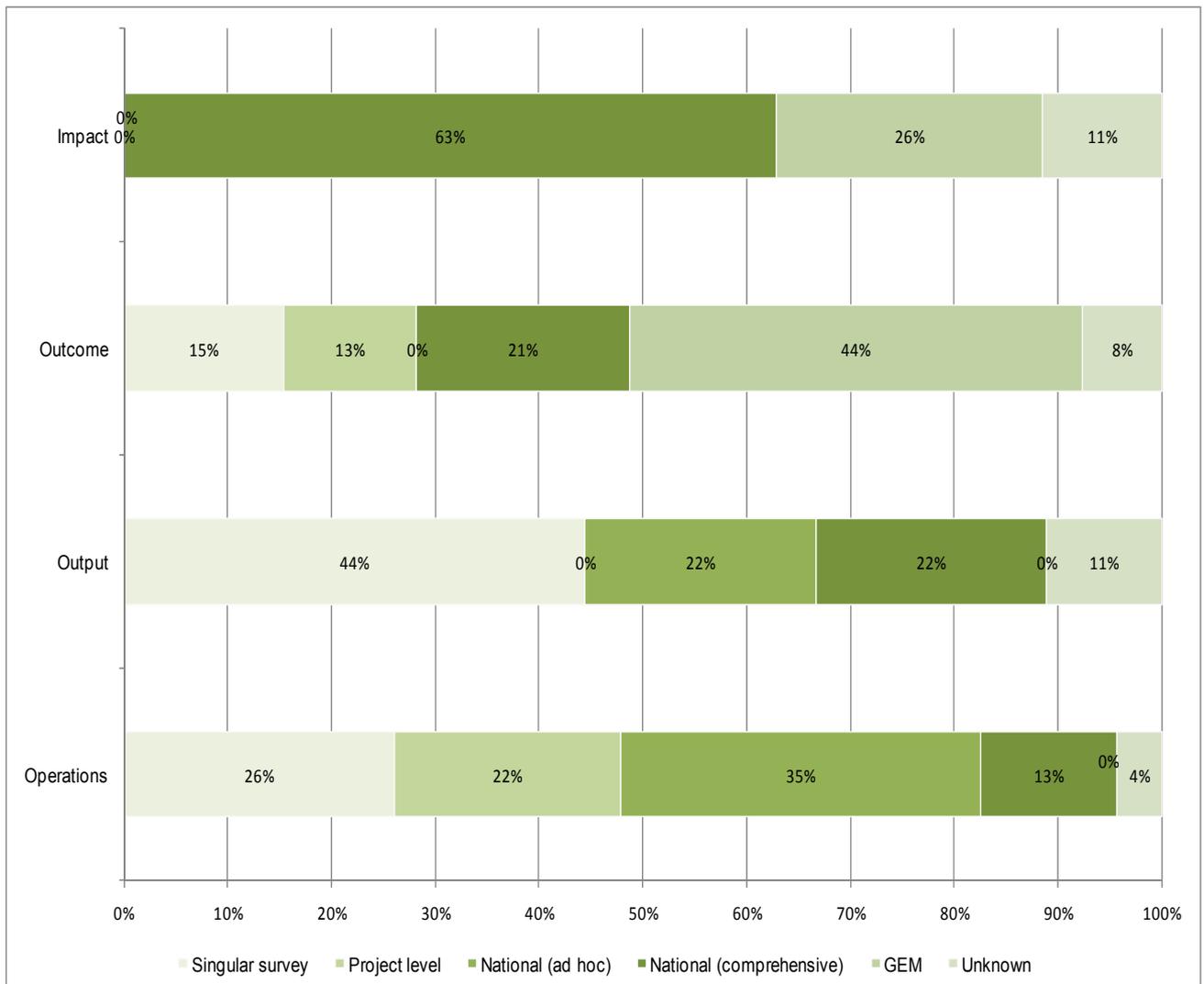
- In Flanders, information on the share of EE activity delivered locally was measured as part of the Effecto study in Flanders and, as such, would be difficult to extrapolate to the wider Belgian EE landscape;
- In Northern Ireland, project level monitoring as part of Young Enterprise provides opportunity for data on the share of schools engaging in entrepreneurship education activity to be collated at the primary and post-primary levels;
- In the Netherlands, a biennial evaluation of Enterprise and Education activity undertaken by EIM for the Dutch government estimates the engagement of institutions with businesses to be monitored;

- In Scotland, the share of businesses engaged with entrepreneurship education was calculated as part of a survey of SMEs linked to the Enterprise Education strategy, but has not been repeated since;
- In Finland, attempts are made to establish the share of entrepreneurs who are within a 'young' age bracket. The statistic is gathered for those under 30 through the membership registrations of the Federation of Finnish Enterprise, whilst those aged 15 to 34 are considered 'young' by the Statistics Finland office;
- the share of students receiving entrepreneurship education as part of compulsory studies at the secondary level, measured in Poland, is possible due to the requirement for all students to undertake an entrepreneurship module as part of their studies whilst at secondary school, rather than a Government effort to collate data at the secondary level.

4.3 Overview of Data Sources for Member State Entrepreneurship Education Indicators

Data sources can be simplistically split into international surveys such as GEM or Flash Eurobarometer, national office statistics (such as on business demography) and ad-hoc national surveys, plus a mix of one-off surveys and project level monitoring on a large scale. Figure 4.2 identifies the collation of entrepreneurship education indicators by data source across the Member States.

Figure 4.2 Collation of indicators of entrepreneurship education across the logic model by source of data



Source: Member State Case Studies

The sources of data from which indicators have been collated vary by country. For the purposes of this study, they have been categorised as being the result of a singular survey, project level data, national (ad hoc or comprehensive) studies or GEM³⁹:

- Data collected as a *Singular Survey* – for example, in Belgium, data was collected by the Vlerick Leuven Gent Management School’s Effecto report which sought to evaluate the short term impact of measures of EE on secondary students;
- *Project Level data* – for example, organisations such as Syntra in Belgium through monitoring of its core activities may collate information on students who gain a qualification in EE;
- *National level data*; for example, a number of countries collate information on institutions which have EE integrated into the institution. However, whilst in Denmark data was collated as a one-off through a study undertaken by the Danish Foundation Young Enterprise (ad hoc), in the Netherlands the data is collated as part of a baseline study which has been updated twice (comprehensive).

Figure 4.2 above highlights that the most systematic data collation takes place at the level of impacts, principally through GEM and national office statistics. In contrast, at the beginning of the logic model, operations indicators are collated through a full diversity of sources with a growing share of GEM and national office indicator activity as progression is made through the model.

National office statistics remain the most important source of data – although it was noted earlier that there can be minor differences in the definition of common indicators collected.

Table 4.4 provides a complete mapping of the data source of indicators for each Member State.

³⁹ It was not possible to establish the source of information for the Spanish case study, information included as part of the Case Study was gathered through Ministry interview.

Table 4.4 Data source of indicators

	Indicator	Belgium - Flanders	Denmark	Finland	Ireland	Netherlands	Poland	Sweden	UK - England	UK – Northern Ireland	UK – Scotland	UK - Wales	Germany	Spain
INPUT	EE Strategy		✓	✓				✓	✓		✓	✓	✓	
	EE Action Plan	✓		✓		✓				✓		✓		
	EE Monitoring/ Evaluation Framework	✓	✓ ⁴⁰											
OPERATIONS	% of educational institutions with entrepreneurship integrated into the institution		National (ad hoc)			National (comp)		National (ad hoc)						☐
	% of secondary educational institutions with entrepreneurship integrated into the institution		National (ad hoc)				National (ad hoc)	National (ad hoc)						
	% of educational institutions with EE integrated into the curriculum		National (ad hoc)			National (comp)	National (ad hoc)						Project level	☐
	% of educational institutions with EE integrated into the core curriculum							National (ad hoc)						
	% of secondary or VET educational institutions with EE integrated into the core curriculum			National (ad hoc)			National (ad hoc)	National (ad hoc)						
	% of teachers receiving EE training at pre-primary, primary, secondary and VET levels	Singular survey	National (u/k)	National (ad hoc)										
	Proportion of EE activity delivered at regional or local levels	Singular survey												
	% of primary schools engaging in EE activity									Project level				
% of post-primary (secondary) schools engaging in EE activity									Project level					

⁴⁰ Entrepreneurship Framework

	Indicator	Belgium - Flanders	Denmark	Finland	Ireland	Netherlands	Poland	Sweden	UK - England	UK – Northern Ireland	UK – Scotland	UK - Wales	Germany	Spain
	% of educational institutions who engage with the local business community					National (comp)								
	% of businesses who are involved with enterprise activity			National (ad hoc)							Singular survey			
OUTPUT	% of students receiving EE (collated at pre-primary and early years, primary education, secondary education and VET levels)	Singular survey	Project level			Project level	National (ad hoc)							
	% of students receiving EE (no specific mention of level of education)	Singular survey	Project level				National (ad hoc)	National (comp)				National (comp)	Singular survey	☐
	% of students receiving EE as part of <i>compulsory</i> studies at secondary level						National (ad hoc)							
	% of students receiving EE as part of <i>compulsory</i> studies (no specific mention of level of education)	National (u/k)										National (comp)	Singular survey	
	% of teachers who have taught EE over the past academic year			National (ad hoc)										
	% of students exhibiting entrepreneurial competences	Singular survey					National (comp)							
OUTCOME	% of students who became interested in becoming an entrepreneur due to school studies	Singular survey		Singular survey										☐
	% of students engaging in entrepreneurial activity								Singular survey	Project level		National (comp)		☐
	% of students considering self-employment as a career				GEM							Project level		☐
	% of students (over 14) who are offered work based vocational learning	National (comp)											National (comp)	
	% of students gaining a qualification in EE	Project level		National (comp)									Singular survey	
	Start ups per HEI as proportion of students											National (comp)		

	Indicator	Belgium - Flanders	Denmark	Finland	Ireland	Netherlands	Poland	Sweden	UK - England	UK – Northern Ireland	UK – Scotland	UK - Wales	Germany	Spain
	Ratio of male to female engagement with EE	Singular survey								GEM			Singular survey	☐
	% of working age population who are seeking to establish a business within 3 years	GEM		Singular survey		GEM					GEM		GEM	
	% of school leavers who believe they have the skills/ knowledge required to start up a business	Project level				GEM			GEM	GEM	GEM			
	% of working age population (18 – 64) who have received EE	GEM	GEM					GEM					GEM	
IMPACT	% of population who would rather be self-employed	GEM	GEM	National (comp)		GEM		National (comp)						
	% of students who start up a business after 3 years of EE completion	Project level		National (comp)									Singular survey	
	% of under 25s who have started their own business	GEM/ National									GEM	GEM	GEM	
	% of working age population (18-64) who are self-employed	GEM/ National	GEM	National (comp)	National (comp)			National (comp)	National (comp)				GEM	☐
	Rate of new firm formation	GEM/ National	National (comp)	National (comp)	National (comp)		National (comp)	National (comp)	National (comp)	National (comp)	National (comp)		GEM	

“☐” illustrates where data is collected in Spain (as indicated by stakeholder review, but source of data was not identified by stakeholder).

4.4 The Most Common Member State Entrepreneurship Education Indicators

The earlier Table 4.2 provided a summary of the range and frequency of all indicators of entrepreneurship education collated within the Member State Case Studies.

Table 4.5 below provides an overview of those indicators most commonly collected by Member States (by at least four of the Case Studies) and their data source. It re-affirms the message of Figure 4.2 that sources vary greatly in the early stages of the indicators of the logic model before converging around the role of national statistics offices and GEM.

Table 4.5 Detail on the source and collation method of indicators which are collected by at least 4 of the Case Studies

Indicator	Country	Method	Frequency	Data Source
EE Strategy	Denmark	31 indicators and policy areas that measure state of entrepreneurship in Denmark.	Annual	Entrepreneurship Index 2010
	Finland	Analysis of the state of EE at different levels of education: desk research and consultations with all key partners	Current strategy runs from 2009 - 2015	Education and employment authorities, social partners, association representing entrepreneurs, local and regional authorities, NGOs, orgs promoting entrepreneurship and EE, academics, teachers and trainers
	Sweden	Analysis of the state of entrepreneurship education in Sweden; desk research		Swedish Agency for Education
	Scotland (UK)	Strategy embodies the acceptance of recommendations of Expert Review Group between 2001 and 2002.		Expert Group – Scottish Government, Educational Institutions, Business Entrepreneurs.
	Wales (UK)	Priorities for Enterprise and Entrepreneurship Education, Desk research	Every 5 years(?)	Welsh Assembly Government
% of educational institutions with entrepreneurship integrated into the institution	Denmark	EE participation compulsory for institutions - aggregated basis and at secondary level		Danish Foundation for Entrepreneurship – Young Enterprise
	Netherlands	Independent Evaluation undertaken by EIM (e-surveys with institutions and students plus in-depth institution interviews)	Every 2 years as part of national evaluation	EIM's Summary One Measurement of E&E
	Poland	EE participation compulsory for institutions at the higher secondary level		
	Sweden	EE participation is compulsory for all institutions – collated at secondary level	Annual	Swedish Agency for Education
	Spain	EE is compulsory for all institutions		Data provided by the Ministry of Education, but source of data/survey etc unknown.
% of secondary institutions with entrepreneurship	Denmark	EE is compulsory for all institutions		The Danish Foundation for Entrepreneurship collects statistics which are related to Young Enterprise

Indicator	Country	Method	Frequency	Data Source
integrated into the institution	Poland	EE participation compulsory for institutions at the higher secondary level		
	Sweden	EE participation is compulsory for all institutions – collated at secondary level	Annual	Swedish Agency for Education
% of educational institutions with EE integrated into the curriculum	Denmark	EE is compulsory for all institutions		Danish Foundation for Entrepreneurship – Young Enterprise
	Netherlands	Independent evaluation by EIM. Methodology includes e-surveys with institutions and students and in depth interviews.	Every 2 years	Independent evaluation commissioned by Dutch government
	Poland	EE participation compulsory for institutions at the higher secondary level.		National level data
	Spain	EE is compulsory for all institutions		Data provided by the Ministry of Education, but source of data/survey etc unknown.
% of secondary or VET educational institutions with EE integrated into the core curriculum	Finland	Assessed in 2006 and 2007 through surveys commissioned by the Ministry of Education	Ad hoc	Ministry of Education
	Poland	EE participation compulsory for institutions at the higher secondary level.		National level data
	Sweden	EE participation is compulsory for all institutions	Annual	Swedish Agency for Education
% of students receiving EE (collated at pre-primary and early years, primary education, secondary education and VET levels)	Belgium (Flanders)	Singular Survey School Year 2008/09 – project level monitoring at all levels of education	One off?	Effecto
	Denmark	Collection of number of enterprise students at all levels of the educational system	?	Danish Foundation for Entrepreneurship – Young Enterprise
	Netherlands	Monitoring of Enterprise and Education programme activity takes place on an ongoing basis.	Regularly	Enterprise and Education Programme Team, Dutch government.
	Poland	All students at higher secondary level must engage with EE		
% of students receiving EE (level of education not specified)	Belgium (Flanders)	Singular Survey School Year 2008/09 – project level monitoring at all levels of education	Annual	Effecto
	Denmark	Collection of number of enterprise students at all levels of the educational system	?	Danish Foundation for Entrepreneurship – Young Enterprise
	Poland	All students at higher secondary level must engage with EE		

Indicator	Country	Method	Frequency	Data Source
	Sweden	Collage on aggregated basis, level of education unknown	Annual	Tillväxtverket Entreprenörskapsbarometern
	England	% of all taking part in enterprise training activity	Annual (up to 2007)	Household Survey of Entrepreneurship
	Wales	% of students involved with EE activity	Annual	Welsh Baccaalaureate Monitoring
	Germany	Singular Survey Connected to GEM – level of education unknown.	Annual	GEM-EE
	Spain	Data provided by the Ministry of Education, but source of data/survey etc unknown.		
% of students receiving EE as part of compulsory studies	Belgium (Flanders)		“Regularly”	Department for Education
	Wales		Annual	Welsh Baccaalaureate Monitoring
	Germany	Singular Survey Connected to GEM	Annual	GEM-EE
% of students who became interested in becoming an entrepreneurs due to school studies	Belgium (Flanders)	In-depth survey based on specific defined conditions - Singular survey school year 2008/2009	One off	Effecto
	Finland	One off survey of EE students in 2006/2007	One off	Young Enterprise Finland
	Spain		One off?	Bertelsmann Foundation
% of students engaging in entrepreneurial activity	England	% of population aged 14 to 30 who had engaged in enterprise training	One off?	DBERR Enterprise Strategy
	Northern Ireland	Project level monitoring activity, also provides detail of level of education students are at e.g. Primary or post primary	Regularly	e.g. Young Enterprise NI.
	Wales	Project level monitoring of activity	Regularly	Dynamo Role Model Programme monitoring
	Spain	Data provided by the Ministry of Education, but source of data/survey etc unknown.		
% of students considering self-employment as a career	Ireland	Singular Survey Connected to GEM	Annual	GEM
	Wales		Annual	Annual Omnibus Survey
	Spain	Data provided by the Ministry of Education, but source of data/survey etc unknown.		
% of students gaining a qualification in EE	Belgium (Flanders)	Project monitoring, Syntra monitoring	“Regularly”	Syntra Monitoring

Indicator	Country	Method	Frequency	Data Source
	Finland	At the VET level - Collected by the National Board of Education and Statistics Finland from E&T providers	Annual?	National Board of Education (database ROPTI)
	Germany	Singular survey connected to GEM	One off	Singular Survey connected to GEM
% of working age population (18 – 64) who have received EE	Belgium (Flanders)	Singular Survey School Year 2008/09, International survey	One off / Annual	Effecto / GEM
	Denmark		Annual	Entrepreneurship Index 2010
	Sweden	% of total population receiving EE	Annual	GEM
	Germany	Singular Survey Connected to GEM	Annual	GEM / GEM-EE
Ratio of male to female engagement with EE	Belgium (Flanders)	Singular Survey School Year 2008/09	Annual	Effecto / GEM
	Northern Ireland		Annual	GEM
	Germany	Singular Survey Connected to GEM	Annual	GEM / GEM-EE
	Spain	Data provided by the Ministry of Education, but source of data/survey etc unknown.		
% of working age population who are seeking to establish a business within three years	Belgium (Flanders)	Singular Survey School Year 2008/09	One off / Annual	Effecto / GEM
	Finland	One off survey of EE students in 2006/2007	One off	Young Enterprise Finland
	Scotland		Annual	GEM- Scotland
	Germany	Singular Survey Connected to GEM	Biannual	GEM / GEM-EE
% of school leavers who believe they have the skills or knowledge required to start a business	Belgium (Flanders)	Singular Survey School Year 2008/09	Annual	Effecto
	England	Part of international study on entrepreneurship attitudes.	Annual	GEM
	Northern Ireland	Part of international study on entrepreneurship attitudes.	Annual	GEM
	Scotland	Part of international study on entrepreneurship attitudes.	Annual	GEM- Scotland
% of working age population who would	Belgium (Flanders)	Part of international study on entrepreneurship attitudes.	Annual	GEM

Indicator	Country	Method	Frequency	Data Source
rather be self employed	Denmark	Part of EU-wide/ International studies on Entrepreneurship	Annual	GEM, Flash Barometer, Entrepreneurship Index 2010
	Finland	Part of EU-wide study on Entrepreneurship	Annual	Eurobarometer
	Netherlands	Part of EU study on entrepreneurship attitudes.	Annual	EC Flash Barometer
	Sweden		Annual	Tillväxtverket Entreprenörskapsbarometern
% of under 25s who have started their own business	Belgium (Flanders)		Annual	Department of Economy/ GEM
	Scotland		Annual	GEM- Scotland
	Wales	Part of International studies on Entrepreneurship	Annual	GEM
	Germany	Part of International studies on Entrepreneurship	Annual	GEM
% of working age population (18-64) who are self-employed*	Belgium (Flanders)		Annual	Department of Economy/ GEM
	Denmark		Annual	Danish Companies and Commerce Agency/ Statistics Denmark: Labour Force Statistics
	Finland	Labour Force Survey - Statistics Finland	Quarterly / Annual	Labour Force Survey - Statistics Finland
	Ireland	Previously part of the Labour Force Survey, the QNHS surveys the Irish population over 15 years of age	Quarterly	Quarterly National Household Survey, Central Office of Statistics
	Sweden		Annual	Statistics Sweden (Labour Data)
	England	Collated by age range 18 – 64 through APS and 16-24 through Annual Small Business Survey	Annual	Annual Population Survey (Nomis), Annual Small Business Survey
	Germany	Part of International studies on Entrepreneurship	Annual	GEM
	Spain	Data provided by the Ministry of Education, but source of data/survey etc unknown.		
Rate of new firm formation	Belgium (Flanders)		Annual	Department of Economy/ GEM
	Denmark		Annual	Danish Companies and Commerce Agency/ Statistics Denmark: Labour Force Statistics

Indicator	Country	Method	Frequency	Data Source
	Finland	Labour Force Survey - Statistics Finland	Quarterly / Annual	Labour Force Survey - Statistics Finland
	Ireland	Business demography statistics are based on the CSO Central Business Register a register of all enterprises that are active in the State.	Annually. 2010 data released relates to activity in 2008.	Business Demography, Central Office of Statistics
	Poland		Annual (?)	Bank Danych Lokalnych GUS
	Sweden		Annual	Statistics Sweden (Labour Data)
	England		Annual	ONS Business Demography
	Northern Ireland		Annual	ONS Business Demography
	Scotland		Annual	ONS Business Demography
	Germany	Part of International studies on Entrepreneurship	Annual	GEM

Source: *Entrepreneurship Education Case Studies* * indicator is accessible in all Member States through the quarterly European Labour Force Survey

4.4.2 Summary of most common indicators

Table 4.6 provides a summary of the most common entrepreneurship education indicators identified through review of Member State Case Studies (by level of data collection).

Table 4.6 Top indicators by their stage in the logic model and the level of data collection

Input	Operations	Output	Outcome	Impact
	% of educational institutions with entrepreneurship integrated into the institution	% of students receiving EE (no specific mention of level of education)	% of school leavers who believe they have the skills/ knowledge required to start up a business	Rate of new firm formation
	% of educational institutions with EE integrated into the curriculum	% of students receiving EE (collated at pre-primary and early years, primary education, secondary education and VET levels)	% of working age population who are seeking to establish a business within 3 years	% of working age population (18-64) who are self-employed
			% of students engaging in entrepreneurial activity	% of population who would rather be self-employed
			Ratio of male to female engagement with EE	% of students who start up a business after xx years of EE completion
			% of working age population (18 – 64) who have received EE	% of under 25s who have started their own business

Source: Collated following Case Study Review

Key:

Internationally collected data	Nationally collected data	Project level data	Mixed data sources
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Table 4.7 maps these most common indicators by their position in the logic model and the share of Member State case study countries collecting each indicator.

Table 4.7 Top entrepreneurship education indicators by their stage in the logic model

Input	Activity	Output	Outcome	Impact
EE Strategy (54%)	% of educational institutions with EE integrated into the institution (38%)	% of students receiving EE (no specific mention of level of education) (54%)	% of students engaging in entrepreneurial activity (31%)	Rate of new firm formation (85%)
EE Action Plan (38%)	% of educational institutions with EE integrated into the curriculum (31%)	% of students receiving EE (collated at pre-primary and early years, primary education, secondary education and VET levels) (31%)	Ratio of male to female engagement with EE (31%)	% of working age population (18-64) who are self-employed (62%)
	% of teachers receiving EE training at pre-primary, primary, secondary and VET levels (15%)	% of students engaging in entrepreneurial activity (31%)	% of school leavers who believe they have the skills/knowledge required to start up a business (38%)	% of population who would rather be self-employed (31%)
			% of working age population (18 – 64) who have received EE (31%)	% of under 25s who have started their own business (31%)
			% of working age population who are seeking to establish a business within 3 years (38%)	% of students who start up a business after x years of EE completion (31%)

Source: Collated following Case Study Review. Figure in brackets indicates share of case study countries collecting the indicator

5 International Indicator Sets and Entrepreneurship Education

The review of case studies highlights a number of common indicators relating to international indicator sets for monitoring entrepreneurship education. This section provides an overview of these key international indicator sets, including:

- Global Entrepreneurship Monitor (GEM);
- Flash Eurobarometer on Entrepreneurship; and,
- OECD-Eurostat Entrepreneurship Indicators Programme (EIP).

5.1 Global Entrepreneurship Monitor (GEM)

The Global Entrepreneurship Monitor (GEM) research programme is an assessment of entrepreneurial activity which is undertaken at the national level. GEM research first began in 1999 as a partnership between the London Business School and Babson College and has since grown significantly.

In its first year (1999), 10 countries were part of the GEM consortium; however, by 2010, data for 59 countries was collected⁴¹. Over the course of GEM's history, data has been collated regarding entrepreneurship in over 80 countries and the monitor is known as the world's largest survey-based research on entrepreneurship.

GEM Research has three key objectives:

- To measure the differences in the level of early stage entrepreneurial activity between countries;
- To uncover factors determining the levels of entrepreneurial activity; and,
- To identify policies that may enhance the level of entrepreneurial activity.

Early Stage Entrepreneurial Activity is defined as sum of the nascent entrepreneurs (those that have been paying salaries for less than three months) and baby business owner/managers (those that have been paying salaries for between three and 42 months) minus any double counting (i.e. those who respond positively to both) – in other words, the propensity of a country to be entrepreneurial.

GEM utilises a holistic approach to studying entrepreneurship, which takes into account the complexity of entrepreneurship and variety of settings and situations within which it operates. The research aims to improve knowledge of entrepreneurship and enable governments, businesses and educators to design and develop policy and programmes. It also seeks to assist those with enterprising capabilities to generate employment and wealth⁴².

GEM defines entrepreneurship education as:

“the building of knowledge and skills either “about” or “for the purpose of” entrepreneurship generally, as part of recognised education programmes at primary, secondary or tertiary-level educational institutions”⁴³.

There are two key strands to GEM activity; the Annual Population Survey (APS) and the National Expert Survey (NES).

5.1.1 The Annual Population Survey (APS)

The Annual Population Survey across participating countries is led by a central coordination team from the GEM consortium. As previously mentioned, 59 countries were engaged with the GEM consortium in 2010. In each of these countries, a national team commissions the APS which is then supervised by the team to ensure that the quality is maintained and methodology followed to enable internationally comparable data to be compiled. For each country, at least 2,000 people aged 18 to 64 are surveyed.

⁴¹ GEM (2010) “What is GEM?” http://www.gemconsortium.org/about.aspx?page=ab_what_gem_is

⁴² Coduras Martinez, A., Levie, J., Kelley, D. J., Sæmundsson, R. J. and Schøtt, T. (2010) “Global Entrepreneurship Monitor Special Report: A Global Perspective on Entrepreneurship Education and Training” p.7.

⁴³ Coduras Martinez et. Al (2010) p.8

The national teams are subject to strict guidelines and methodology; the survey is undertaken at the same time of the year across all countries

5.1.2 The National Expert Survey (NES)

GEM National Teams undertake the National Expert Survey (NES) to gain an overview into the key factors which impact on entrepreneurship in each country. As part of the expert review, at least 36 experts are consulted (4 experts in each of nine core areas). In each core area at least 4 experts are interviewed, typically an entrepreneur, two providers of the specific entrepreneurial framework conditions and one expert advisor.

National teams are tasked with consulting experts, overseen by the central coordination team for quality control purposes to ensure comparability and consistency across years. Findings from the APS and NES are published annually as Global GEM reports and at the national level by national teams. GEM also publishes special reports on an ad hoc basis on subjects which include Education and Training.

5.1.3 Indicators across the Logic Model

GEM acknowledges that there is an array of project level, supply side studies which look at evaluating entrepreneurship education but that a gap exists in the measurement of who is engaged with training and how these individuals benefit from training⁴⁴. Through surveying of individuals GEM can establish the extent and impact of entrepreneurship education from those who receive it and ensure that individuals in formal and informal entrepreneurial activity are included (i.e. those who are involved in registered and un-registered business).

The APS survey is based on a sample of the population aged between 18 and 64 and collates information on the demographics of those surveyed including gender, age group, education and working status. As part of the APS, the following indicators are included:

- % of individuals who have taken part in training in starting a business in school⁴⁵ (and whether activity was compulsory/ non-compulsory, formal or non-formal);
- % of individuals who have taken part in training in starting a business outside of school⁴⁶ (including who it was delivered by and whether it was compulsory/ non-compulsory, formal or non-formal);
- % of working age population that are in the process of starting a business (nascent entrepreneurs) and the % of working age population that are the owners of new businesses (under 42 months old) [deemed to be an indicator of early-stage entrepreneurial activity (TEA)]
 - this enables the ratio of trained *entrepreneurs* to trained individuals to be assessed.
- % of working age population who are involved in TEA who are necessity-driven (no other alternative work option);
- % of working age population who are involved in TEA who are improvement-driven (such as independence or increasing income, rather than maintaining their income); and,
- % of working age population who are the owner-manager of a new business but for not more than 42 months.

The following indicators are collated relating to aspirations or attitudes:

- % of those involved in TEA who expect to employ at least 5 people in 5 years time;
- % of working age population (excluding those involved in TEA) who intend to start a business within three years;
- % of working age population who agree that 'most people consider starting a business as a desirable career choice' in their country;

⁴⁴ Coduras Martinez et. Al (2010) p.9

⁴⁵ In school is defined as training provided as part of primary or secondary education.

⁴⁶ Outside of school is defined as training which is beyond primary and secondary schooling such as colleges, universities, public agencies, chambers of commerce, trade unions and employers.

- % of working age population who agree that ‘successful entrepreneurs receive high status’ in their country; and,
- % of working age population who believe they have the necessary skills or knowledge to start a business.

GEM has consolidated a number of questions from the APS to estimate the “Gain from Training”⁴⁷ (as previously mentioned in Section 3.1 the core measure is utilised to measure the effect of training in starting a business). The measure enables a comparator to be established which illustrates the⁴⁸:

- “increase in the proportion of people in the country who have a characteristic such as a particular attitude because of compulsory training in starting a business”, and,
- “increase in the odds that individuals with a given set of demographic characteristics will have a particular entrepreneurial orientation if they have ever taken compulsory training versus individuals with identical demographic characteristics but without such training”.

As part of the NES, experts are interviewed across nine key areas including entrepreneurship education and training. More specifically, experts are asked to state the level of agreement with the following statements on a Likert scale (i.e. 1 representing “strongly agree” to 5 representing “strongly disagree”):

- The adequacy of formal entrepreneurship education (and training) provided at primary and secondary schools in their country; and,
- The adequacy of entrepreneurship education and training offered through a variety of sources beyond primary and secondary schooling (such as colleges, universities, government and professional programmes).

Such indicators whilst focused upon the sufficiency of education could provide a useful indicator of the extent to which entrepreneurship education varies across the Member States.

5.2 Flash Eurobarometer

The Flash Eurobarometer on Entrepreneurship, commissioned by DG Enterprise and Industry, collates information on people’s entrepreneurial mindset at the SME level to assess the motivations, experiences and barriers of and to self-employment. The survey was first undertaken in 2000 following the objectives set by the Lisbon European Council (March 2000) to boost entrepreneurship to improve employment, economic reform and social cohesion across the EU Member States.

Between 2000 and 2004, the Flash Eurobarometer was undertaken annually, after which time it took place biennially (2007 and 2009)⁴⁹. In 2009, the Flash Eurobarometer No. 283⁵⁰ was coordinated by the Gallup Organisation in Hungary. Over 26,000 people were interviewed across 36 states⁵¹. All respondents had to be over 15 years of age and were primarily interviewed over the telephone – the survey sought to establish how entrepreneurial mindsets are developed and the activity which encourages people to become entrepreneurs.

⁴⁷ “Gain from Training” is defined as the increased odds of engaging in entrepreneurial behaviour due to training, rather than a consequence of some prior desire to behave entrepreneurially (Coduras Martinez et. Al (2010) p.8)

⁴⁸ Coduras Martinez et. Al (2010) p.34

⁴⁹ DG Enterprise, European Commission “Small and medium-sized enterprises (SMEs) Eurobarometer Surveys on Entrepreneurship”

<http://ec.europa.eu/enterprise/policies/sme/facts-figures-analysis/eurobarometer/>

⁵⁰ 2009 Flash Eurobarometer 283 Survey on Entrepreneurship “ Entrepreneurship in the EU and beyond: A survey in the EU, EFTA countries, Croatia, Turkey, the US, Japan, South Korea and China”

http://ec.europa.eu/enterprise/policies/sme/facts-figures-analysis/eurobarometer/fl283_en.pdf

⁵¹ EU 27, Croatia and Turkey (candidate countries), EFTA (Iceland, Norway and Switzerland), the US and three Asian countries (China, Japan and South Korea)

5.2.1 Indicators across the logic model

The Eurobarometer initially requests demographic information, including; gender, age, age at which full time education was finished, employment status, occupation of parents and estimates on the level of income⁵². Relating to entrepreneurship education, the following indicators are collated:

- % of population over 15 who would rather be self-employed (and why this is the case);
- % of population over 15 for which it could be feasible for self-employment in the next 5 years (and why this is the case);
- % of population over 15 who 'strongly agree' that their school education helped to develop a sense of initiative/ sort of entrepreneurial attitude;
- % of population over 15 who 'strongly agree' that their school education helped to give them a better understanding of the role of entrepreneurs in society;
- % of population over 15 who 'strongly agree' that their school education made them interested in becoming an entrepreneur;
- % of population over 15 who 'strongly agree' that their school education gave them the skills or know how to enable them to run a business;
- % of population over 15 who have started a business;
- % of population over 15 who are taking steps to start a business; and,
- % of population over 15 who feel "rather favourably" about entrepreneurs (self-employed or business owners).

The survey data from each state is collated providing opportunity for comparison to be made amongst EU27 countries and between the EU27 and other nations.

5.3 OECD-Eurostat Entrepreneurship Indicators Programme (EIP)

The OECD launched the Entrepreneurship Indicators Programme (2006) in response to a weak statistical base for entrepreneurship research⁵³ and a need to build internationally comparable statistics on entrepreneurship and the causal factors to which it relates. As part of the programme 12 OECD countries, the World Bank and Eurostat formed a Steering Group to provide definitions, methods and create a list of core indicators – in 2007, Eurostat officially joined the OECD, and thus created the OECD-Eurostat Entrepreneurship Indicators Programme⁵⁴.

Given the broad nature of entrepreneurship, the EIP has sought to combine conceptual definitions with existing empirical indicators and established the following definitions⁵⁵:

- "Entrepreneurs – those persons (business owners) who seek to generate value through the creation or expansion of market activity, by identifying and exploiting new products, processes or markets;
- Entrepreneurial activity – enterprising human action in pursuit of generation of value through the creation or expansion of economic activity, by identifying and exploiting new products, processes or markets;
- Entrepreneurship – the phenomenon associated with entrepreneurial activity."

Using these definitions, a framework has been established which provides three categories for indicators. Two of these categories require collection of data which could be useful for the

⁵² Rather than asking exact income figure, respondents are requested to state which phrase best describes the household income from "live comfortably on present income; get by on present income; find it difficult to manage on the present income; find it very hard to manage on the present income".

⁵³ Identified at the 2nd OECD Ministerial Conference on SMEs in Istanbul.

⁵⁴ OECD Statistics Directorate (2008) "Measuring Entrepreneurship: A digest of indicators: OECD-Eurostat Entrepreneurship Indicators Programme" <http://www.oecd.org/dataoecd/53/23/41664409.pdf> p.3

⁵⁵ OECD Statistics Directorate (2009) "Measuring Entrepreneurship: A collection of indicators, 2009 edition: OECD-Eurostat Entrepreneurship Indicators Programme" Available from <http://www.entrepreneurship-indicators.net/>

purposes of entrepreneurship education monitoring. The following table indicates indicators collected through the EIP:

Table 5.1 EIP Indicators related to Entrepreneurship Education Monitoring

Category	Indicator	Source
<i>Determinants: entrepreneurial capabilities</i>	Self-employment by place of birth	OECD “International Migration Outlook”
	Population aged 18 to 64 with training in starting a business	GEM Special Topic “Entrepreneurship Education and Training”
<i>Determinants: entrepreneurial culture</i>	Preference for self-employment over being an employee	EU Flash Eurobarometer, Entrepreneurship Survey
	Entrepreneurial perceptions	GEM
	Positive image of entrepreneurship and entrepreneurs	EU Flash Eurobarometer, Entrepreneurship Survey
	Negative image of entrepreneurship and entrepreneurs	EU Flash Eurobarometer, Entrepreneurship Survey
<i>Entrepreneurial Performance: firm-based indicators</i>	Timely entrepreneurship indicators (firm entry and firm exit) ⁵⁶	National Offices of Statistics
	One- and two-year survival rate	National Offices of Statistics
	Employment creation by enterprise births	National Offices of Statistics

Source: compiled from OECD Statistics Directorate (2009) “Measuring Entrepreneurship: A collection of indicators. 2009 Edition”

As illustrated above, the key characteristic of data utilised by the EIP is that it is collated from a variety of existing indicator sets, such as GEM and the Flash Eurobarometer, and national monitoring undertaken by the National Offices of Statistics.

The first round of data was collated in 2008 for 18 countries; in 2009, data for 23 countries was analysed. The rationale behind the programme is to enable policy makers to better understand policies implemented or adjusted in their countries and thereby enable higher level objectives relating to the economy and society at large to be achieved. Through developing a common programme of indicators, EIP seeks to provide opportunity for comparison across countries. However, currently, not all statistics collated from national offices of statistics are likely to be directly comparable.

5.4 International Indicator Sets – A Summary

In summary, there exists a small number of international indicator sets in operation which provide the opportunity to monitor entrepreneurial education across Europe. An overview of the indicator sets reviewed is provided in Table 5.2, illustrating that:

- All three international indicator sets have substantial international coverage;
- GEM APS and the Flash Eurobarometer are based on large samples which provide opportunity for comparison across nations and between EU member states;
- GEM APS and the Flash Eurobarometer provide indicators on entrepreneurial attitudes;
- Whilst GEM APS focuses on the working age population (18 to 64), the Flash Eurobarometer focuses on any person over 15;

⁵⁶ These indicators vary slightly by name e.g. for firm entry in the UK new incorporated registrations are collated, whilst in France it is enterprise creations whilst for firm exit in the UK it counts dissolved companies, whilst in France it is bankruptcy filings.

- The GEM NES provides opportunity for an expert review of the wider conditions for entrepreneurship to be considered; and,
- The OECD-Eurostat EIP utilises secondary sources of information from GEM and the Flash Eurobarometer rather than collecting information from primary sources.

Table 5.2 Comparison of International Indicator Sets

Indicator Set	Coverage	Method	Frequency of Collection
Global Entrepreneurship Monitor (GEM)	Global 59 countries (2010)	The APS includes a random sample of at least 2,000 individuals of working age population (<i>aged 18 to 64</i>) in each country (in 2009, over 170,000 people across 55 nations were surveyed). The survey is undertaken over the telephone or face-to-face. The NES focuses on 36 experts across 9 core areas. Surveys coordinated centrally but delivered through national teams of experts.	Collated annually, reported through national and global reports. Last survey carried out in 2010.
EU Flash Eurobarometer	Global 36 countries (2009) (EU27 plus Croatia and Turkey, Iceland, Norway, Switzerland, China, Japan and South Korea)	Telephone survey of 26,000 people aged <i>over 15 years</i> , across 36 states (500 or 1,000 per country)	Biennially since 2009 (annual coverage 2000 to 2004). Last survey carried out in 2009.
OECD-Eurostat Entrepreneurship Indicator Programme (EIP)	Global 23 OECD countries	Collation of secondary data from various sources including GEM and Flash Eurobarometer, in addition to national data from National Offices of Statistics.	Began in 2008 – last collation in 2009.

5.4.2 Indicators across the logic model

Table 5.3 below maps the relationship with the international indicators collected against the logic model; they are primarily focused on changes to attitude (results) and the global impact.

Table 5.3 Entrepreneurship Education Indicators by Logic Model: International Surveys

Indicator	GEM APS	Flash Eurobarometer	OECD-Eurostat EIP
Output	% of individuals who have taken part in training in starting a business in school	✓	✓
	% of individuals who have taken part in training in starting a business outside of school	✓	

	Indicator	GEM APS	Flash Eurobarometer	OECD-Eurostat EIP
	Skills and knowledge	✓ % of working age population who believe they have the necessary skills or knowledge to start a business	✓ % of population over 15 who 'strongly agree' that their school education gave them the skills or know how to enable them to run a business	
Results	% of population over 15 who 'strongly agree' that their school education helped to develop a sense of initiative/ sort of entrepreneurial attitude		✓	✓
	% of population over 15 who 'strongly agree' that their school education helped to give them a better understanding of the role of entrepreneurs in society		✓	✓
	% of population over 15 who 'strongly agree' that their school education made them interested in becoming an entrepreneur		✓	✓
	Perceptions of entrepreneurs	✓ % of working age population who agree that 'successful entrepreneurs receive high status' in their country	✓ % of population over 15 who feel "rather favourably" about entrepreneurs (self	✓ % of working age population who agree that 'successful entrepreneurs receive high status' in their country
Intermediate Impact	% of population over 15 who would rather be self-employed		✓	✓
	% of those involved in TEA who expect to employ at least 5 people in 5 years time			

	Indicator	GEM APS	Flash Eurobarometer	OECD-Eurostat EIP
	% of working age population who agree that 'most people consider starting a business as a desirable career choice' in their country	✓		✓
	Timely entrepreneurship indicators (firm entry and firm exit)			✓
	One- and two-year survival rate of enterprises			✓
	Employment creation by enterprise births			✓
Global Impact	In process of starting a business	✓ % of working age population that are in the process of starting a business (nascent entrepreneurs)	✓ % of population over 15 who are taking steps to start a business	
	Business Owners	✓ % of working age population that are the owners of new businesses (under 42 months old)	✓ % of population over 15 who have started a business	
	Intentions to start a business	✓ % of working age population (excluding those involved in TEA) who intend to start a business within three years	✓ % of population over 15 for which it could be feasible for self-employment in the next 5 years	
	Early Stage Entrepreneurial Activity (TEA)	✓		

6 Conclusions and Recommendations

6.1 Development Trends in Entrepreneurship Education in Europe

The Study has outlined that developments in the policy status and activity of entrepreneurship education in Europe continue but, overall, monitoring and evaluation frameworks remain, at best, in their infancy.

It is only very recently that a common European intervention model for entrepreneurship education has developed and this Study is one of the first to have attempted to utilise the model as the basis for mapping indicators of entrepreneurship education.

Fundamentally, no comprehensive evaluation and monitoring framework for entrepreneurship education (with associated and repeated data sources) exists within the Member States⁵⁷.

The Study does identify a set of around 30 indicators of entrepreneurship education in use across Europe; around 20 are in common usage across a number of Member States.

Review of these common indicators highlights that they cover the intervention logic model – from inputs to global impacts – and provide the potential for a skeleton cross-country monitoring framework. This framework is, in part, covered by that under development by OECD-CIP.

It should be noted, however, that this skeleton framework is weighted both towards outcome and impact indicators (notwithstanding issues of causality and attribution of change) and, in particular, to key enterprise and economic outcomes rather than the full breadth of impacts implied by entrepreneurship as a key competence.

This weighting is substantially driven by the data sources available which are dominated by national office statistics and the expanding, specialist and internationally acclaimed Global Entrepreneurship Monitor. There may be scope to develop data sources on inputs and outputs through data collated through education ministry activity. Flash Eurobarometer is virtually unique in providing data on entrepreneurial attitudes in the widest sense of competence and related to schooling of individuals.

6.2 A Set of Indicators of Entrepreneurship Education in Europe

The Study findings set out evidence for a skeleton framework which may form the basis of a proposed set of indicators for entrepreneurship education which have the potential to be collated on a regular basis.

Table 6.1 sets out a tentative proposed indicator set structured by:

- Coverage of all stages of the logic model by a manageable number of indicators;
- Progression through the logic model based upon delivery of entrepreneurship education to those in education or the workforce as the basis of subsequent entrepreneurial behaviour;
- Entrepreneurial education impact as both economic and social in its dimensions; and,
- Where possible, existing reliable and regular data sources for entrepreneurship education indicators.

It should be recognised that the proposed framework is provided as a skeleton. Further work would be required on, at least:

- Refinement of indicator definition to confirm highest practical levels of causality across the logic model;
- Refinement of indicator definition to confirm common understanding and ability to collate across Member States; and,
- Agreement on, if appropriate, joint international opportunities for data collection instruments.

⁵⁷ The Flanders region of Belgium does provide an example of strong progress towards an evaluation and monitoring framework.

Table 6.1 Proposed set of entrepreneurship education indicators for Europe

Indicator	Stage in Logic Model	Data Source	Frequency of Collection	Current State of Play
Entrepreneurship Education Strategy or Action Plan in place	Input	Ministry official communication	Annual	Around half of Member States can identify such a document
% of educational institutions with entrepreneurship education integrated into the institution Split by primary/secondary/ HE/VET	Operations	Ministry – combination of national statistics, ad-hoc survey and expert view	Bi-annual	Partial – particularly for evidence at lower levels of education
% of businesses who are involved with enterprise activity	Operations - related to good practice of business engagement in EE	Ministry?	Bi-annual	Only collected in one-off Scottish survey and ad hoc Finnish survey
% of teachers receiving EE training at pre-primary/primary/secondary/VET levels	Operations	Ministry – combination of national statistics, ad-hoc survey and expert view	Bi-annual	Partial – particularly for evidence at lower levels of education
% of students receiving enterprise education (pre-primary/primary/secondary/VET levels)	Outputs	Currently, a full range of data sources	Bi-annual	Partial; lack of consistency in indicator implementation
% of working age population (18-64) who have received entrepreneurship education	Outcome	GEM	Annual	Limited – an extension of the GEM survey undertaken in a select few Member States
% of population over 15 who ‘strongly agree’ that their school education helped to develop a sense of initiative / sort of entrepreneurial attitude	Outcome	Flash Eurobarometer	Bi-annual	Coverage of Member States by international survey
% of students considering self-employment as a career	Outcome	GEM	Annual	Coverage of Member States by international survey
% of working age population who intend to start a business within three years	Outcome	GEM	Annual	Majority coverage of Member States by international survey
% of working age population who are self-employed	Impact	National statistics / European Labour Force Survey / GEM	Annual	Comprehensive coverage across Member States
Rate of new firm formation	Impact	National statistics / GEM	Annual	Comprehensive coverage across Member States
‘Entrepreneurial activity as a social outcome e.g. social capital’	Impact indicator to cover full breadth of key competence	?	?	?

6.3 Recommendations

Recommendation 1: The need for continuation of support to the development of information and data on entrepreneurship education given even greater international and EU policy emphasis on entrepreneurship as a driver of economic growth and social cohesion;

Recommendation 2: The need for coordination to identify a common cross-national monitoring framework for entrepreneurship education given that substantial gaps in both information and data remain at EU level – and despite a surge in entrepreneurial education activity amongst Member States;

Recommendation 3: That DG Education and Culture and DG Enterprise and Industry continue their fruitful joint activity on entrepreneurship education by seeking to establish an EU platform for Member States and experts in the field to take forward the development of a common cross-national monitoring framework on entrepreneurship education;

Recommendation 4: That work to develop a common monitoring framework should take note of:

- The need for a distinct EU approach to indicator and framework definition (notwithstanding any international developments) given the EU position that understands entrepreneurship as a *key competence* for everyone (whether that be in their lives at home, in the workplace or in society);
- That whilst no comprehensive monitoring framework is evident within EU, that a skeleton framework may be discerned through a common set of indicators utilised by Member States and as set out initially in this Report;
- That systematic data collection in Member States is very limited on indicators of inputs and operations / activities of entrepreneurship education;
- That monitoring of entrepreneurship as a key competence will require both 'hard' and 'soft' outcomes to be measured;
- That international surveys already in situ – namely Global Entrepreneurship Monitor (GEM) and EU Flash Barometer – and national labour force statistics provide a strong basis as robust, comprehensive data sources for a number of the highest level and most credible common outcome and impact indicators; and,
- That thought be given to the potential to incorporate a longitudinal dimension within any developments of a cross-national monitoring framework as the basis for developing greater understanding of the individual and societal outcomes and impacts of entrepreneurship education.



ANNEXES

Annex 1 Belgium

A1.1 Introduction

Belgium is a federal state. It is composed of three communities and three regions. The three communities govern the three different language groups living in Belgium – the Dutch- (Flemish), the French- and the German-speaking community.⁵⁸

Education – from nursery education to higher education - is the responsibility of the communities; and consequently all three communities have their own educational system, providing education in their official languages of Dutch, French and German.

Flanders as a regional body comprises the Flemish Community and the Flemish Region. It has a population of about six million people. The Flemish government pursues a strategy of decentralisation in education. Therefore, education policy in Flanders is based on a complex interplay between the ministry of education, the local schools and the so-called educational networks - a specific feature of the Flemish educational system.

Three networks can be distinguished:

- Community education (organised by the Flemish Community)
- Subsidised public authority education (organised by municipal and provincial bodies)
- Subsidised private authority education (organised by private organisations).⁵⁹

The development of a sense of initiative and entrepreneurship is one of the eight transversal key competences⁶⁰ recognised at EU level in the Reference Framework. The Flemish (and Wallonian) curricula specify learning outcomes. In line with its decentralised approach, the Flemish government does not impose a fixed agenda - schools are entitled to find their own pathways regarding the implementation of the curriculum and pursue their own approach regarding key competences. For instance, secondary schools can use the optional part of the curriculum to fill in with supplementary subjects such as entrepreneurship education.

A1.2 The Entrepreneurial Education Action Plan

In Flanders, an 'Entrepreneurial Education Action Plan'⁶¹ (Actieplan Ondernemend Onderwijs)⁶² was approved by the Ministries of Education, Labour and Economy in 2006 as a joint effort to build a coherent enterprise education policy. The aim of the plan is to make stakeholders more aware of entrepreneurship education.⁶³

The Action Plan was introduced following Flanders' 'low' achievements in the Global Entrepreneurship Monitor in 2004⁶⁴. In the study, Flanders' rate of entrepreneurship was 2.7, compared to the global and EU averages of 9.3 and 5.4 respectively.⁶⁵

The Action Plan comprises initiatives throughout the cycle of lifelong learning, from pre-primary school to continuing education. Entrepreneurship education is understood in a broad sense – it is intended to foster an entrepreneurial mindset, which is characterized by creativity and a good sense of self-organization.

The operational aims show that the target group is mainly students. Aims include:

⁵⁸ Portal Belgium.be. Official Information and Services. <http://www.belgium.be/en/index.jsp>.

⁵⁹ Enterprise education in Flanders. Copie 2: Entrepreneurship Educaion miniCoP. Community of practice on inclusive Entrepreneurship. Valalon. Available online: Copie and Copie2, URL: <http://copie.esflive.eu/> and <http://www.copie2.es/blog/?lang=en>

⁶⁰ A competency is defined by the European Commission as a combination of knowledge, skills and attitudes. Source: Recommendation on Key Competences for Lifelong learning 2006/962/EC

⁶¹ Algemeen - Entrepreneurial Education Initiative <http://www.ondernemendonderwijs.be/pagina1.html>

⁶² Actieplan Ondernemend Onderwijs <https://www.werk.be/beleid/competentiebeleid/competentieagenda/onderwijs.htm>

⁶³ Copie 2, ibid.

⁶⁴ Global Entrepreneurship Monitor 2004, http://www.emekin.net/documentos/eu/GEM_2004_Exec_Report.pdf,

⁶⁵ <https://www.werk.be/beleid/competentiebeleid/competentieagenda/onderwijs.htm?SMSESSION=NO>

- More attention to the development of an entrepreneurial mindset in primary education and lower secondary education;
- More attention to the development of an entrepreneurial mindset in upper secondary and higher education;
- Emphasis of the possibility of an entrepreneurial career to students.⁶⁶

The main actors relating to these aims are Syntra⁶⁷, a funded network which aims to support entrepreneurs with their start-ups as well as with the further education of entrepreneurs and their staff, and Unizo⁶⁸, an entrepreneur's organisation. Part of the portfolio of Unizo and Syntra are initiatives seeking to professionalise the delivery of enterprise education in secondary and adult education. This comprises a variety of extracurricular activities and projects (development of instructional material, teaching modules or events like transregional business plan contests or test company fairs). Furthermore, the 'Proleron' project⁶⁹ - funded by the European Union and the Flemish government - provides further training for teachers to adopt non-traditional approaches and pedagogies to increase the efficiency of entrepreneurial education. Teachers can follow courses on entrepreneurship and can undertake short internships in enterprises. These measures are designed to help them foster the entrepreneurial mindset of students – mainly focused on start-up creation.

The importance of entrepreneurship education is also stressed in policy documents such as the 'Competence Agenda' developed by the Ministry of Education and 'Flanders in Action', a comprehensive plan by the Flemish government to strengthen Flanders' position among the European regions.⁷⁰ The actions to be undertaken (similarly executed by Syntra and Unizo) also relate to adults.

A1.3 Indicator Mapping: Indicators collected against logic model

Due to the federal structure of the educational system, Belgium does not have a national monitoring framework for the evaluation of entrepreneurship education, however at the regional level, Flanders engages in active evaluation of the outcomes of the measures connected to the Action Plan.

To collect and map indicators, the following data and documents have been screened for this study:

- The data collected for Flanders which feed into the annual updates of the Global Entrepreneurship Monitor;
- the EFFECTO – report, evaluating the short term impact of measures on entrepreneurship education on students in secondary education;
- several specific project evaluations.

A1.3.1 Global Entrepreneurship Monitor

In the Global Entrepreneurship Monitor, entrepreneurship education and training have repeatedly been ranked as inadequate leading to GEM examining the topic in 2008 through its adult population surveys.⁷¹ For Belgium, the research for the GEM is done by Vlerick Leuven Gent Management School on behalf of the Flemish government.⁷²

The GEM results for Flanders include several indicators which are interesting regarding the outcomes of the Flanders Action Plan on Entrepreneurship Education, among them:

- % of working age population who are seeking to establish a business within 3 years;
- % of under 25s who have started their own business;
- % of working age population (18-64) who are self-employed;

⁶⁶ ibid

⁶⁷ www.syntra.be

⁶⁸ www.unizo.be

⁶⁹ http://www.ond.vlaanderen.be/dbo/projecten/projecten_proleron.htm

⁷⁰ Copie 2, Ibid.

⁷¹ Global Entrepreneurship Monitor, available online: http://www.gemconsortium.org/events_article.aspx?id=33

⁷² <http://www.vlerick.be/nl/media/pers/persberichten/14754-VLK.html>

- Rate of new firm formation;
- % of population who would rather be self-employed
- % of total population with positive attitude towards entrepreneurship;
- % of working age population (18 – 64) who have received EE;
- % of working age population who are seeking to establish a business within 3 years.⁷³

A1.3.2 Flemish Department of Education/Department of Economy

The Flemish Departments of Economy and Education also collect several data which are relevant for entrepreneurship education.⁷⁴

Department of Education:

- % of students receiving EE as part of compulsory studies;

Department of Economy:

- % of under 25s who have started their own business;
- % of working age population (18-64) who are self-employed;
- Rate of new firm formation.

A1.3.3 Effecto report

The Effecto report was also conducted by Vlerick Leuven Gent Management School in 2009.⁷⁵ Its aim was to evaluate the short term impact of measures on entrepreneurship education on students in secondary education. It mainly sought to evaluate impact concerning the following questions:

- Which factors determine the attitude of students towards entrepreneurship in secondary education in Flanders (and the alterations therein)?
- What is the impact of entrepreneurship education concerning entrepreneurial attitude, creativity, career perspective, international mobility, and attitude towards the status of entrepreneurs?
- How does the impact of these initiatives vary in relation to the applied working method?

The researchers collected data from 21 initiatives, which provided support with regard to entrepreneurship education in secondary education in Flanders. All initiatives worked together with more than one school – some of them worked together with more than 100 schools in the region. The initiatives provided lists of the secondary schools they had worked with to enable analysis of the spread and penetration of measures to be undertaken. Furthermore, teachers were asked to distribute an electronic survey to students about learning effects and impact and to complete a questionnaire about their own learning effects.

The second component of the report comprises a survey about aspects of entrepreneurship and related attitudes among VET-students that has been conducted in approximately 40 schools (Osso). For the analysis, the results of entrepreneurship education in both types of schools have been compared.

Although Effecto and Osso concentrated on qualitative aspects of the formation of attitudes and the influence of entrepreneurship education thereon, several quantitative indicators have been considered (mostly on Activity and/or Output/Outcome level):

- % of teachers receiving EE training at pre-primary, primary, secondary or HE/VET levels;
- Proportion of EE activity delivered at regional or local levels;
- % of students receiving EE (collated at pre- primary and early years, primary education, secondary education, VET or HE levels);
- % of students exhibiting entrepreneurial competences;

⁷³ Interview (e-mail) with Bart De Geeter, Syntra Vlaanderen, 25 March 2011.

⁷⁴ Ibid.

⁷⁵ Effecto - Op weg naar effectief ondernemerschapsonderwijs in Vlaanderen, Hans Crijns, Wouter Van den Berghe, Jan Lepoutre, Olivier Tilleuil, 100 p., 2009

- % of students who became interested in becoming an entrepreneur due to school studies;
- % of students considering self-employment as a career;
- % of students (over 14) who are offered work based vocational learning;
- Ratio of male to female engagement with EE;
- % of working age population who are seeking to establish a business within 3 years;
- % of school leavers who believe they have the skills/ knowledge required to start up a business.⁷⁶

It must be noted though, that the scope of the study exclusively comprises schools that took part in entrepreneurship education initiatives and therefore comparison with schools that did not take part on EE initiatives is not possible and the data only relates to the study sample. However some conclusions in relation to the regional total can be drawn (e.g. the number of institutions taking part in EE can be compared to the total number of institutions).

A1.3.4 Monitoring of the core activities of Syntra

The Syntra organisation monitors its core activities, such as the delivery of entrepreneurship education in form of a knowledge-based module for business starters and students. In Flanders, written proof of the acquisition of basic business knowledge is required for everybody who wants to start up a business. Without such a degree, permission is not granted.

The following indicators are monitored on Output/Outcome level:

- % of students gaining a qualification in EE;
- % of students who start up a business after 3 years of EE completion.⁷⁷

A1.3.5 Project evaluations

Syntra, the head organization for most Flemish entrepreneurship education initiatives, executes a biannual monitoring on its projects. Teachers, students and VET-students reached by the initiatives are surveyed, and progress against the projects tasks monitored.

Competento,⁷⁸ a website that compiles information and material for entrepreneurship education in primary and secondary schools, is also monitored. Information collated includes the website visitors, and download figures on instructional material provided. However, neither a systematic synopsis nor a summary of the figures collected by the different project monitoring activities is undertaken. The data is mainly used as an internal steering instrument. External questions for data or data compilations are received occasionally from projects or academic researchers. Some of the data (project evaluations) is published on the Competento website.⁷⁹

Some of the project monitoring figures (e.g. the outreaches of Proleron, a teacher training project that operates throughout the whole of Flanders) can build the basis for an estimate about the total number of teachers who received training on entrepreneurship education. Other figures however cannot serve as the basis for far-reaching conclusions because the projects are too small or have a limited target group which would hinder extrapolation to wider populations.

Two instruments for the self-evaluation of personal entrepreneurial competences have been developed by Syntra-projects: the 'O3-magnifying glass' and the 'ENTRE-mirror'. Both instruments were available as online-tools on the Competento website, but are no longer accessible. The number of people who completed the tests was monitored however, but there has been no evaluation or compilation of the results.

⁷⁶ Interview (e-mail) with Bart De Geeter, Syntra Vlaanderen, 25 March 2011.

⁷⁷ Interview (e-mail) with Bart De Geeter, Syntra Vlaanderen, 25 March 2011.

⁷⁸ <http://www.competento.be/>

⁷⁹ Interview (e-mail) with Bart De Geeter, Syntra Vlaanderen, 23 March 2011.

On the basis of project monitoring in Flanders, data collected feeds into a regional compilation of data relating to the following indicators:

- % of students engaging in entrepreneurial activity;
- % of students gaining a qualification in EE;
- % of students who start up a business after 3 years of EE completion.⁸⁰

However data collection remains partial due to the limited scope of project monitoring and a lack of systematic data collation in some instances.

A1.4 Conclusion: Indicators against logic model

The mapping has shown that in Flanders, a variety of indicators are monitored.

Seven indicators related to the impact of entrepreneurship education on a global level are annually gathered and updated for the Global Entrepreneurship Monitor. At the regional level, the Departments of Education and Economy collect data for five more indicators.

The Effecto report undertook a survey compiling the effects of several projects for students in secondary school with differing aims and outreach. The report delivered data concerning the output and results of the combined short-term efforts in a specific period of time (school year 2008-2009) which feed into ten more indicators mostly at the Output and Outcome level.

Syntra also undertakes considerable efforts to collect data concerning their core activities and combine them with data from project monitoring on activities, their outreach, output and results with regard to their specific tasks (e.g. impulses for teacher training, organising a field trip, an internship, a business plan competition etc.).

The Effecto report, which allows for conclusions to be drawn on the basis of the outcome and results of 21 initiatives for students in secondary schools, provides a significant contribution to the systematic monitoring of entrepreneurship education at the regional level.

However, conclusions based on this data should be seen in the light of the following boundaries:

- The measures taken are relatively new (as of 2006/2007). Short-term impacts can and have been measured, but long-term effects remain unknown;
- The measures mainly address students. Effects on adults (apart from teachers) are not included; and
- There is no national framework of data collection and data administration in place.

Nevertheless, the monitoring of data concerning the impact of entrepreneurship education in Flanders is quite advanced.

Table A1.1 Indicators identified in Belgium (Flanders)

Indicator description	Method and frequency of collection	Data source	Strength	Weaknesses
Activity				
% of teachers receiving EE training at pre-primary, primary, secondary or HE/VET levels	Singular survey school year 2008/2009, project monitoring	Effecto/Osso	In-depth survey based on specific defined conditions	Limited scope of study (institutions – teachers and students - taking part on EE measures) – results not valid for regional total
Proportion of EE activity delivered	Singular survey school year	Effecto	In-depth survey based on specific	Limited scope of study (institutions

⁸⁰ Ibid.

Indicator description	Method and frequency of collection	Data source	Strength	Weaknesses
at regional or local levels	2008/2009, project monitoring		defined conditions	– teachers and students - taking part on EE measures) – results not valid for regional total
Output				
% of students receiving EE (collated at pre-primary and early years, primary education, secondary education, VET or HE levels)	Singular survey school year 2008/2009, project monitoring	Effecto	In-depth survey based on specific defined conditions	Limited scope of study (institutions – teachers and students - taking part on EE measures) – results not valid for regional total
% of students receiving EE as part of compulsory studies	regularly	Department Education	unknown	Unknown
Outcome				
% of students exhibiting entrepreneurial competences	Singular survey school year 2008/2009	Effecto	In-depth survey based on specific defined conditions	Limited scope of study (institutions – teachers and students - taking part on EE measures) – results not valid for regional total
% of students who became interested in becoming an entrepreneur due to school studies	Singular survey school year 2008/2009	Effecto	In-depth survey based on specific defined conditions	Limited scope of study (institutions – teachers and students - taking part on EE measures) – results not valid for regional total
% of students engaging in entrepreneurial activity	singularly	Project monitoring	In-depth survey based on specific defined conditions	Scope limited to project outreach
% of students considering self-employment as a career	Singular survey school year 2008/2009, project monitoring	Effecto	In-depth survey based on specific defined conditions	Limited scope of study (institutions – teachers and students - taking part on EE measures) – results not valid for regional total
% of students gaining a qualification in EE	regularly	Project monitoring, Syntra monitoring	unknown	unknown
Ratio of male to female	Singular survey school year	Effecto	In-depth survey based on specific	Limited scope of study (institutions

Indicator description	Method and frequency of collection	Data source	Strength	Weaknesses
engagement with EE	2008/2009		defined conditions	– teachers and students - taking part on EE measures) – results not valid for regional total
% of working age population who are seeking to establish a business within 3 years	Effecto: Singular survey school year 2008/2009 GEM: annually	Effecto, GEM	Effecto: In-depth survey based on specific defined conditions, GEM: global comparativeness	Effecto: Limited scope of study (institutions – teachers and students - taking part on EE measures) – results not valid for regional total
% of school leavers who believe they have the skills/ knowledge required to start up a business	Singular survey school year 2008/2009, project monitoring	Effecto	In-depth survey based on specific defined conditions	Limited scope of study (institutions – teachers and students - taking part on EE measures) – results not valid for regional total
% of working age population (18 – 64) who have received EE	annually	GEM	Global comparativeness	Unspecific on preconditions
Impact				
% of population who would rather be self-employed	annually	GEM	Global comparativeness	Unspecific on preconditions
% of total population with positive attitude towards entrepreneurship	annually	GEM	Global comparativeness	Unspecific on preconditions
% of students who start up a business after 3 years of EE completion	Singularly / regularly	Project monitoring, Syntra monitoring*	unknown	Unknown
% of under 25s who have started their own business	annually	GEM, Department of Economy	Global comparativeness	Unspecific on preconditions
% of working age population (18-64) who are self-employed	annually	Department of Economy, GEM	Global comparativeness	Unspecific on preconditions
Rate of new firm formation	annually	Department of Economy, GEM	Global comparativeness	Unspecific on preconditions

A1.5 Future developments

Data for the Global Entrepreneurship monitoring is collected and updated every year.

It is not known whether it is intended to repeat or update the Effecto study on a regular basis. Syntra, the main head organisation for projects and initiatives, would like to do more in terms of evaluation and data collection, but due to a lack of resources and limited access to data, this has not yet been possible.⁸¹

⁸¹ Interview (e-mail) with Bart De Geeter, Syntra Vlaanderen, 23 March 2011

Annex 2 Denmark

A2.1 Introduction

Education in Denmark is centralised with all educational strategy and curriculum centrally determined and monitored by the Ministry of Education. The Danish school system comprises of three educational levels: primary and lower secondary school (*grundskolen*) for ages 7-16, upper-secondary school (*ungdomsskolen*) for ages 16-19 and higher education (*de videregående skoler*).⁸² The curriculum is national based and monitored by the Ministry of Education.

Primary and lower-secondary schools are compulsory and consist of two main types of schools: 'public school' (*folkeskole*) which is attended by 88% of Danish schoolchildren in Denmark and 'private school' (*privatskole*) that are attended by 12 % of the schoolchildren. Upper secondary education consists of courses that prepare students for higher education (i.e. universities) and vocational training. There are four main educational types that prepare students for higher education⁸³: Gymnasium (STX), Higher Preparatory Examination (HF), Higher Technical Examination Programme (HTX) and Higher Commercial Examination Programme (HHX), of which the gymnasium is the most common.

Although schools are self-governing institutions, they are funded by grants from the Ministry of Education and operate according to rules and guidance issued by the Ministry. The schools themselves decide on the method and quality of assessment, as long as it is within the confines of guidance. The Ministry formulates all written examination questions, with certain examinations compulsory for all pupils in the education programme. The schools also document performance on each subject and are obliged to supply this information to the Ministry of Education, who centrally supervise school implementation of education policy and programmes.

A2.2 Strategy for Education and Training in Entrepreneurship

In 2001, Denmark introduced and implemented a number of policies to strengthen entrepreneurship education; however, subsequent analysis of these efforts showed that Denmark was still behind other countries in terms of entrepreneurship education.

By 2006, Denmark outlined a renewed set of objectives in a new and more proactive strategy⁸⁴ that aimed to increase the number of high-growth entrepreneurs in Denmark and increase the innovation in Danish businesses and teaching institutions. Moreover, the Danish Government's goal is that, by 2015, Denmark will be one of the world's leading countries in terms of the number of high-growth start-up companies.⁸⁵ As part of this strategy, a new proactive approach has been taken towards the Danish educational system. In 2009, Denmark published a 'Strategy for Education and Training in Entrepreneurship'⁸⁶ which introduced a national framework for how best to educate a generation of entrepreneurial-minded, future managers that will achieve the objectives set out in the strategy from 2006. This strategy consists of three main actions:

- Set entrepreneurial teaching objectives at all three main educational levels: primary, upper-secondary and higher education;
- Gather all work in the area of entrepreneurship education under one institutional player, the Foundation for Entrepreneurship; and

⁸² The Ministry of Education: Overview of Danish Education System <http://www.eng.uvm.dk/Uddannelse/>

⁸³ The Ministry of Education: Overview of Danish Education System <http://www.eng.uvm.dk/Uddannelse/>

⁸⁴ Government Strategy for Denmark in Global Economy (2006) <http://www.globalisering.dk/multimedia/Globalisering.pdf>

⁸⁵ Interview (by phone) with Ms Charlotte Romlund-Hansen, 24 March 2011

⁸⁶ Strategy for Education and Training in Entrepreneurship (2009) <http://en.fi.dk/publications/2010/strategy-for-education-and-training-in-entrepreneurship/strategy-for-education-and-training-in-entrepreneurship-pdf>

- Create a Partnership for Education and Training between the 4 main departments: the Ministry of Culture, the Ministry of Science, the Technology and Innovation, the Ministry of Education and the Ministry of Economic and Business Affairs.⁸⁷

The 2009 Strategy paper made entrepreneurship education compulsory across educational levels and schools, thus incorporating it into the curriculum. However, one of the main challenges was to make entrepreneurship education in schools mandatory and to get the educators to carry out the strategy. This challenge has been overcome through the working relationship between the Partnership for Education and Training and the Foundation for Entrepreneurship.

The main objectives of entrepreneurship education in Denmark are outlined in the Education and Training in Entrepreneurship strategy, namely:

- To give pupils and students an introduction to entrepreneurial thinking;
- To develop pupils' and students' knowledge of entrepreneurship; and
- To develop the ability of pupils and students to act entrepreneurially.

Objectives vary across the educational systems, while there is a large focus on innovative thinking through play and the development of independence at the primary school level, objectives in the upper-secondary education include assessment of entrepreneurial skills through examination, but also opportunities for talented students to develop their own projects. However, the main challenges to the framework are the monitoring of objectives, particularly because the objectives are more rounded skills in entrepreneurial minded behaviour.

A2.3 Indicator Mapping: Indicators collected against logic model

Due to a centralised educational system, Denmark has been able to monitor the progress of entrepreneurship education in schools through a single monitoring framework and measure the objective set out in the Strategy for Education and Training in Entrepreneurship. To collect and identify indicators in Denmark, the following data and documents have been screened and analysed:

- Entrepreneurship Index 2010;
- Entrepreneurial Education Strategy;
- Ministry of Education – Education Statistics;
- The Danish Foundation for Entrepreneurship – Young Enterprise Impact of Entrepreneurship Education in Denmark;
- Danish Companies and Commerce Agency The Central Business Register (CVR) statistics;
- Statistics Denmark; and
- Global Entrepreneurship Monitor report 2009.

A2.3.1 Entrepreneurship Index 2010

The Entrepreneurship Index⁸⁸ is based on data from a number of OECD countries and measures the state of entrepreneurship of Denmark. It allows monitoring of the country's goals and objectives to become one of the leading countries in number of high-growth start-up businesses. The following indicators help to measure progress of entrepreneurship education in Danish schools:

- Entrepreneurship Framework; and
- % of working population (18-64) who have received EE.

⁸⁷ Interview (by phone) with Charlotte Holm-Billund, 24 March 2011

⁸⁸ Entrepreneurship Index 2010 (currently only 2009 version available online)

http://www.ebst.dk/publikationer/ivaerksaettere/2009_Entrepreneurship_Index/978-87-92518-37-8.pdf

A2.3.2 Ministry of Education – Education Statistics

Education statistics⁸⁹ in Denmark are collected in a way that schools from local authorities gather and supply data on students' performances and subject choices to the Ministry of Education. This enables the government to monitor the entrepreneurship education using the following indicators:

- % teachers receiving EE training at various educational levels.

A2.3.3 The Danish Foundation for Entrepreneurship – Young Enterprise Impact of Entrepreneurship Education in Denmark study

The Danish Foundation for Entrepreneurship was established by the Danish government as part of the national strategy to improve entrepreneurship education in Denmark. The foundation is a knowledge centre and service organisation that supports educational institutions in implementing government objectives on entrepreneurship education. The following indicators were identified as part of the Young Enterprise progress assessment⁹⁰:

- % of institutions with EE integrated into the institution;
- % of institutions with EE integrated into the (core) curriculum; and
- % students receiving EE.

A2.3.4 Danish Companies and Commerce Agency - The Central Business Register (CVR) statistics

The Central Business Register (CVR)⁹¹ is a Danish central agency that collects primary data on private and public businesses in the country. It provides annual data on following indicators that measure the effect on entrepreneurship education in Denmark:

- Rate of new firm formation.

A2.3.5 Statistics Denmark (Labour Market data)

Statistics Denmark⁹² is the country's statistical agency that collects data on most aspects of public life. Indicators that help measure progress of entrepreneurship education in Danish schools, include:

- % of people who are self-employed.

A2.3.6 Global Entrepreneurship Monitor

The Global Entrepreneurship Monitor⁹³ examined the attitudes towards entrepreneurship in its 2009 report. This included an indicator that is of a particular interest when measuring the outcomes of entrepreneurship education:

- % of population who would rather be self employed.

A2.4 Conclusion: Indicators against logic model

The mapping has shown that in Denmark, the majority of indicators that measure entrepreneurship education are run by government agencies and bodies. There is currently ongoing work by Young Enterprise to create a monitoring framework that will measure the progress of entrepreneurship education in Sweden⁹⁴.

⁸⁹ Ministry of Education – Education Statistics <http://www.uvm.dk/service/Statistik.aspx>

⁹⁰ The Danish Foundation for Entrepreneurship data as published in Impact of Entrepreneurship Education in Denmark (2010) http://www.ffe-ye.dk/media/1521/impact_of_entrepreneurship_education_in_dk.pdf

⁹¹ The Central Business Register database can be found on the following website <http://www.cvr.dk/Site/Forms/CMS/DisplayPage.aspx?pageid=21>

⁹² Statistic Denmark data on the Labour Market (2010) http://www.dst.dk/HomeUK/Statistics/Key_indicators/Labour_market.aspx

⁹³ Global Entrepreneurship Model (2009) <http://www.strath.ac.uk/huntercentre/research/gem/>

⁹⁴ Interview (by phone) with Dr Christian Vintergaard and Ms Lene Vestergaard, 23 March 2011

The indicators collected in this study have derived from a number of sources and have been extracted from a number of publication as well as interviews with representatives in Denmark. The indicators are to a large extent matched to the stages in the logic model.

A review of the data suggests that:

- Current data comes from a number of sources; however, Denmark has an agency in place that collects all indicators.
- Current indicators have provided a foundation for a new, monitoring framework that is currently in development.
- There is still a need for a better assessment of the extent to which skills are acquired and to what extent these are applied after the completion of education.

Table A2.1 Indicators identified in Denmark

Indicator	Data collection Methods / frequency	Data Sources	Strengths	Weaknesses
Input				
Entrepreneurship Framework	A set of 31 indicators and policy areas that measure the state of entrepreneurship in Denmark. Annually	Entrepreneurship Index 2010	Wide picture of a number of indicators, rich data	Needs a better correlation to EE
Entrepreneurial Education Strategy	Analysis of the state of entrepreneurship education in Danish legislation. Desk research	Danish Ministry of Education; Culture; Science; Economic and Business Affairs	Sets out a wide EE strategy objectives across education systems	Leaves room for interpretation and difficult to quality check
Operations				
% teachers receiving EE training at various educational levels	Teacher training is embedded in curriculum for teachers	Ministry of Education – Education Statistics	Provides necessary skills to teach EE	Difficult to see how well teachers communicate EE to students
% of institutions with EE integrated into the institution	EE participation is compulsory for all institutions	The Danish Foundation for Entrepreneurship – Young Enterprise	Good overview of the state of education across educational levels and schools	Little evidence to show the EE education in other subjects where it is not the main focus
% of institutions with EE integrated into the (core) curriculum	EE participation is compulsory for all institutions	The Danish Foundation for Entrepreneurship – Young Enterprise	Good overview of the state of education across educational levels and schools	Little evidence of other EE activities in other subjects.
Outputs				
% students receiving EE	Collection of no. of E students at all levels in the educational system.	The Danish Foundation for Entrepreneurship – Young Enterprise	Thorough and well documented overview of participation in EE	Model for identifying EE at primary and secondary levels has not yet been developed and tested
Outcome				
% of working population (18-64) who have received EE	Annually	Entrepreneurship Index 2010	Allows international comparison	Interviews included experts only.

Indicator	Data collection Methods / frequency	Data Sources	Strengths	Weaknesses
% students gaining a qualification in EE	Schools send grades in EE subjects to Ministry of Education	Ministry of Education	Allows international comparison	Grades measure only one type of knowledge, but not practical application of EE
Impact				
% of population who would rather be self employed	GEM 2009 Global report + Gallup, Flash Eurobarometer no. 192	Entrepreneurship Index 2010	Solid measure of intentions	Better analysis required as the numbers have changed with economic recession
Rate of new firm formation	Annually	Danish Companies and Commerce Agency	Allows comparison between regions/years/countries	Need a better track of how sustainable the businesses are
% of people who are self-employed	Annually	Danish Companies and Commerce Agency/ Statistics Denmark: Labour force statistics	Allows comparison between regions/years/countries	Need a better track of how sustainable the businesses are

A2.5 Future developments

In 2011, the Danish Foundation for Entrepreneurship – Young Enterprise is aiming to start a development of a framework model that will measure not only the students' intention to engage in entrepreneurial behaviour, but the actual behaviour itself⁹⁵. This will enable a more precise and indicative measurement of the state of entrepreneurship education system in Denmark, thus allowing for better future planning and new government strategies.

⁹⁵ The Danish Foundation for Entrepreneurship Young Foundation – Impact assessment of entrepreneurship education in Denmark <http://www.ffe-ye.dk/videncenter/effektmaaling-af-undervisning.aspx>

Annex 3 Finland

A3.1 Introduction

Entrepreneurship education in Finland is characterised by a number of developments. A strategy for entrepreneurship has been in existence in Finland since the nineties. The latest strategy was prepared in collaboration with key stakeholders; from national, regional and local authorities, to NGOs, social partners and the representatives of entrepreneurs, education providers and teachers. The strategy identifies guidelines and priorities for the development of entrepreneurship education in the country but does not include quantitative indicators or targets. The Finnish education system is characterised by a high degree of decentralisation which means that local authorities and individual schools and training institutions have a great deal of freedom in the implementation of the national curricula.

Despite many positive and ground-breaking developments in the field of entrepreneurship education, especially over the last decade, there is still much room for improvement in the practical implementation of entrepreneurship education in Finland. For example, not all students currently have a chance to benefit from practical learning opportunities (i.e. the method of instruction is not regulated and teachers themselves are charged with deciding upon the method they use to achieve the objectives defined in the curriculum). Furthermore, a greater investment is needed in teacher's education and in ensuring that they have the necessary skills and competences to promote entrepreneurial skills and attitudes. Also, policy makers have traditionally been more positive towards entrepreneurship education than head teachers and teachers⁹⁶. However, Entrepreneurship Education is now a part of the core curricula for primary, secondary and vocational education.

There is no comprehensive structure in place which would allow a systematic monitoring of entrepreneurship education in Finland. This is due to a number of factors: the decentralisation of the education system, the tradition of the country (which is characterised by a high degree of trust on education providers and teachers by the society) and the lack of a national system of external evaluation/school inspection (with a focus on self-evaluation instead). Instead, national surveys would have to be introduced to monitor implementation. Entrepreneurship education is however a part of the evaluation activities of the Finnish Education Evaluation Council and the Finnish National Board of Education. Some of their evaluations have touched upon entrepreneurship education though it has not yet been the primary topic of evaluation.

There is no national framework for monitoring and evaluating entrepreneurship education. No specific indicators have been created to monitor entrepreneurship education, however both international and national surveys into entrepreneurship are monitored and their results are taken into account in policy making. These studies however typically relate to new business formation and entrepreneurial action and attitudes rather than on entrepreneurship education. The number of students obtaining a specialist or further VET qualification in entrepreneurship is also monitored. There are no plans to introduce comprehensive monitoring / evaluation systems specifically on entrepreneurship education and currently there are neither plans nor funds to carry out regular studies into the topic. This means that it is not likely that further indicators would be developed in the near future.

These findings are discussed below in greater detail.

A3.2 Strategy for entrepreneurship education

There has been a real focus on entrepreneurship in Finland since the mid-nineties when the Decade of Entrepreneurship was launched. The latest strategy on entrepreneurship education in the country is known as "Guidelines for entrepreneurship education" and it

⁹⁶ COPIE 2: Community of Practice on Inclusive Entrepreneurship (2011) *The links between entrepreneurship education and ESF policy in Finland*.

identifies the rationale for the development of entrepreneurship education in the country and the objectives and priorities for the future (2015)⁹⁷.

The guidelines were developed by education and employment authorities together with social partners, local and regional representatives, youth NGOs, organisations specialised in the promotion of entrepreneurship and entrepreneurship education, academics, teachers and trainers⁹⁸. The guidelines do not include statistics on the current state of affairs or quantitative indicators to monitor the objectives identified for the development of entrepreneurship education in the country.

A3.3 Situation today: entrepreneurship education at different levels of education⁹⁹

The aim of this chapter is to provide a brief overview of entrepreneurship education at different levels of education.

A3.3.1 Early childhood education

Early childhood education and care is recognised as an important starting point in Finland for the development of creativity, innovation and enterprising attitude. Its role has been highlighted in the national strategy for entrepreneurship education (the national guidelines for the development of entrepreneurship education). The strategy promotes the development of action-based, child-centred culture in early childhood education which encourages children to use their own initiative.

A3.3.2 Primary and non-vocational secondary education ('basic' education)

The curricula for primary, lower secondary and non-vocational upper secondary education have been revised over the past decade. These revisions have led to a greater focus on entrepreneurship education in the core curricula for different levels of education:

- The core curriculum for basic education (primary and lower secondary education) was revised between 2004 and 2006; and,
- The core curriculum for non-vocational upper-secondary education has been gradually revised since 2005.

This means that the national core curricula for primary, lower secondary and upper secondary (non-vocational) education now includes a cross-curricular thematic subject called 'active citizenship and entrepreneurship'. This has been in place since 2003-2006, dependent on the level of education.

In practice, the inclusion of 'active citizenship and entrepreneurship' as a cross-thematic topic in the curricula for different levels of education means that these two themes should be discussed as part of all core subjects and should be promoted through events and non-curricular activities. Local authorities and schools have a freedom to apply this in the way they see most appropriate, depending on the location, age of students, etc.

In basic education, entrepreneurship education is included in school activities through a promotion of creativity, innovation and problem solving skills, closer collaboration between schools and local community and business organisations, familiarisation of students and

⁹⁷

http://www.minedu.fi/OPM/Julkaisut/2009/Yrittajiyyskasvatuksen_suuntaviivat.html?lang=en&extra_locale=en

⁹⁸ The stakeholders involved in the design and development of the guidelines were the Ministry of Employment and the Economy, the Ministry of Agriculture and Forestry, the National Board of Education, the State Provincial Office of Southern Finland, the Central Chamber of Commerce, Confederation of Finnish Industries (EK), Federation of Finnish Enterprises, Confederation of Agricultural Producers (MTK), Association of Finnish Local and Regional Authorities, Trade Union of Education in Finland (OAJ), Economic Information Office, Finnish 4H Federation, Centre for School Clubs, Junior Achievement – Young Enterprise Finland, Finnish Enterprise Agency, Junior Chambers of Commerce, University of Oulu/Kajaani Department of Teacher Education, University of Turku/teacher training school and Lappeenranta University of Technology

⁹⁹ Note: Higher education is not discussed here as it is not a focus of this study.

teachers in the world of work (including organised work placements), events, after-school clubs, student association activities, etc.

At the upper secondary level, entrepreneurship education is more focussed on the development of practical skills (i.e. through mini and virtual company exercises) and activities with the local community.

A3.3.3 Initial Vocational Education and Training (IVET); young people and adults

The core curricula for IVET state that all IVET qualifications include, at least:

- 5 credits (weeks of study) of entrepreneurship and business studies;
- 20 credits (weeks of study) of on-the-job learning at a workplace; and
- 1.5 credits of career guidance and student counselling. The objective of the career guidance unit is, among others, to offer information on occupations, entrepreneurship and employment opportunities.

A3.3.4 Further and specialist VET qualifications

Adults have an opportunity also to study towards further and specialist VET qualifications¹⁰⁰. The core curricula for further and specialist VET qualifications include entrepreneurship either as a compulsory or elective subject.

The VET system also includes further and specialist entrepreneurship qualifications:

- The Further VET Qualification for Entrepreneurs is intended for people who are starting their career in business or are planning to set up their own business.
- The Specialist Qualification in Management is aimed at experienced entrepreneurs who want to further develop their business strategy, managerial skills or specific areas of their business.

A3.4 Indicator Mapping: Indicators collected against logic model

There are not many indicators in place to monitor entrepreneurship education in Finland; whilst priorities have been established for the development of EE, they are not accompanied by quantitative targets.

The underdeveloped framework for (quantitative) indicators is largely due to the difficulties in obtaining such data and, associated with this, the lack of funding to carry out national surveys to collect data.

Obtaining quantitative monitoring information on entrepreneurship education in Finland is difficult for a number of reasons, which include:

- The Finnish education system is decentralised with municipalities and individual schools and training institutions having the freedom to apply the national framework (national curriculum). They are not required to report to national authorities of the ways in which they apply the national curriculum in their school.
- The lack of a national system of external evaluation / school inspection in Finland. Such a system of inspection could allow a systematic collection of data on topics like entrepreneurship education. In Finland, the national system of school inspection was abolished some 20 years ago. Today the system of evaluation is based on self-evaluation, which the majority of schools and training institutions undertake, though it is voluntary. Municipalities (school owners) are also legally obliged to evaluate their education provision but the results of these evaluations are not monitored by the national authorities.

Entrepreneurship education is a part of the evaluation activities of the Finnish Education Evaluation Council and the Finnish National Board of Education. The goal of the former

¹⁰⁰ Through the national competence-based education system.

is to carry out national evaluations into different aspects of the education system while latter focuses on evaluations of learning outcomes. Some of their evaluations have touched upon entrepreneurship education though it has not yet been the primary topic of evaluation.

- There is a culture of trust in the education sphere. Individual schools and training institutions are trusted to follow the national curriculum and therefore integrate entrepreneurship in the curricula and non-curricula school activities. This means that there is no real political or 'societal' pressure for authorities to monitor the extent to which schools follow the curriculum. There is also a great deal of trust that 'guidelines for entrepreneurship education' are locally implemented.

For these reasons, stakeholders have not seen a great need to invest in continuous, national surveys / studies that would reveal information the way in which entrepreneurship education is implemented. However, various international and national studies and survey shed some light into entrepreneurial education activity in Finland (see the following chapters). The number of (further and specialist) VET qualifications on entrepreneurship are also monitored.

A3.4.1 Statistics on further and specialist VET qualifications on entrepreneurship

As explained earlier in the case study, the VET system includes further and specialist entrepreneurship qualifications:

- The Further VET Qualification for Entrepreneurs is intended for people who are starting their career in business or are planning to set up their own business.
- The Specialist Qualification in Management is aimed at experienced entrepreneurs who want to further their educational attainment.

The number of students obtaining these qualifications (full and partial) is monitored by the National Board of Education¹⁰¹. The results are published annually.

A3.4.2 Studies of Ministry of Education on entrepreneurship education

The Ministry of Education has carried out two surveys among education professionals on entrepreneurship education in compulsory education (primary and lower secondary education). These were commissioned during the curriculum reforms of 2004-2007 which saw 'active citizenship and entrepreneurship' being integrated in the core curricula for primary, lower secondary and upper secondary general education. The first study¹⁰² was based on the results of a survey among 478 education professionals employed in 43 municipalities.¹⁰³ The second study on Curriculum reform and entrepreneurship education¹⁰⁴ was based on survey responses from 443 individuals working in the education sphere in 42 municipalities.

Both surveys included a sample of teachers, guidance counsellors and head teachers from schools of compulsory education and education officials from municipalities. The goal of these surveys was to review how the curriculum reform which integrated 'active citizenship and entrepreneurship' as a cross-thematic subject in the curricula for primary and secondary education was being implemented in practice. They also sought to 'measure' the views of education professionals about entrepreneurship education.

The first study, for example, included some 110 questions measuring the opinions of education professionals on the importance of entrepreneurship education, the commitment of school staff in implementing entrepreneurship education, etc.

¹⁰¹ http://www.oph.fi/download/131649_VALMIS_Koulutuksen_maaralliset_indikaattorit_2010.pdf

¹⁰² Seikkula-Leino, Jaana (2006) [Perusopetuksen opetussuunnitelmaudistus 2004-2006 ja yrittäjyyskasvatuksen kehittäminen](#); Paikallinen opetussuunnitelmatyö yrittäjyyskasvatuksen näkökulmasta. Opetusministeriön julkaisuja 2006:22.

¹⁰³ There are 336 municipalities in Finland in 2011.

¹⁰⁴ Seikkula-Leino, Jaana (2007) [Opetussuunnitelmaudistus ja yrittäjyyskasvatuksen toteuttaminen](#). Opetusministeriön julkaisuja 2007:28.

Importantly, these surveys also measured, for example:

- % of education professionals or their immediate family members with business experience
- % of education professionals having participated in training on entrepreneurship education
- % of teachers who have taught entrepreneurship over the past academic year
- % of teachers who were planning to strengthen their entrepreneurship education offer in the future
- % of the representatives of entrepreneurs who have been involved in supporting entrepreneurship education in schools over the past year
- The views of education professionals on the level of their entrepreneurship education knowledge
- Awareness of education professionals about the importance and value of entrepreneurship education
- Awareness of education professionals about entrepreneurship education pedagogies
- The views of education professionals on the resources available for entrepreneurship education
- The views of education professionals about the challenges linked to the implementation of entrepreneurship education
- Etc.

In 2004, the Ministry of Education commissioned a Youth Barometer survey on entrepreneurial attitudes of young people¹⁰⁵. The report is full of measurements of young people views about entrepreneurship.

As explained earlier, the Finnish Education Evaluation Council serves as an expert body for the Ministry of Education¹⁰⁶. The evaluations carried out to date by the Council have touched upon entrepreneurship education but have not included systematic or comprehensive assessments of the topic yet. At the moment there are no plans to commission such assessments.

A3.4.3 The Federation of Finnish Enterprises

The Federation of Finnish Enterprises is very active in the field of entrepreneurship education. It provides training for entrepreneurs, is involved in designing national policies into entrepreneurship education and carries out regular surveys, which deal with entrepreneurship education.

The Federation gathers information on a systematic basis on the following indicators¹⁰⁷:

- % of entrepreneurs by the level of education (also broken down by age, by gender, by the age of the business and in comparison to the education level of the general population)
 - % of young entrepreneurs (under 30 year olds) from all entrepreneurs
- Their regular surveys also review the views of entrepreneurs about the responsiveness of the education system to the needs of entrepreneurs¹⁰⁸:

- % of existing entrepreneurs who are of the opinion that entrepreneurship education is a part of the economic policy of their municipality (information has been gathered on an annual basis since 2004)¹⁰⁹

¹⁰⁵

http://www.minedu.fi/export/sites/default/OPM/Nuoriso/nuorisoasiain_neuvottelukunta/julkaisut/barometri/liitteet/barometri2004.pdf

¹⁰⁶ Sulonen, K. et al. (2010) [Esi- ja perusopetuksen opetussuunnitelmajärjestelmän toimivuus](#). Koulutuksen arviointineuvoston julkaisu 52.

¹⁰⁷ The membership register of the Federation

¹⁰⁸ http://www.yrittajat.fi/File/bcc13cb8-593a-4f1b-9002-23d3a69827f2/ELPO_mittaristokysely_2010.pdf

- % of existing entrepreneurs who are of the opinion that entrepreneurs have sufficient opportunities to access to training (information has been gathered on an annual basis since 2004)
- % of existing entrepreneurs who believe that local education and training providers put sufficient effort into the promotion of entrepreneurship (information has been gathered on an annual basis since 2004)
- % of existing entrepreneurs who believe that there is sufficient collaboration in their municipality between education and training providers and entrepreneurs (information has been gathered on an annual basis since 2004)

A3.4.4 Global Entrepreneurship Monitor

The Global Entrepreneurship Monitor¹¹⁰ statistics are not used to monitor entrepreneurship education as such, but attitudes towards entrepreneurship. Such statistics are monitored particularly closely by the Ministry of Employment and the Economy, business associations and associations representing entrepreneurship.

Some of the indicators have relevance for entrepreneurship education. These include:

- % of individuals with entrepreneurial intentions (in the next 3 years)
- % of new business owners by education level
- % of established business owners by education level
- % of individuals with perceived opportunities for starting a business
- % of individuals with perceived capabilities for starting a business
- % of the adult working-age population (18–64 years) that have received training in starting a business
- % of school based training in starting a business
- % of non-school based training in starting a business
- % of high ratings about the quality of school based entrepreneurship education and training by national experts on entrepreneurship education
- % of high ratings about the quality of non-school based entrepreneurship education and training by national experts on entrepreneurship education

A3.4.5 National statistics office

Statistics Finland gathers many statistics that are related to entrepreneurship education. These include, for example:

- % of new business formation (Business Register)
- % of working age population who are self-employed (Labour Force Survey)
- % of young entrepreneurs (15-34) from all entrepreneurs (Labour Force Survey)
- % of young people who are self-employed two years after graduation (Education statistics)
- The number of businesses, by sector (Business Register)
- The number of new businesses
- The number of self-employed, by gender (Labour Force Survey)

These statistics are collected quarterly or annually, depending on the indicator and data source.

A3.4.6 Young Enterprise Finland

Young Enterprise Finland participated in a one-off study in 2006/2007 investigating entrepreneurial aspirations of students having taken part in entrepreneurship education in schools and training institutions organised by Young Enterprise Finland. It measured, for example:

¹⁰⁹ http://www.yrittajat.fi/File/bcc13cb8-593a-4f1b-9002-23d3a69827f2/ELPO_mittaristokysely_2010.pdf

¹¹⁰ <http://www.gemconsortium.org/download/1305134936095/2009%20GEM%20Finland%20final.pdf>

- % of past participants in EE who have set up their own business
- % of participants in EE who have plans to set up their own business in the next 3 years
- % of participants in EE who think it is useful for the development of their entrepreneurial skills

A3.4.7 Entrepreneurship barometer

An entrepreneurship barometer was run in Finland for the first time in 2010. It was focussed on comparing the view of new entrepreneurs (entrepreneurs with a business less than five years old) with the views of the general population.

Some of the indicators include the following

- % of new entrepreneurs (less than 5 years) who think self-employment is an attractive career option
- % of general population who think self-employment is an attractive career option
- % of general population who are planning to set up their own business in the near future
- Reasons for starting up own business
- Etc.

A3.4.8 Flash Eurobarometer surveys on entrepreneurship

The Eurobarometer surveys have investigated the views of the general public about entrepreneurship / self-employment several times over the last decade¹¹¹. For Finland, information is available, for example,

- % of individuals who prefer a career as a self-employed rather than as a dependent employee (2000, 2004, 2007, 2009)
- % of individuals who 'desire' becoming self-employed within the next 5 years
- % of individuals who think it is feasible to become self-employed within the next 5 years
- Etc.

A3.4.9 Academic studies

The Finnish academia is very active around the topic of entrepreneurship education and many academic studies have been undertaken in recent years to research different aspects of entrepreneurship education. However, such reviews are typically driven by the interests of individual academics or departments at universities, rather than a result of government pressure or leadership to research this issue. Areas of recent interest have been entrepreneurship education pedagogies.

A3.4.10 Examples of project based approaches to develop indicators to measure entrepreneurship education

While there is no national framework of indicators that would allow a systematic and comprehensive monitoring of entrepreneurship education in the country, there are some individual projects which seek to further develop the availability of indicators. For example, the Measurement Tool for Entrepreneurship Education is a three-year ESF development project during which indicators and a related manual will be prepared for entrepreneurship education¹¹². The indicators are intended for primary education and will be modified for the purpose of secondary education where applicable. The indicators will be built to support the work of teachers, principals and decision-makers, and to guide entrepreneurship education.

A3.5 Conclusions: Indicators against the logic model

The mapping exercise has shown that although entrepreneurship education has been integrated in the curricula for all levels of education, from primary to secondary and VET

¹¹¹ http://ec.europa.eu/public_opinion/index_en.htm

¹¹² <http://developmentcentre.lut.fi/english.asp?show=yrittajiyyskasvatus>

schools, there is no comprehensive system in place to monitor the extent to which education and training institutions follow the curriculum in practice.

The national strategy for education has been carried out in collaboration with key partners and it identifies the development priorities for 2015. It however does not include quantifiable targets or baseline data against which progress could be measured.

Many organisations and authorities are active at carrying out studies into entrepreneurship and many of them also touch upon entrepreneurship education. However, dedicated studies into entrepreneurship education are rare and ad hoc by nature. Some regions and municipalities or groups of municipalities have also carried out more detailed studies into entrepreneurship education in their region but there is no framework to bring this information together in a comparable format at national level.

Most of the indicators linked to entrepreneurship tend to measure entrepreneurial aspirations and the rate of new business formation, rather than entrepreneurship education as such.

Table A3.1 Indicators identified in Finland

Indicator	Data collection Methods / frequency	Data Sources	Strengths	Weakness
Input				
EE Strategy Guidelines for entrepreneurship education (2009-2015)	Analysis of the state of EE at different levels of education: desk research and consultations with all key partners	Education and employment authorities, social partners, association representing entrepreneurs, local and regional authorities, NGOs, orgs promoting entrepreneurship and EE, academics, teachers and trainers	Sets out the guidelines and priorities for the development of EE Involvement and buy-in of all key stakeholders	Lack of (quantitative) indicators and baseline data
EE Action Plan Guidelines for entrepreneurship education (2009-2015).	Identification of priorities and objectives for the further development of EE	Education and employment authorities, social partners, association representing entrepreneurs, local and regional authorities, NGOs, orgs promoting entrepreneurship and EE, academics, teachers and trainers	Includes qualitative targets for 2015. Involvement and buy-in of all key stakeholders	Lack of quantitative targets and baseline data Responsibilities not allocated by priority
Operations				
The number of individuals studying towards a further VET qualification for entrepreneurs	Collected by the National Board of Education and Statistics Finland from E&T providers Annual	National Board of Education (database ROPTI)	Accurate statistics on the number of students	n.a.
The number of individuals studying towards a specialist VET qualification on entrepreneurship	Collected by the National Board of Education and Statistics Finland from E&T providers Annual	National Board of Education (database ROPTI)	Accurate statistics on the number of students	n.a.
% of education	Assessed in 2006	Ministry of Education	Target exists that	Limited

institutions at primary and secondary levels with EE integrated into the core curriculum	and 2007 through surveys commissioned by the Ministry of Education Ad hoc		100% of schools should integrated EE into the core curricular	sample No plans to carry out further surveys
% of education professionals in primary and lower secondary education having participated in training on EE	Assessed in 2006 and 2007 through surveys commissioned by the Ministry of Education Ad hoc	Ministry of Education	n.a.	Limited sample No plans to carry out further surveys
% of education professionals or their immediate family members with business experience (primarily and lower secondary education)	Assessed in 2006 and 2007 through surveys commissioned by the Ministry of Education Ad hoc	Ministry of Education	n.a.	Limited sample No plans to carry out further surveys
% of the representatives of entrepreneurs who have been involved in supporting EE in schools over the past year	Assessed in 2006 and 2007 through surveys commissioned by the Ministry of Education Ad hoc	Ministry of Education	n.a.	Limited sample No plans to carry out further surveys
Output				
% of teachers who have taught EE over the past academic year (primary and lower secondary education)	Assessed in 2006 and 2007 through surveys commissioned by the Ministry of Education Ad hoc	Ministry of Education	n.a.	Limited sample No plans to carry out further surveys
% of teachers who are planning to strengthen their EE offer in the future	Assessed in 2006 and 2007 through surveys commissioned by the Ministry of Education Ad hoc	Ministry of Education	n.a.	Limited sample No plans to carry out further surveys
Outcome				
The number of individuals obtaining a further VET qualification for entrepreneurs	Collected by the National Board of Education and Statistics Finland from E&T providers Annual	National Board of Education (database ROPTI)	Accurate statistics on the number of individuals having obtained a nationally recognised qualification on entrepreneurship	n.a.

The number of individuals obtaining a specialist VET qualification on entrepreneurship	Collected by the National Board of Education and Statistics Finland from E&T providers Annual	National Board of Education (database ROPTI)	Accurate statistics on the number of individuals having obtained a nationally recognised qualification on entrepreneurship	n.a.
% of existing entrepreneurs who believe that there is sufficient collaboration in their municipality between education and training providers and entrepreneurs	Surveys of entrepreneurs Annually since 2004	The Federation of Finnish Enterprises	n.a.	n.a.
% of young people who are self-employed two years after graduation	Education statistics Annual	Statistics Finland	n.a.	n.a.
% of past participants in EE who have set up their own business	One off survey of EE students in 2006/2007	Young Enterprise Finland	n.a.	One off survey
% of participants in EE who have plans to set up their own business in the next 3 years	One off survey of EE students in 2006/2007	Young Enterprise Finland	n.a.	One off survey
% of participants in EE who think that EE has been useful for the development of their entrepreneurial skills	One off survey of EE students in 2006/2007	Young Enterprise Finland	n.a.	One off survey
Impact				
% of entrepreneurs by education level (available also by age, by gender, by the age of the business and in comparison to the education level of the general population)	Membership registry Annual	The Federation of Finnish Enterprises	Timely	
% of young entrepreneurs (under 30 year olds) from all entrepreneurs	Membership registry Annual	The Federation of Finnish Enterprises	Accurate, timely	n.a.
% of entrepreneurs from all individuals in employment	Survey Quarterly	Labour Force Survey	n.a.	n.a.
% of new business formation	Statistics Finland	Business Register of Statistics Finland	n.a.	n.a.
% of working age population who are self-employed	Labour Force Survey Quarterly/annual	Statistics Finland	n.a.	n.a.

% of young entrepreneurs (15-34) from all entrepreneurs	Labour Force Survey Quarterly/annual	Statistics Finland	n.a.	n.a.
% of individuals who prefer a career as a self-employed rather than as a dependent employee	Surveys of general public 2000, 2004, 2007, 2009	Eurobarometer	n.a.	n.a.
% of individuals with plans to set up their own business from population who think self-employment is an attractive career option	Surveys	Measured, for example, the Entrepreneurship Barometer of Finland and EuroBarometer	n.a.	n.a.

A3.6 Future developments

There are no plans to develop a national framework to monitor and evaluation entrepreneurship education in Finland. This is due to the specificities of the Finnish education system characterised by:

- A high degree of decentralisation;
- A high level trust in the education providers and teachers to follow the national curricula and guidelines for education and entrepreneurship; and
- The prominence of self-evaluation as opposed to centrally driven external inspection/evaluation system of schools and training institutions.

These factors mean that there is no existing structure which could be easily used to gather systematic information on the take up and nature of entrepreneurship education in Finnish schools and training institutions.

There are no plans to dedicate funding for regular, national surveys of education and training providers either that would research the take up and nature of entrepreneurship education in sample schools.

Annex 4 Ireland

A4.1 Introduction

Entrepreneurship Education in Ireland is the responsibility of the Departments for Education and Skills (DES), and Enterprise, Trade and Innovation (DETI). The importance of Entrepreneurship was identified by the Goodbody Report in 2002 and included the inherent requirement for education as one element which could create the right conditions for entrepreneurship. In 2007, Forfás published “Towards a Developing an Entrepreneurship Strategy for Ireland” which set out how the government should act to boost entrepreneurship. A forum for discussion on establishing and debating a National Youth Entrepreneurship Strategy took place in April 2011. The Forum looked to develop both a vision and actions to form policy and strategy on youth entrepreneurship in Ireland over the coming years. This case study has been compiled solely on the basis of desk research as there was no response from researcher contact made to the DETI.

A4.2 Entrepreneurship Education Policy Context and Objectives

Education in Ireland is the responsibility of the Department of Education and Skills (DES); however entrepreneurship is a vital part of the activity covered by the Department of Enterprise, Trade and Innovation (DETI).

Students in Ireland must attend full time education from the age of 6 to 15 years.

A4.2.1 Entrepreneurship in Ireland, 2002

The importance of enterprise for Ireland was first considered by the Goodbody Report “*Entrepreneurship in Ireland*”¹¹³ published in 2002. The report, commissioned by Forfás, the National Competitiveness Council, Enterprise Ireland and the Department of Enterprise, Trade and Employment, sought to identify the key drivers that enable entrepreneurs to start up and grow business and create recommendations to optimise conditions for entrepreneurs. One of the study’s key conclusions was that relevant education could enable more entrepreneurship to be supported in Ireland as there was no real focus on entrepreneurship education at any level within the Irish education system¹¹⁴, and moreover that action was required to promote self employment as a viable option and to promote entrepreneurial competences. The study further recommended that a national level focus was required for the promotion of entrepreneurship through education and wider society. More explicitly, the study argued that key Irish Government departments should develop a national strategy for enterprise education.

In 2006, the Small Business Forum released the “*Small Business is Big Business*”¹¹⁵ report identifying a number of issues requiring action to enable SMEs to realise their full potential and provide maximum benefit to the Irish economy. One of the key challenges identified by the report was the lack of a coordinated national approach to encourage or support entrepreneurship or the development of entrepreneurship, and no specific programme of entrepreneurship education at any level within the Irish education system. The Forum recommended that the Government should adopt a national Entrepreneurship Policy to maximise the number of start ups through three key platforms of activity:

- stimulation of latent entrepreneurial potential, particularly among women and the immigrant community;
- reinforcing entrepreneurship in the education system; and,
- enhancing an entrepreneurship culture.

¹¹³ Goodbody Economic Consultants (2002) “Entrepreneurship in Ireland”
<http://www.goodbody.ie/aboutgoodbody/reports/Entrepreneurship%20in%20Ireland.pdf>

¹¹⁴ Goodbody Economic Consultants (2002) p.v

¹¹⁵ Small Business Forum (2006) “Small Business is Big Business: Report of the Small Business Forum”
http://www.forfas.ie/media/sbf060516_full_report_webopt.pdf

The forum identified that the key responsibility for an education policy lay with Departments of Education and Science, and Enterprise, Trade and Employment.

A4.2.2 Towards Developing an Entrepreneurship Policy for Ireland, 2007

Following the recommendations made by the Report of the Small Business Forum, the DETI asked Forfás¹¹⁶ to assist the development of an entrepreneurship policy document. The document set to establish the importance of entrepreneurship, and set a vision for Ireland to be “characterised by a strong entrepreneurial culture”.¹¹⁷ “Towards a Developing an Entrepreneurship Strategy for Ireland”¹¹⁸ set out a number of factors which would enable the vision to be achieved:

- “A pervasive spirit of entrepreneurship within Ireland whereby *the entrepreneurial impulse becomes embedded in the social ethos*;
- The aspiration to become an entrepreneur is a credible career option;
- The rate at which new businesses are started is appropriate to Ireland’s stage of economic development and is to the fore of the most entrepreneurial of the developed countries; and
- The maximum number of innovative businesses are being created, which have the potential for significant growth and wealth generation, and are being started by entrepreneurs who wish to realise that potential.”

As part of recommendations made by the vision statement, Forfás suggest the implementation of:

- a National Entrepreneurship Forum to champion entrepreneurship, celebrate achievements and recognise and monitor progress; and,
- An Annual Entrepreneurship Review to assemble indicators to inform the Forum.

As part of the report, they also consider the need to utilise the education system to reinforce more positive views on entrepreneurship, including the recognition of entrepreneurship as a suitable career choice as well as embedding enterprise and entrepreneurship into schools, curriculum and teacher training.

Despite Forfás’ recommendations, no entrepreneurship or EE policy statement has emerged in Ireland. In April 2011, the South East Regional Authority (SERA) published a mapping research project which illustrated that there is a scarcity of evaluation undertaken on the impact of enterprise education and that there was need for research projects to assess the longitudinal impact of EE and develop a robust evidence base from which EE policy could be further developed¹¹⁹. Furthermore, the study emphasised that there was no framework in place for EE institutions to guide and support education at all levels and across all disciplines. Whilst there has been little activity in the school curriculum, a graduate entrepreneurship strategy was published in 2009 which identified that there was commitment by the government to increasing its emphasis and inclusion in second and third level education curricula¹²⁰. The lack of a coherent, all encompassing EE strategy is identified as vital to provide guidance and structure to a programme of EE at all levels of education. A Forum for discussion on developing a National Youth Entrepreneurship Strategy for Ireland took place in April 2011. The forum focused on how to develop entrepreneurial mindsets at

¹¹⁶ Forfás is Ireland’s national board who have responsibility for providing policy advice to Government on enterprise, trade, science, technology and innovation in Ireland.

¹¹⁷ Forfas (2007) “Towards Developing an Entrepreneurship Policy for Ireland” http://www.forfas.ie/media/forfas071023_entrepreneurship_policy.pdf p.22

¹¹⁸ Forfas (2007) *ibid.* p.23

¹¹⁹ SERA (2011) “Youth Entrepreneurship Strategies (YES)” Project Entrepreneurship Education in Ireland — Research Mapping and Analysis http://www.sera.ie/media/tma_yes_executive_summary.pdf

¹²⁰ National Council for Graduate Entrepreneurship (2009) “Entrepreneurship Education in Ireland Towards Creating the Entrepreneurial Graduate” p.22 <http://www.cit.ie/contentfiles/File/entrepreneurship%20education%20in%20ireland%20research%20report2.pdf?uid=1272470117769>

the primary and secondary levels and, through Round Table debate, initiate a discussion to develop a set of actions to inform policy and strategy going forward¹²¹.

A4.3 Indicator Mapping: Indicators against the logic model

While discussions to develop a youth entrepreneurship strategy for Ireland have been initiated, there is currently no entrepreneurship education strategy in place, nor is there a system or framework for monitoring EE. However, there are a number of sources which collate information which is of relevance to the EE agenda,¹²² including:

- Quarterly National Household Survey (QNHS);
- Business Demography;
- Global Entrepreneurship Monitor (GEM).

A4.3.1 National Level Statistics

Data is collected centrally by the Central Statistics Office Ireland (CSO). A number of surveys collate data which is of relevance to EE, these include:

A4.3.1.1 Quarterly National Household Survey (QNHS)

The QNHS is a quarterly household survey of occupations which takes place across Ireland. It was previously known as the Labour Force Survey. As part of the QNHS, data on self-employment is collated:

- % of people over 15 years who are self-employed with paid employees;
- % of people over 15 years who are self-employed with no paid employees;
- % of females / males over 15 years who are self-employed with paid / no paid employees.

A4.3.1.2 Business Demography

Business Demography data is collated annually but data released is two years behind i.e. in 2010, data from 2008 was released. However, it provides opportunity for business births and survival rates to be monitored:

- # of enterprise births;
- Enterprise Births as % of total business population;
- Enterprise births by size of company.

A4.3.2 Global Entrepreneurship Monitor (GEM)

GEM was quoted in Forfás's "Towards Entrepreneurship" report as providing an indication of entrepreneurship culture in Ireland. Key indicators included:

- Early Stage Entrepreneurial Activity (TEA) as % of total population;
- New Business Entrepreneurs as % of the adult population;
- % of working age population who consider entrepreneurship to be a good career choice;
- % of working age population who feel that successful entrepreneurs are highly regarded;
- % of working age population who feel that fear of failure would inhibit their entrepreneurial activity;

A4.4 Conclusions: indicators against the logic model

¹²¹ "Delivering a National Youth Entrepreneurship Strategy, Forum for Discussion" <http://educationentrepreneur.yolasite.com/> Accessed 12/07/11

¹²² Many of these have been identified through review of documentation such as Goodbody Economic Consultants (2002) *ibid.*, Forfás (2007) *ibid.*, National Council for Graduate Entrepreneurship (2009) *ibid.*

As previously mentioned there is no EE or entrepreneurship statement or policy in place to guide the development of an entrepreneurial mindset in Ireland, despite the acknowledgement that such a policy is required. It is therefore unsurprising that there is no consistent monitoring framework in place for EE in Ireland – some indicators are collected which could provide some context to entrepreneurship in the country, but these are largely focused at the outcomes and impact stage of the logic model

There is no assessment of the level of EE that is received in schools or VETS to establish the number of students who are engaging in entrepreneurship education, however international studies such as GEM and national data provides some data on the outcomes and impact of EE.

Table A4.1 Indicators identified in Ireland¹²³

Indicator Description	Method and Frequency of Collection	Data Source (or likely source)	Strengths of Indicator	Weaknesses of Indicator
Outcome				
% of working age population who consider entrepreneurship to be a good career choice			Internationally comparable; provides opportunity to monitor progress over time;	Qualitative indicator, based on perception
% of working age population who feel that successful entrepreneurs are highly regarded	Survey undertaken annually (2001 to 2008) with sample size of around 2,000 people.	GEM	Internationally comparable; provides opportunity to monitor progress over time	Qualitative indicator, based on individual perception
% of working age population who feel that fear of failure would inhibit their entrepreneurial activity			Internationally comparable; provides opportunity to monitor progress over time	Qualitative indicator
Intermediate Impacts				
New Business Entrepreneurs as % of the adult population	Survey undertaken annually (2001 to 2008) with sample size of around 2,000 people	GEM	Internationally comparable; provides opportunity to monitor progress over time; impact of entrepreneurial culture	May not be directly attributable to EE, may not lead to long established business creation
Global Impacts				
Early Stage Entrepreneurial Activity (TEA) as % of total population	Survey undertaken annually (2001 to 2008) with sample size of around	GEM	Internationally comparable; provides opportunity to monitor progress over time, impact	May not be directly attributable to EE; may not lead to long established business creation

¹²³ Please note that indicators are collated following document review.

Indicator Description	Method and Frequency of Collection	Data Source (or likely source)	Strengths of Indicator	Weaknesses of Indicator
	2,000 people		of entrepreneurial culture	
% of people over 15 years who are self-employed with paid employees	Large-scale, nationwide survey of households in Ireland collected quarterly. field co-	Quarterly National Household Survey	Provides opportunity to monitor progress over time;	May not be directly attributable to EE
% of people over 15 years who are self-employed with no paid employees	ordinators and 152 field interviewers interview 39,000 households each		Provides opportunity to monitor progress over time	May not be directly attributable to EE
% of females / males over 15 years who are self-employed with paid / no paid employees	quarter		Provides opportunity to monitor progress over time	May not be directly attributable to EE
# of enterprise births	Collated annually – but data is 2 years behind. For example 2010 data related to businesses in 2008.	Central Statistics Office Ireland Business Demography	Provides opportunity to monitor progress over time	Not necessarily directly attributable to EE
Enterprise Births as % of total business population			Provides opportunity to monitor progress over time	Not necessarily directly attributable to EE
Enterprise births by size of company			Provides opportunity to monitor progress over time	Not necessarily directly attributable to EE

A4.5 Future Developments

The 2007 Forfás report set out ways through which the Irish government could develop a more entrepreneurial mindset amongst its population, including recommendations to establish a National Entrepreneurship Forum to champion entrepreneurship and monitor progress and an Annual Entrepreneurship Review to set out indicators to inform the Forum – documentary review suggest that, as of April 2011, there has been no further activity or implementation of these recommendations.

Annex 5 The Netherlands

A5.1 Introduction

In the Netherlands, entrepreneurship education is delivered by the Ministry of Economic Affairs and the Ministry of Education, and the Dutch ministries have been encouraging entrepreneurship in education since 2000.¹²⁴ Initially programme activity sought to identify the activity that was being undertaken towards entrepreneurship education. This later this developed into a more structured programme of entrepreneurship education policy which promoted the development of entrepreneurial behaviour.

There is no monitoring framework for EE in place in the Netherlands, but progress is monitored nationally through independent evaluation in addition to international studies such as GEM.

A5.2 Entrepreneurship Education Policy Context and Objectives

A5.2.1 Entrepreneurship and Education, 2007

The Dutch government introduced the Entrepreneurship and Education (E&E) programme in 2007. The programme sought to provide subsidies to projects which developed EE across all levels of education:

- At the primary to middle-vocational level, schools were encouraged to engage in enterprise activity, however at this stage the government had not specified exactly what this activity should be;
- At the higher education level, 6 Centres for Entrepreneurship were developed in partnership between universities and higher vocational education institutions to develop additional enthusiasm for entrepreneurial behaviour through increasing student awareness of the opportunities that existed.¹²⁵ The government provided subsidies of €3 million per centre over 3 years between 2007/08 and 2010/11.

A5.2.2 Action Programme for Entrepreneurship and Education, 2009

Whilst a national strategy for Netherlands does not yet exist, the Ministry of Economic Affairs and the Ministry of Education have developed an “Action Programme for Entrepreneurship and Education” (Actieprogramma Onderwijs en ondernemen) published in 2009 setting objectives up to 2011 to:

- Improve the number of institutions who have integrated entrepreneurship into their policy, organisation and curriculum;
- Increase the numbers of students who show entrepreneurial behaviour; and
- Increase the number of students starting up a business within a period of 5 years after completing their education.

The Programme is delivered by the NL Innovatie, an agency of the Ministry of Economic Affairs, who implement government policy. NL Innovatie is implementing the Action Programme for Entrepreneurship and Education as a joint assignment on behalf of the Ministries of Economic Affairs and Education.

¹²⁴ SenterNovem (2009) “Action Programme for Entrepreneurship and Education” (Actieprogramma Onderwijs en ondernemen) URL:

http://www.onderwijsonderneemt.nl/english/action_programme_education_and_entrepreneurship

¹²⁵ These include Gerderland Onderneemt! (GO!); Holland Program on Entrepreneurship (HOPE); Maastricht Centre of Entrepreneurship; Cooperatie Amsterdamse scholen voor Entrepreneurship (CASE); Dutch agro-food Network of Entrepreneurship (DAFNE); Centre of Entrepreneurship in the Creative Industry.

Projects which form part of the programme are monitored and assisted by SenterNovem,¹²⁶ an agency who focus on the implementation of national and international government policies. As part of the programme, SenterNovem also gather data on entrepreneurial projects and enables the transfer of knowledge between institutions.

As part of the 2009-10 programme of activity, a new set of subsidies was developed. For example, at the primary to middle-vocational level, grants of €2,000 promote local schools and businesses to form networks of co-operation. Networks must include 2 institutions, a company and a social organisation; with the money provided enabling enterprise education related networking activity to take place. The grants aimed to develop entrepreneurial behaviour at the student, teacher and school management levels.

A5.3 Indicator Mapping

As there is no framework for monitoring in place, a number of documents have been reviewed to establish the existence of indicators for entrepreneurship education in the Netherlands:

- The Global Entrepreneurship Monitor for the Netherlands, by EIM;¹²⁷
- EIM's Summary One Measurement of E&E, 2010 (which compared the O-measurement baseline to the current situation);¹²⁸ and
- Statline, Central Bureau voor de Statistiek.

A5.3.1 Global Entrepreneurship Monitor

GEM in Netherlands is undertaken by EIM Business and Policy Research and the Netherlands has been involved since 2001. A number of indicators are collected which are relevance to EE:

- % of population (18-64) who feel that entrepreneurship is a desirable career choice;
- % of population (18-64) who feel that they have the knowledge, skills, and experience required to set up a business; and
- % of population (18-64) hoping to start a business in the next 3 years.

A5.3.2 National Monitoring and Evaluation

Primarily the monitoring and evaluation of entrepreneurship education takes place at the project level. However every two years an evaluation is undertaken of the Education and Entrepreneurship Programme across the Netherlands.

In 2007, the Dutch government commissioned a baseline study to map EE across educational institutions. The study identified that EE existed, at least to some extent, at all levels of education¹²⁹. In 2010, an evaluation was undertaken to provide an update on the progress made through the 2007 and 2009 subsidy schemes. The study undertook an e-survey and in-depth interviews across educational institutions and an e-survey solely for students. Key quantitative statistics include:

- % of educational institutions who take account of entrepreneurship or enterprising behaviour in their mission or vision;

¹²⁶ SenterNovem is part of the NL Agency which provides companies, (knowledge) institutions and government authorities with advice, knowledge and financial support. URL:

http://www.senternovem.nl/english/about_us/index.asp

¹²⁷ "GEM 2008 the Netherlands: The hidden entrepreneurial forces of the Dutch economy"

<http://www.entrepreneurship-sme.eu/pdf-ez/A200914.pdf>

¹²⁸ EIM (2010) "Summary One Measurement May 2010" Accessed on 01/04/2011 through

http://www.onderwijsonderneemt.nl/index.php?mod=front_search_find&q=&status=1&doc%5B2%5D=1&doc%5B17%5D=1&fgGo=Zoeken

¹²⁹ EIM (2010) *ibid.*

- % of educational institutions where entrepreneurship or enterprising behaviour is being anchored in the curriculum (this is split by primary, secondary, upper secondary vocational and HEI);
- % of educational institutions who hope to be trendsetting in relation to EE between now and three years' time (this is split by primary, secondary, upper secondary vocational and HEI);
- % of educational institutions who have organised specific activities aimed at entrepreneurship or enterprising behaviour (this is split by primary, secondary, upper secondary vocational and HEI); and
- % of educational institutions who have relationships with the business sector (this is split by primary, secondary, upper secondary vocational and HEI).

A5.3.3 Project level monitoring

For primary and middle-vocational level students, the 2007 subsidy scheme sought to develop entrepreneurial attitudes but responsibility for setting objectives and targets was left to the responsibility of schools themselves. Following the completion of projects – this activity was independently evaluated to establish the extent of successful outcomes by EIM. Indicators were primarily qualitative and included:

- % of primary education students who felt they had more become more enterprising following E&E activity;
- % of primary education students who had increased awareness of entrepreneurship following engagement with E&E activity;
- % of secondary/ upper secondary vocational education students who felt they had more become more enterprising following E&E activity;
- % of secondary/ upper secondary vocational education students who felt they would be better able to start their own business; and
- % of secondary/ upper secondary vocational education students who felt positively about becoming an entrepreneur or being self-employed.

A5.4 Conclusions: Indicators across the logic model

Whilst the Netherlands has considered the importance of entrepreneurship and education for over twenty years – there is no explicit monitoring framework in place. Whilst there is no centrally co-ordinated body or activity to deliver monitoring activity, evaluation at the project and national level does take place which provides opportunity to identify indicators which measure the progress of Dutch E&E activity.

To establish progress made against E&E, a baseline study was undertaken in 2007 enabling progress to be monitored through a national evaluation which was undertaken in 2009 – and is due to be updated again in 2011. The data collated is focused upon operations and outcomes which are achieved through E&E as illustrated in **Error! Reference source not found.** At the project level, evaluation takes place to monitor progress against key targets identified by schools themselves but this primarily focuses on qualitative changes to entrepreneurial attitudes. Other indicators are collated through wider monitoring projects such as GEM and the Eurobarometer providing global comparators with focus on intermediate and global impacts related to E&E.

Table A5.1 Indicators identified in the Netherlands

Indicator Description	Method and Frequency of Collection	Data Source (or likely source)	Strengths of Indicator	Weaknesses of Indicator
Inputs				
E & E Action Programme	Desk Research		Provides overarching priorities for E&E in Netherlands	No framework for monitoring
Outputs				
% of educational institutions who take account of entrepreneurship or enterprising behaviour in their mission or vision	Every 2 years as part of national evaluation	Independent Evaluation undertaken by EIM (e-surveys with institutions and students plus in-depth institution interviews)	Comparable with baseline position established in 2007; comparable with other levels of education	High level indicator – doesn't indicate how progress has been made through curriculum
% of educational institutions where entrepreneurship or enterprising behaviour is being anchored in the curriculum (by primary, secondary, upper secondary vocational)	Every 2 years as part of national evaluation	Independent Evaluation undertaken by EIM (e-surveys with institutions and students plus in-depth institution interviews)	Comparable with baseline position established in 2007; comparable with other levels of education	
% of educational institutions who hope to be trendsetting in relation to EE between now and three years' time (by primary, secondary, upper secondary vocational)	Every 2 years as part of national evaluation	Independent Evaluation undertaken by EIM (e-surveys with institutions and students plus in-depth institution interviews)	Comparable with baseline position established in 2007; comparable with other levels of education	Aspirational – may not lead to trendsetting entrepreneurial activity.
Outputs				
% of educational institutions who have organised specific activities aimed at entrepreneurship or enterprising behaviour (by primary, secondary, upper secondary vocational)	Every 2 years as part of national evaluation	Independent Evaluation undertaken by EIM (e-surveys with institutions and students plus in-depth institution interviews)	Comparable with baseline position established in 2007; comparable with other levels of education	Does not distinguish between one off activity and regular enterprise activity
% of educational institutions who have relationships with the business	Every 2 years as part of national evaluation	Independent Evaluation undertaken by EIM (e-surveys	Comparable with baseline position established in 2007; comparable	

sector (by primary, secondary, upper secondary vocational)		with institutions and students plus in-depth institution interviews)	with other levels of education	
# of students who had engaged in E&E programme	E&E Monitoring	E&E Programme team	Awareness of engagement with programme; Ability to compare regional performance	
Outcomes				
% of primary education students who felt they had more become more enterprising following E&E activity	Every 2 years as part of national evaluation	Independent Evaluation undertaken by EIM (e-surveys with institutions and students plus in-depth institution interviews)	Comparable with baseline position established in 2007; comparable with other levels of education	Based on self-evaluation, qualitative response, not necessarily directly comparable between students
% of primary education students who had increased awareness of entrepreneurship following engagement with E&E activity	Every 2 years as part of national evaluation	Independent Evaluation undertaken by EIM (e-surveys with institutions and students plus in-depth institution interviews)	Comparable with baseline position established in 2007	Based on self-evaluation, qualitative response, not necessarily directly comparable between students
% of secondary/ upper secondary vocational education students who felt they had more become more enterprising following E&E activity	Every 2 years as part of national evaluation	Independent Evaluation undertaken by EIM (e-surveys with institutions and students plus in-depth institution interviews)	Comparable with baseline position established in 2007	
% of secondary/ upper secondary vocational education students who felt they would be better able to start their own business	Every 2 years as part of national evaluation	Independent Evaluation (e-surveys with institutions and students plus in depth institution interviews)	Comparable with baseline position established in 2007	Aspirational – may not lead to entrepreneurial activity; Based on self-evaluation, qualitative response, not necessarily directly comparable between students
% of secondary/ upper secondary vocational education students who felt positively about becoming an	Every 2 years as part of national evaluation	Independent Evaluation (e-surveys with institutions and students plus in depth institution interviews)	Comparable with baseline position established in 2007	Based on self-evaluation, qualitative response, not necessarily directly comparable

entrepreneur or being self-employed				between students;
% of population (18-64) who feel that entrepreneurship is a desirable career choice	Collected annually as part of GEM study	EIM/GEM	Potential for global comparativeness; enables progress to be tracked on a yearly basis	
% of population (18-64) who feel that they have the knowledge, skills, and experience required to set up a business	Collected annually as part of GEM study	EIM/GEM	Potential for global comparativeness; enables progress to be tracked on a yearly basis	
% of population (18-64) hoping to start a business in the next 3 years	Collected annually as part of GEM study	EIM/GEM	Potential for global comparativeness; enables progress to be tracked on a yearly basis	
Impacts				
Self-employment rate (male/female ratio)	Collected annually	EIM, on the basis of Labour Force Statistics database (LFS) of the OECD and additional figures of Eurostat	Potential for global comparativeness	
Business ownership rate (the number of entrepreneurs as a percentage of the employed and job seeking labour force)	Collected annually	EIM, on the basis of Labour Force Statistics database (LFS) of the OECD and additional figures of Eurostat	Potential for global comparativeness	
Propensity to Entrepreneurship (% people who prefer being an entrepreneur over being an employee).	Collected annually	EC Flash Eurobarometer	Potential for European comparativeness	Based on limited sample

A5.5 Future Developments

The Netherlands is currently going through a series of cuts to public expenditure – the national E&E programme will cease to exist in 2011 and will not be re-established. Through providing subsidies to set up networks of co-operation between schools, businesses and social organisations, the hope is that these will become self-sustaining. They will be supplemented by a Foundation for Teachers which seeks to ensure that teachers possess the skills at primary and mid-vocational level to continue to focus on entrepreneurship

education which can be aligned with the wider EE networks. There will also be further funding to enable the Centres for Entrepreneurship Education to be supported.

A pilot is currently running across the networks to measure pupils' entrepreneurial behaviour through E-Scan (Entrepreneurial Scan) which will assess students enterprising behaviour prior to, and after, entrepreneurial activity is engaged with. However, with regard to monitoring of entrepreneurship education there are no current, or future, plans to establish a monitoring framework in the Netherlands.

Annex 6 Poland

A6.1 Introduction: Entrepreneurship Education Policy Context and Objectives

Poland is a country with a uniform system of education, with no regional differences. The Polish education system is made up of primary schools, lower secondary schools (gymnasia), upper secondary schools and institutions of higher education. Institutions of higher education are under the supervision of the Ministry of Science and Higher Education while all other schools fall under the supervision of the Ministry of National Education.

Schools in Poland are either public or non-public, depending on the body running educational activities. All schools are governed by the Core Curriculum – a Regulation made by the Minister of National Education, which specifies the framework within which schools and teachers should provide education in a particular subject. However, the final decision regarding a subject, the way that tuition is undertaken and the choice of textbooks etc., is decided at the school level and, as a result, there may be significant differences between schools.

At the lower secondary school (gymnasia) level, as part of Civic education, economics is introduced, at an appropriately adjusted level. In a further course of education two further subjects are introduced: Education for active participation in the economic life of Poland and Entrepreneurship education. As of September 2012, Education for Active Participation in Economic life will become a compulsory module for students.

All school subjects, including Entrepreneurship education are graded through one system – a final grade for the subject is given for each school year. In vocational education, Entrepreneurship education forms part of the vocational exam. Following completion of the course and an exam, a diploma is awarded.

The Lifelong Learning Programme (LLP) puts strong emphasis on entrepreneurship education, amongst other subjects. The LLP in Poland is managed by the Foundation for the Development of the Education System¹³⁰, with various initiatives undertaken in order to promote entrepreneurship and its learning, both at ministerial and regional levels.¹³¹

Core tasks as part of Entrepreneurship education include:¹³²

- Planning teaching and educational activities on the basis of the binding Core Curriculum framework and approved curricula;
- Organising the teaching process to enable pupils to acquire the knowledge and practical skills which are defined by the curriculum's educational objectives;
- Providing classes on Entrepreneurship education;
- Providing pupils with assistance in shaping their entrepreneurial behaviour, thus encouraging a conscious choice of further education and awareness of their future place in the job market;
- Preparing pupils to participate actively in the economic life of a free market economy;
- Preparing pupils to independently search, interpret and evaluate source materials (regarding stipulations of business law, statistical data, articles and press commentaries on socio-economic subjects);
- Applying innovative methods of knowledge transfer and shaping the practical entrepreneurial skills of students using modern teaching resources;
- Motivating pupils to take part in competitions which relate to at least one curriculum subject to raise their knowledge and skills;
- Upgrading vocational qualifications in the area of entrepreneurship;
- Establishing cooperation with companies and institutions operating in the local market in order to support organisation of the process of education

¹³⁰ www.frse.org.pl

¹³¹ <http://grono.net/aps-pedagogika-specjalna-rok-ii/topic/17577253/sl/zdobadz-praktyke-projekt-oskar-i-bajer-przedsiębiorczosc-dla-szk/>

¹³² <http://zielonalinia.gov.pl/default.aspx?docId=2071&dictword=855>

- Monitoring and evaluating effectiveness of education; and
- Undertaking evaluation of entrepreneurship activity as appropriate.

A6.2 Entrepreneurial Education

Poland has neither an Entrepreneurial education strategy nor an Action Plan in place. As a result, Poland does not have a monitoring framework in place for EE, with the exception of common compulsory monitoring of lessons at schools. Entrepreneurship has been a compulsory subject within the Polish Core Curriculum since 2003 and it is therefore assumed that each person in post-gymnasium school is receiving EE.

Due to the dispersion of data and responsibilities in the Ministry of Education (for example, different departments deal with vocational education and general education while another deals with school curricula) it is practically impossible to describe how the Entrepreneurial education system works and what effect it brings to the population. A comprehensive study of graduate enterprise has not been conducted since 2006 (the study was undertaken by the National Bank of Poland and Centre for Education Development¹³³)

A6.3 Indicator Mapping: Indicators collected against logic model

There is no monitoring framework in place for EE in Poland. Data collected as part of this case study has not been published or collectively presented. Instead, the data has been collated following review of various sources, including annual statistical reports, publications, reports, etc. Furthermore, no institutions mentioned have plans to establish such a system of monitoring or evaluation.

With the exception of external exams, there is no system of educational effectiveness monitoring in schools. Monitoring ensures only that schools cover the curriculum adequately. EE is not explicitly tested as part of external exams (6-grader test, post-gymnasium exam, matura exam) and so the extent of EE knowledge is not tested. At the vocational school level, entrepreneurship is evaluated, but only on an internal basis.

Largely data is collated on an ad hoc basis, interview with a stakeholder at the Ministry of Education has highlighted that the following data is collated in Poland. In part, these statistics are available due to the compulsory nature of EE in Poland, rather than being collected as part of a systematic study:

- % of secondary educational institutions with entrepreneurship integrated into the institution;
- % of educational institutions with EE integrated into the curriculum;
- % of secondary or VET educational institutions with EE integrated into the core curriculum;
- % of students receiving EE (collated at pre- primary and early years, primary education, secondary education **and** VET levels);
- % of students receiving EE (no specific mention of level of education);
- % of students receiving EE as part of *compulsory* studies at secondary level;
- % of school leavers who believe they have the skills/ knowledge required to start up a business; and
- Rate of new firm formation.

A6.4 Summary: Indicators against the logic model

Poland does not have a uniform system of Entrepreneurship education monitoring. Whilst EE is a part of the core curriculum, the system of monitoring for the curriculum is based on ensuring that the core curriculum subjects are being taught in schools rather than focused on the monitoring of pupil's competencies i.e. what they have learnt through those activities.

¹³³ <http://www.nbpportal.pl/pl/commonPages/ShowFileDescription?pageId=11236&fileId=5386>

Poland does not have an EE Strategy or Action Plan in place. The topic of EE is seen as falling under the dual responsibilities of the Ministries of Education and Economy and, as such, the system for monitoring its implementation and impact is not underdeveloped.

Given the compulsory nature of EE in Poland, it can be stated that 100% of higher secondary and vocational schools have entrepreneurship within their institution and the same for their core curriculum. Consequently – at these education levels 100% of students receive EE. After this stage in the logic model, there is little indication on the outcomes or impact of EE – with the exception of the rate of new firm formation which is collated as part of national statistics.

Table A6.1 Indicators identified in Poland

Indicator	Methods / frequency of collection	Data source	Strengths	Weaknesses
Operations				
% of educational institutions with entrepreneurship integrated into the institution	All higher secondary schools and all vocational schools. Standards set by Decree of the Minister of National Education. In higher secondary schools, secondary vocational schools and post-secondary vocational schools EE comprises 60 hours of lecture, in basic vocational schools 30.			
% of educational institutions with EE integrated into the curriculum	As stated above, no directly available data for higher education.			
% of educational institutions with EE integrated into the core curriculum	As stated above, no directly available data for higher education.			
% of teachers receiving EE training at pre-primary, primary, secondary or HE/VET levels	No specific data available, but in 2008 4 943 teacher of introduction to entrepreneurship were registered (total number of teachers: 658 628). In the same year there were 5 702 teachers with qualifications appropriate to teach			

Indicator	Methods / frequency of collection	Data source	Strengths	Weaknesses
	introduction to entrepreneurship (0,86% of the total number). ¹³⁴			
Output				
Proportion of EE activity delivered at regional or local levels	In Polish education system there is no regional or local diversity as far as educational standards are concerned. There are no data available for other areas of EE activity.			
% of students receiving EE (collated at pre-primary and early years, primary education, secondary education, VET or HE levels)	At pre-primary education – 0%, primary education – 0%, secondary education – 100% (compulsory introduction to entrepreneurship course for all students of secondary schools), vocational education – 100% (compulsory course on introduction to entrepreneurship), HE – no data available			
% of students receiving EE as part of compulsory studies	100% (compulsory course on introduction to entrepreneurship for all students in secondary and vocational schools.			
Outcome				
% of students (over 14) who are offered work based vocational learning	93 814 apprentices in 2009 are offered work based vocational learning within the system organized by the Polish Craft Association. ¹³⁵ In			

¹³⁴ *Raport. Nauczyciele we wrześniu 2008 r. Stan i struktura zatrudnienia*, Centralny Ośrodek Doskonalenia Nauczycieli, Warszawa 2009, pp. 20-50.

¹³⁵ *Informacje z działalności oświatowej za rok 2009*, Polish Craft Association, Warszawa 2010, p. 1.

Indicator	Methods / frequency of collection	Data source	Strengths	Weaknesses
	the same year there were 872 661 students in all vocational schools ¹³⁶ . No data available for students within vocational schools or higher education.			
% of students gaining a qualification in EE	No specific data available. However there is non-obligatory external vocational examination for graduates of vocational schools. One part of this examination is related to the entrepreneurship. So every student passing the external vocational examination has formal conformation of qualification in a field of entrepreneurship. In 2009 87,0% of graduates of basic vocational schools passed the examination, while graduates of secondary vocational schools have passing rate of 56,3%. ¹³⁷			
Ratio of male to female engagement with EE	In secondary education 52,9% of all students are male and female constitute 47,1% of this population. ¹³⁸ There is compulsory introduction to entrepreneurship course for all students of secondary schools	<i>Education in 2009/2010 School Year, GUS</i>		
Impact				

¹³⁶ Data according to Educational Information System.

¹³⁷ *Education in 2009/2010 School Year*, GUS, Warszawa 2010, pp. 102, 103.

¹³⁸ *Education in 2009/2010 School Year*, GUS, Warszawa 2010, p. 64.

Indicator	Methods / frequency of collection	Data source	Strengths	Weaknesses
Rate of new firm formation	In 2006 there were 78 new established firm per 10 000 persons, while in 2008 the indicator increased to 83 and in 2009 to 92. ¹³⁹	Bank Danych Lokalnych, GUS http://www.stat.gov.pl/		

A6.5 Future developments

The government has undertaken the Life Long Learning Programme. A Working Group has been set up including participation of a representative of the Ministry of Economy to work on the programme to encouraging cooperation between entrepreneurs and schools. The programme covers the years 2014-2020¹⁴⁰.

Data presented above are collected on an ongoing basis, although they are very dispersed in source.

¹³⁹ Bank Danych Lokalnych, GUS <http://www.stat.gov.pl/>

¹⁴⁰ Based on interview with representative of the Ministry of Economy

Annex 7 Sweden

A7.1 Introduction

The Swedish school system awards local authorities with a high-degree of responsibility. Local authorities can decide how to distribute resources and organise their schools in order to achieve the national goals set by central government. Schools themselves are free to decide the teaching methods, again, as long as they can show that the students are achieving the objectives set out in the national curriculum. School performance is monitored by a centralised quality assurance process. However, there is also a strong central steer from The National Agency for Education, an agency that oversees the public school system in Sweden and takes decisions on, for instance, course syllabi for upper secondary schools; grading criteria for all types of Swedish schools as well as other general policy.

The Swedish school system comprises of three main educational levels: the compulsory primary and lower secondary school (*grundskola*) for ages 7-16, upper-secondary school (*gymnasieskola*) for ages 16-19 and higher education (*högskola*)¹⁴¹. Upper secondary education prepares students for higher education (i.e. universities) or offers vocational training.

A7.2 Strategy for Education and Training in Entrepreneurship

The basis of entrepreneurship education in Sweden lies in the overall objective to strengthen and develop the Swedish ability to compete in a globalised world. A recent study revealed that 63% of interviewed people in Sweden prefer to be employed rather than self-employed, while less than a third would choose to be self-employed.¹⁴² Moreover, the aim is also to increase the awareness and change attitudes towards entrepreneurship as a career choice. As such, the Swedish government has set a focus on developing a foundation for entrepreneurship in young adults, which will provide them with the necessary skills and knowledge to start up their own company in the future.

In 2009, the Swedish government announced a plan to integrate entrepreneurship education at all levels of the education system.¹⁴³ Along with radical education reforms and a number of initiatives, the Swedish government announced a national strategy for the development of entrepreneurial programmes in schools and higher education institutions.

The strategy¹⁴⁴, published in May 2009, announced 11 key action points by government and related stakeholders, and consisted of the following commitments:

- The importance of encouraging the skills and abilities that form the basis of entrepreneurship will be emphasised in policy documents for compulsory school;
- Entrepreneurship will be emphasised in upper secondary school policy documents;
- Greater opportunities for more in-depth studies of entrepreneurship and enterprise in upper secondary school;
- Upper secondary vocational education will be more closely linked to working life and companies. Apprenticeship training will be introduced and pupils taking part in vocational training will be given better insight into the conditions for enterprise;
- Support to schools to encourage work on entrepreneurship;
- Mapping the work on entrepreneurship in compulsory and upper secondary schools is under way;

¹⁴¹ Swedish Agency for Education <http://www.skolverket.se/>

¹⁴² Towards greater Cooperation and Coherence in Entrepreneurship Education (2010) published by European Commission http://ec.europa.eu/enterprise/policies/sme/promoting-entrepreneurship/education-training-entrepreneurship/reflection-panels/files/entr_education_panel_en.pdf

¹⁴³ Interview (by phone) with Mr Jan Schierbeck on 14 March 2011

¹⁴⁴ Government Offices of Sweden <http://www.sweden.gov.se/sb/d/2098/a/129998>

- Mapping and analysing work on entrepreneurship at post-upper secondary vocational schools outside the higher education institutions;
- Mapping and analysing education in entrepreneurship and innovation at higher education level;
- Support to universities and other higher education institutions to stimulate entrepreneurship; and
- Development of cutting-edge programmes in entrepreneurship and innovation.

A7.3 Indicator Mapping: Indicators collected against logic model

Although Sweden has a national strategy for entrepreneurship education, there is no national framework for measuring the progress of the strategy. Instead, there are a number of evaluations and measures that have been undertaken which have aimed to assess the achievements and objectives set out in the national strategy.

To collect and map indicators, the following data and documents have been screened and analysed:

- Annual Entrepreneurship Barometer;
- Swedish Agency for Education;
- Statistics Sweden;
- Global Entrepreneurship Monitor (GEM);
- Junior Achievement Creates Alumni Success (Ung Företagsamhet) study (2010); and
- Towards Greater Cooperation and Coherence in Entrepreneurship Education Report and Evaluation of the Pilot Action High Level Reflection Panels on Entrepreneurship Education initiated by DG Enterprise and Industry and DG Education and Culture (2010).

A7.3.1 Annual Entrepreneurship Barometer (survey)

Each year, the Swedish Agency for Economic and Regional Growth conducts a survey to measure attitudes towards self employment among young adults in Sweden. The survey is built on telephone interviews conducted with young adults aged 18-30 years and were conducted by Statistics Sweden, while the data was analysed, prepared and published by the Swedish Agency for Education. The Annual Entrepreneurship Barometer¹⁴⁵ provides data for the following indicators:

- % students receiving entrepreneurship education in Sweden; and
- % of population who would rather be self employed (than employed in a company)

The survey also measures attitudes by specific subsections, for instance, by current status of employment or the socio-economic background of the young person, providing opportunity to analyse their attitudes to entrepreneurship whilst taking account of the wider context.

A7.3.2 Swedish Agency for Education

The Swedish Agency for Education¹⁴⁶ is a government body in charge of the education system in Sweden. More specifically, their main task is to ensure that government educational objectives are achieved and the quality of education at a local and regional level is monitored. Two indicators utilised by the Agency measure progress in entrepreneurship education:

¹⁴⁵ Entrepreneurship Barometer published by the Agency for Regional and Economic Growth <http://www.tillvaxtverket.se/huvudmeny/faktaochstatistik/omforetagande/entreprenorskapsbarometern.4.21099e4211fdb8c87b800017598.html>

¹⁴⁶ Swedish Agency for Education <http://www.skolverket.se/sb/d/190>

- % of institutions with EE integrated into the institution; and
- % of institutions with EE integrated into the (core) curriculum.

A7.3.3 Statistics Sweden

Statistics Sweden¹⁴⁷ is a Swedish national statistics agency that collects and provides data to other government organisations. They also support, coordinate and monitor the official statistics. Statistics Sweden provides following indicators for assessing the progress of entrepreneurship education:

- Rate of new firm formation; and
- % of working age population (18-64) who are self employed.

A7.3.4 Global Entrepreneurship Monitor

In the Global Entrepreneurship Monitor (GEM), entrepreneurship education and training have repeatedly been ranked as inadequate. Therefore, the GEM examined this topic in its 2008 adult population surveys.¹⁴⁸

Thus, the GEM results for Sweden include two indicators which are interesting regarding the outcomes of the National Strategy on Entrepreneurship Education:

- % of new firm foundation and survival;
- % of total population receiving entrepreneurship education; and
- % of total population with positive attitude towards entrepreneurship.

A7.3.5 Junior Achievement (JA) Creates Alumni Success

This longitudinal study investigated alumni of a Junior Achievement (JA) programme¹⁴⁹ in Sweden in period 1990-2007. JA has offered 200 000 students training in entrepreneurship and the programme is present in half of Swedish secondary schools. A study showed that 24% of those who have received training through JA were self-employed 10 years later. A current study is looking at the post-training employment history of those who have received the JA training compared to those who have not. The study is using the following indicators to measure the progress following JA entrepreneurship training:

- Number of new firms started by individuals with JA background;
- New jobs created by firms started by individuals with JA background; and
- Tax payments by firms started by individuals with JA background.

For a comparison between those who have and those who have not received entrepreneurship training through JA programme, the following are considered:

- Firm survival;
- Number of employees; and
- Firm revenue.

A7.4 Conclusion: Indicators against logic model

The mapping has shown that in Sweden, the majority of indicators that measure the entrepreneurship education are run by government agencies and bodies. Although there is a national strategy, there is no common monitoring framework that measures the progress of entrepreneurship education in Sweden.

¹⁴⁷ Statistics Sweden http://www.scb.se/Pages/List_139369.aspx

¹⁴⁸ Global Entrepreneurship Monitor, available online: http://www.gemconsortium.org/events_article.aspx?id=33

¹⁴⁹ Junior Achievement (JA) Sweden study can be requested from the website <http://www.ungforetagsamhet.se/>

Instead, mapping has illustrated that the majority of indicators are provided by specific government sources that provide the government with indicators. Here, the Swedish Agency for Education, Statistics Sweden and Swedish Agency for Economic and Regional Growth have all supplied indicators, in addition to the national GEM data.

The second grouping of indicators comes from a longitudinal study of a programme of activity, Junior Achievement. Although these indicators are time bound (from a period 1990-2007), they provide a direct comparison between groups that have had entrepreneurship training and those that have not, thus addressing some of the limitations in the methodology of previous indicators.

Conclusions based on his data are therefore as follows:

- Current data comes from a number of sources; however, although there is a central, national strategy there is no central, coordinated body that collates all EE indicators;
- While entrepreneurship Education is present at all levels of the Swedish education system, better ways of assessing of entrepreneurship education through other activities would provide a fuller, more coherent picture of EE in Sweden;
- Indicators provide a good overview survival rate and the overall success of businesses (over time) in addition to the number of start ups.

Table A7.1 Indicators identified in Sweden

Indicator description	Methods / frequency of collection	Data source	Strengths	Weaknesses
Input				
Entrepreneurial Education Strategy	Analysis of the state of entrepreneurship education in Sweden. Desk research.	Swedish Agency for Education	A good overview and government commitment	Strategy not always known to others
Operations				
% of institutions with EE integrated into the institution	EE participation is compulsory for all institutions. Annually	Swedish Agency for Education	National comparison	Little evidence to show the EE education in other subjects
% of institutions with EE integrated into the (core) curriculum	EE participation is compulsory for all institutions. Annually	Swedish Agency for Education	National comparison	Little evidence of other EE activities in other subjects
Output				
% students receiving EE	Annually	Tillväxtverket Entreprenörskaps barometern	Annual and national comparison	Grades measure only one type of knowledge, but not practical application of EE.
Outcome				
% of population who would rather be self employed	Annually	Tillväxtverket Entreprenörskaps barometern	Solid indicator of attitudes	Better analysis required as the numbers have changed with economic recession.
Impact				
Rate of new firm formation	Annually	Statistics Sweden	Annual comparison	Need a better track of how sustainable the businesses are.

Indicator description	Methods / frequency of collection	Data source	Strengths	Weaknesses
% of working age population (18-64) who are self employed	Annually	Statistics Sweden (Labour Data)	Annual comparison	Numbers have changed with economic recession
% of new firm formation and survival	Annually	GEM	Global comparison	Limited connection to entrepreneurship education
% of total population receiving entrepreneurship education	Annually	GEM	Global comparison	
Number of new firms started by individuals with a JA background	One off longitudinal study 1990-2007	JA Longitudinal Study	Comparison between individuals with and without entrepreneurship training	Does not measure the impact of entrepreneurial activities beyond JA training
Number of new jobs created by firms started by individuals with JA background	One off longitudinal study 1990-2007	JA Longitudinal Study	Comparison between individuals with and without entrepreneurship training	Does not measure the impact of entrepreneurial activities beyond JA training
Tax payments by firms started by individuals with JA background	One off longitudinal study 1990-2007	JA Longitudinal Study	Comparison between individuals with and without entrepreneurship training	Does not measure the impact of entrepreneurial activities beyond JA training
Survival of new firms started by individuals with JA background	One off longitudinal study 1990-2007	JA Longitudinal Study	Comparison between individuals with and without entrepreneurship training	Does not measure the impact of entrepreneurial activities beyond JA training
Number of employees in new firms started by individuals with JA background	One off longitudinal study 1990-2007	JA Longitudinal Study	Comparison between individuals with and without entrepreneurship training	Does not measure the impact of entrepreneurial activities beyond JA training
Revenues in new firms started by individuals with JA background	One off longitudinal study 1990-2007	JA Longitudinal Study	Comparison between individuals with and without entrepreneurship training	Does not measure the impact of entrepreneurial activities beyond JA training

A7.5 Future developments

In 2011, the Swedish Young Achievement is expanding their projects and hopes to provide entrepreneurship education to even more school children than earlier. Also, they hope to

overcome some of the main limitations, namely to move from strategy on the paper to a more practical approach towards entrepreneurship education¹⁵⁰.

¹⁵⁰ Interview (by phone) with Mr Jonas Hehrne, 29 March 2011

Annex 8 UK - England

A8.1 Introduction

Enterprise education has been a statutory requirement in English schools since 2004, as part of wider reform of the 14 to 19 education system and introduction of more coherent plans for work-related learning. Under the previous government, the Department for Education provided funding to promote enterprise skills as part of the curriculum, however under the new Coalition government, there is less prescription. Instead schools can decide whether to deliver entrepreneurial activity, driven by a wider set of initiatives which seek to enhance the number of students who choose to start a business following completion of their studies.

England does not have a framework for the monitoring of EE, nor is there a specific strategy related to EE. Instead the focus is on the skills and knowledge required to create a culture of enterprise more generally.

A8.2 Entrepreneurship Education Policy Context and Objectives

In 2002, Howard Davies reported to the government on the importance of the education system in preparing young people for the world of work and employability¹⁵¹. He recommended that the government should make a clear national agenda for establishing and building enterprise capabilities, in addition to economy, business and financial understanding and furthermore that a clear benchmark of enterprise capability be established and monitored and conducted regularly.

From 2004, as part of a wider reform of 14 – 19 learning, Work-Related Learning became statutory from Key Stage 4¹⁵², the equivalent of the General Certificate of Secondary Education (GCSEs) or students aged 14 to 16. Through work-related learning, schools had to make provision for all students to receive 5 days of work-related learning with three overarching objectives to:

- Learn through work – opportunities through direct experience of work (e.g. work experience or part time jobs, enterprise activities in schools);
- Learn about work – opportunities to develop knowledge and understanding of work and enterprise;
- Learn for work – develop key skills for enterprise and employability.

The policy defined enterprise education as: “*seek(ing) to develop young peoples’ enterprise capability i.e. the capability to handle uncertainty and respond positively to change, to create and implement new ideas and new ways of doing things, to make reasonable risk / reward assessments and act on them*”¹⁵³. One of the key aims established through the statutory requirement was that students improve their understanding of enterprise in addition to developing key skills and broader aptitudes, develop ability to apply knowledge, understanding and skills and develop career awareness.

As part of the reform, schools were tasked with identifying ways to monitor and evaluate the effectiveness of vocational and work-related activities to assure the quality of teaching and learning through review. Ofsted reports published since this recommendation was made have suggested that many schools rely on student self-assessment¹⁵⁴ which often focuses on what students are trying to achieve rather than establishing the development of enterprise skills per se. Furthermore, the requirement is that schools provide the context within which skills and knowledge can be developed – and there is no statutory requirement for the summative assessment or certification of what skills these are or what has been learnt.

¹⁵¹ Davies, H (2002) “A Review of Enterprise and the Economy in Education” <http://www.mebp.org/Downloads/Davis%20Review%20main%20report.pdf>

¹⁵² DfES (2003) “Vocational and work-related learning at key stage 4” p4

¹⁵³ DfES (2003) *ibid* p.6

¹⁵⁴ Ofsted (2004) “Learning to be enterprising”, Ofsted (2005) “Developing Enterprising Young People”.

In 2008, the Government published a strategy for enterprise following consultation with small businesses and entrepreneurs which identified 5 “enablers” for enterprise, one of which was “knowledge and skills”. It stated that between 2005 and 2008, the government had committed £55 million per year to support enterprise education at Key Stage 4.¹⁵⁵ Through investment and the statutory requirement for schools to offer enterprise education, by 2008 90% of secondary schools provide enterprise education compared to 10% in 2003. The strategy also identified the need to ensure that the enterprise education journey was “seamless” from primary schools up to the higher education level.¹⁵⁶

Entrepreneurship education policy falls within the remit of the Department for Education (DfE) and the Enterprise Directorate at the Department for Business, Innovation and Skills (DBIS). Primarily the DfE are focused on the curriculum for those aged up to 19, whilst DBIS focus on those over 19 and in further and higher education. However, DBIS priorities are aligned with the aspirations and growth ambitions of SMEs, which necessitates the Directorate’s focus on entrepreneurial skills at all levels of education and their interest in encouraging students to start businesses when they leave school through driving education and policy.

Until the change of government in May 2010, the DfE provided funding for Entrepreneurship Education which helped to create softer employability skills, such as team building and problem solving, promoted through the curriculum. However, the coalition government appointed in May 2010 have become less prescriptive. The impetus is now upon schools to decide whether to implement enterprise education through school activities. Schools are no longer told to do this by DfE – whose remit is now more focused on academic achievement.

DBIS are increasingly tasked with supporting schools who want to deliver enterprise activity, for example, it was announced at the end of March 2011 that DBIS will support every school to develop and run its own business through the Enterprise Champions Programme. The programme will provide online resources and tools alongside practical advice for teachers to support the set up and management of a business, such as a school tuck shop. The aspiration is that a year group (e.g. Year 11) would take ownership of the business which would be passed onto the new Year 11 for the next academic year and providing opportunity for schools to engage with local enterprise champions to support school businesses and extend learning into the commercial environment.

A8.3 Indicator Mapping

There is no specific framework for the monitoring of entrepreneurship education in England. In the past, the Regional Development Agencies (RDAs) had to monitor outputs of project level activity to justify receipt of funding, however at the national level, secondary sources are utilised to measure entrepreneurship education progress, including:

- Global Entrepreneurship Monitor; and
- National Statistics.

A8.3.1 Global Entrepreneurship Monitor

England, as part of the UK, has been engaged with the Global Entrepreneurship Monitor (GEM) since 1999. Over time, the scale of GEM UK has grown significantly – with over 43,000 adults surveyed in 2006¹⁵⁷. For England, data is collated by region providing opportunity for comparison with other GEM Nations, the rest of the UK and between the English regions themselves. Key indicators of interest to entrepreneurship education include:

¹⁵⁵ HM Treasury (2008) “Enterprise: Unlocking the UK’s Talent: Executive Summary” <http://www.berr.gov.uk/files/file44993.pdf>

¹⁵⁶ HM Treasury (2008) Ibid. p.16

¹⁵⁷ GEM UK National Team http://www.gemconsortium.org/region_new.aspx?region=1

- % of working age population (18-64) who feel they have the skills, knowledge, experience to start a business;
- % of males 18 – 64 who feel they have the skills, knowledge, experience to start a business;
- % of females 18 – 64 who feel they have the skills, knowledge, experience to start a business;
- % of population (18-64) running a business;
- % of population (18-64) who are expect to start a business in the next 3 years; and
- % of experts interviewed who feel that the national culture encourages entrepreneurial risk-taking.

A8.3.2 National Statistics

Statistics relating to firm formation and self-employment are collated by the Office for National Statistics (ONS) for the UK regions.

In the past, the Household Survey of Entrepreneurship was collected biennially. The Survey collected data on the % of population who had taken part in enterprise training activity and the % of the population aged 16 to 64 who were considering starting a business or self employment. However, the survey was last collected in 2007 and there are no plans to reintroduce or repeat the survey due to the high expense and the ability to obtain similar statistics through the GEM survey.

On an annual basis through the Annual Population Business Survey (Nomis) or Annual Small Business Survey the following are collated:

- Annual Population Survey
 - % of population (16-64) who are self-employed or business owners;
 - % of male population (16-64) who are self-employed or business owners;
 - % of female population (16-64) who are self-employed or business owners;
- Annual Small Business Survey
 - % of population (16-24) who are self employed or business owners;
 - Share of employers who had been trading for less than 4 years who were involved in the decision to start up the business.
- ONS Business Demography
 - New businesses surviving between 1 year/ 2 years/ 3 years/ 4 years/ 5 years.

As part of the 2008 Enterprise strategy, a number of indicators were utilised to illustrate progress, primarily at the output and results level of the logic model:

- % of people (14 – 30) who intend to start a business;
- % of people (14 – 30) who believe they could develop a business idea;
- % of people (14 – 30) who take part in enterprise training activities.

There has been little attempt to evaluate the long term impact of Enterprise education in England, with the exception of extra-curricular activities such as Young Enterprise which are limited to specific project-level interventions.

The indicators illustrated have been compiled on the basis of stakeholder interview and review of documents related to enterprise and entrepreneurship education:

Table A8.1 Indicators identified in England

Indicator Description	Method and Frequency of Collection	Data Source (or likely source)	Strengths of Indicator	Weaknesses of Indicator
Input				
Enterprise Strategy	Published in 2008 following discussions with small businesses and entrepreneurs across the UK	DBERR	Strategy based on business experiences and knowledge; Holistic approach with focus on culture, knowledge & skills, access to finance and regulatory framework ; broad framework for the whole UK.	Does not provide specific focus for entrepreneurship education
KS4 Work-related learning	Statutory guidance produced as part of reform of curriculum	Department for Education and Skills	Illustrates commitment to EE in curriculum	Not an action plan for EE
Output				
% of people (14 – 30) who take part in enterprise training activities	One off?	Collated as part of DBERR Enterprise Strategy.	Illustrates level of engagement by young people	Illustrates engagement rather than changing entrepreneurial attitude.
Outcome				
% of working age population (18-64) who feel they have the skills, knowledge, experience to start a business (including by male-female split)	Collated Annually.	GEM	Global comparativeness, data available for 2002 to 2008 providing opportunity for comparison	Self-evaluation, level of skill or knowledge perceived to be required may vary depending on individual
% of people (14 – 30) who believe they could develop a business idea	One off?	Collated as part of DBERR Enterprise Strategy.		Based on aspiration rather than activity
% of population (18-64) who are expect to start a business in the next 3 years	Collated Annually	GEM	Ability to assess Entrepreneurship attitude after students leave school; Global comparativeness;	Aspirational indicator which does not indicate that business will start up; not directly attributable to EE.

Indicator Description	Method and Frequency of Collection	Data Source (or likely source)	Strengths of Indicator	Weaknesses of Indicator
			Regional comparativeness (UK); Opportunity to view trend in EE over time	
% of population (14 to 30) who intend to start a business	One off?	Collated as part of DBERR Enterprise Strategy.	Ability to assess Entrepreneurship attitude of young people	Aspirational indicator which does not indicate that business will start up; not directly attributable to EE.
% of experts interviewed who feel that the national culture encourages entrepreneurial risk-taking	Collated Annually	GEM	Ability to assess Entrepreneurship attitude after students leave school; Global comparativeness; Regional comparativeness (UK); Opportunity to view trend in EE over time	Aspirational indicator which does not indicate that business will start up; not directly attributable to EE.
Share of employers who had been trading for less than 4 years who were involved in the decision to start up the business	Annual	Annual Small Business Survey		Does not show age of employers so difficult to relate to EE activity
Impact				
% of population (18-64) running a business	Collated Annually.	GEM	Global comparativeness, data available for 2002 to 2008 providing opportunity for comparison	Aspirational indicator which does not indicate that business will start up; not directly attributable to EE.
% of population (16-64) who are self-employed or business owners (including by male-female split)	Collated Annually.	GEM	Global comparativeness, data available for 2002 to 2008 providing opportunity for comparison	Aspirational indicator which does not indicate that business will start up; not directly attributable to EE.
% of population (16-24) who are self employed or business owners	Annual	Annual Small Business Survey	Illustrates entrepreneurial activity at school leaver/ graduate level; allows opportunity for change to monitored over	Not directly attributable to EE

Indicator Description	Method and Frequency of Collection	Data Source (or likely source)	Strengths of Indicator	Weaknesses of Indicator
			time	
New businesses surviving between 1 year/ 2 years/ 3 years/ 4 years/ 5 years	Annual	ONS Business Demography	Ability to assess regional progress/ engagement	Cannot be directly attributed to school level activity

A8.4 Future Developments

Changes in governance mean that policy is still subject to change in England, including those relating to enterprise education. The landscape for EE is changing, visible through the focus of the DfE on academia whilst DBIS looks to promote EE activity in schools. Given the wider context of public sector cuts in England, rather than introduce new surveys directly relating to entrepreneurship education, the focus is on making best use of existing surveys which make reference to entrepreneurial activity. Surveys such as the Household Survey on Entrepreneurship are unlikely to be repeated or re-introduced due to the expense required and instead, monitors such as GEM will be utilised, providing opportunity for sequential change to be assessed and comparisons made with other GEM nations.

Annex 9 UK - Northern Ireland

A9.1 Introduction

Entrepreneurship education falls under the remit of three Departments in Northern Ireland – the Department of Enterprise, Trade and Industry (DETI), the Department of Education (DE) and the Department of Employment and Learning (DEL).

Entrepreneurship has been defined by these departments as ‘the ability of an individual, possessing a range of essential skills and attributes, to make a unique, innovative and creative contribution in the world of work, through employment or self-employment’.¹⁵⁸ As part of this, DETI, DE and DEL state that all learners should develop specific attributes which include enterprise, creativity, self-belief, energy, initiative and a disciplined and positive attitude to work and the desire for continual improvement.

The three departments have different focuses on entrepreneurship:

- DE is focused at the primary to post-primary education level;
- DEL is focused at the further and higher education agenda; and,
- DETI focuses on the impact that entrepreneurship education has on business objectives and growth.

A9.2 Entrepreneurship Education Policy Context and Objectives

In 2002, the Northern Ireland Executive emphasised the importance of entrepreneurship to assist with the development of a competitive economy and the creation of a culture which encourages enterprise and entrepreneurial activity. Later, the Economic Development Forum¹⁵⁹ identified a number of strategic priorities to strengthen the Northern Irish economy up to 2010, with focus on improving links between business and education sectors to ensure that the workforce had the sufficient skills to support the current, and future, requirements of the economy. Since the 1980s whilst there had been enterprise activity in Northern Irish education, both compulsory and non-compulsory, it was largely delivered as an extra-curricular activity.¹⁶⁰

Acknowledging the need to change attitudes towards entrepreneurship and develop an eagerness in society to start up business ventures, Invest Northern Ireland (Invest NI) published “*Accelerating Entrepreneurship: A Strategy to increase business start up and growth*” in 2003.¹⁶¹ The impact of the strategy was to be measured through two key outcomes:¹⁶²

- An enhanced level of entrepreneurial activity; and,
- The achievement of a net increase in the volume and value of new business ventures in the Northern Ireland economy.

The strategy also put forward additional measures of interest to entrepreneurship education - such as the numbers influenced by awareness or media campaigns; and, business survival rates. The strategy put emphasis on embedding an understanding and appreciation of entrepreneurship into the curriculum at all levels of education (primary education to

¹⁵⁸ Department of Enterprise, Trade and Investment (DETI), Education (DE) and Employment and Learning (DEL) (2003) “Entrepreneurship and Education Action Plan” http://www.delni.gov.uk/deti_action_plan.pdf

¹⁵⁹ Economic Development Forum (2002) “Working together for a stronger economy” http://www.delni.gov.uk/full_report.pdf

¹⁶⁰ Cummins, B & Kelly, J (2010) “Investigating the EntreBRAINeur: A research study exploring the learning preferences of Northern Ireland’s entrepreneurs: Summary Report” Study commissioned by Invest NI and DEL

¹⁶¹ Invest NI (2003) “Accelerating Entrepreneurship: A Strategy to increase business start up and growth” http://www.investni.com/accelerating_entrepreneurship_strategy.pdf

¹⁶² Invest NI (2003) Ibid. p.5

university) through an inter-disciplinary action plan. The implementation of this action plan was deemed to be key for Entrepreneurship and Education in Northern Ireland.

A9.2.1 Entrepreneurship and Education Action Plan

The recommendations made in the Invest NI Strategy were in part developed through the launch of the Entrepreneurship and Education Action Plan¹⁶³ in 2003 by the Departments of Enterprise, Trade and Investment (DETI), Education (DE) and Employment and Learning (DEL). The Action Plan set out a framework of *'agreed and co-ordinated actions to ensure greater synergy, co-operation and understanding between the worlds of business and education'*.¹⁶⁴

The Action Plan initially focused on short to medium term steps which are required to bridge and identify gaps in the existing systems and improve co-ordination between the business and education sectors. It was seen as the first step towards a long term ambition in which all young people in Northern Ireland have access to enterprise learning opportunities which ultimately will help them succeed in employment or self-employment.

The Action Plan focuses on developing key entrepreneurial skills and attributes in all learners through a fundamental change in Northern Ireland's culture and attitude towards entrepreneurship. Moreover, the Action Plan sets out the requirements for greater interaction and a shared understanding of the issues faced by the education and business sectors – through activity delivered by the three key Departments; DETI, DE and DEL.

The development of EE is to be achieved through a number of objectives, including embedding entrepreneurship skills into the curriculum and promoting entrepreneurship awareness; providing support to those who deliver training, increasing the perceptions and acceptance of work-related programmes in Northern Ireland and the evaluation of business and education activities. The Action Plan suggests monitoring and reporting of activity but there is no framework in place. The Plan states that baseline data relating to the number of students and businesses engaged in enterprise activity and the extent to which people have benefited from engaging in EE activity is to be collated.

The Action Plan emphasises the importance of monitoring and evaluation of EE activity, through the creation of an inter-departmental group to meet on a regular basis, with progress and outcomes being presented to each Department's board and progress against key EE objectives reviewed annually. To date, this process has not been taking place on a regular or systematic basis and there remains no monitoring framework in place.

A9.2.2 Curricular Reforms

In 2004, reforms to the curriculum were introduced which acknowledged the need to develop enterprising attitudes and entrepreneurial competences in Northern Ireland.

At foundation level up to Key Stage 2 (Primary 1 to Primary 7), the learning area of 'Personal Development and Mutual Understanding' was developed, to encourage pupils to develop entrepreneurial capabilities, and *'become personally, emotionally and socially effective, to lead healthy, safe and fulfilled lives and to become confident, independent and responsible citizens, making informed and responsible choices and decisions throughout their lives'*.¹⁶⁵

For Key Stage 3, 'Learning for Life and Work' was introduced as a new statutory subject area within which enterprise education is embedded through the skills of Employability, Personal Development, Local and Global Citizenship and Home Economics developed. More specifically, students are provided the opportunity to *"identify and practise the skills and attributes which make one enterprising; understand the importance of innovation and develop strategies to promote and entrepreneurial spirit; and, find out what makes an*

¹⁶³ DETI, DE and DEL (2003) Ibid p.2.

¹⁶⁴ DETI, DE and DEL (2003) Ibid p.2.

¹⁶⁵ "Personal Development and Mutual understanding"

http://www.nicurriculum.org.uk/key_stages_1_and_2/areas_of_learning/pdmu/living_learning_together/home.asp

*entrepreneur*¹⁶⁶. The revised curriculum was designed to be less prescriptive, providing opportunity for schools and teachers to decide how best to built entrepreneurship into education. Whilst a minimum requirement was established, teachers are given the flexibility to deliver subjects depending on the needs and requirements of their students and ensure that they are exposed to entrepreneurial education.

A9.3 Indicator Mapping

The Entrepreneurship and Education Action Plan requires a cross-departmental approach between DE, DEL and DETI; however, there is no monitoring framework for entrepreneurship education in Northern Ireland in place. As number of sources have been reviewed to establish information on progress on entrepreneurship education in Northern Ireland, including:

- Global Entrepreneurship Monitor Northern Ireland,¹⁶⁷
- Office for National Statistics;
- Project level activity.¹⁶⁸

A9.3.1 Global Entrepreneurship Monitor Northern Ireland

Northern Ireland has been actively part of the GEM Consortium since 2002. Professor Mark Hart from Aston Business School is tasked with analysing the data for Northern Ireland. A number of indicators are collated which could relate to the entrepreneurship education logic model:

- % who expect to start a business in 3 years;
- % of individuals who believe they have the relevant skills to set up a business;
- Male-female ratio of entrepreneurial activity;
- Early Stage Entrepreneurial Activity (TEA index);
- Early stage entrepreneurial activity by age band (including 18-24); and
- Early stage entrepreneurial activity for graduates.

A9.3.2 Office for National Statistics

Statistics on Business Demography are collected by the Office for National Statistics across the UK at the regional level which indicates levels of entrepreneurship including:

- VAT/PAYE Registrations per 10,000 population.

A9.3.3 Project Level Activity

Providers of enterprise activity, such as Young Enterprise Northern Ireland, provide opportunity for measurement of the following indicators:

- # of schools taking part in enterprise activity;
- # of students taking part in enterprise activity;
- % of primary schools engaging in EE activity; nd
- % of post-primary (secondary) schools engaging in EE activity.

¹⁶⁶ Northern Ireland Curriculum (2004) "Learning for Life and Work for KS3" p.35
http://www.nicurriculum.org.uk/docs/learning_for_life_and_work/training/LLW-Guidance.pdf

¹⁶⁷ Hart, M. (2009) "GEM – Northern Ireland Summary 2009" http://www.investni.com/gem_report.pdf

¹⁶⁸ Discussions on project level activity during teleconference with DEL, DETI and DE on 04/04/11

Table A9.1 Indicators identified in Northern Ireland

Indicator Description	Method and Frequency of Collection	Data Source (or likely source)	Strengths of Indicator	Weaknesses of Indicator
Input				
Entrepreneurship and Education Action Plan	Developed through co-ordination between main departments to ensure common understanding and approach between departments.	DE, DEL, DETI	Co-ordinated, cross-departmental approach; agreement on key actions; agreement on lead department, delivery agency and target for action.	No quantitative targets for delivery or monitoring framework established.
Output				
# of schools taking part in enterprise activity	Identified through AP – collated at project level Frequency unknown	Project level monitoring e.g. Young Enterprise NI	Illustrates engagement at project level with EE	May not be directly comparable with other regions; does not indicate level of engagement by school in EE
% of primary schools engaging in EE activity	Project level monitoring Frequency unknown	Project level monitoring e.g. Young Enterprise NI	Illustrates engagement at project level with EE	Does not indicate level of engagement by school in EE
% of post-primary (secondary) schools engaging in EE activity	Project level monitoring Frequency unknown	Project level monitoring e.g. Young Enterprise NI	Illustrates engagement at project level with EE	Does not indicate level of engagement by school in EE
# of students taking part in enterprise activity	Project level monitoring Frequency unknown	Project level monitoring e.g. Young Enterprise NI	Illustrates engagement of students with non-compulsory activity	May not be directly comparable with other regions; does not indicate level of engagement by school in EE or results of activity; does not necessarily provide detail on age of students involved
Outcome				
% of individuals who believe they have the relevant skills to set up a business	Collated Annually.	GEM	Global comparativeness, data available for 2002 to 2008 providing opportunity for comparison	Self-evaluation, level of skill or knowledge perceived to be required may vary depending on individual

Indicator Description	Method and Frequency of Collection	Data Source (or likely source)	Strengths of Indicator	Weaknesses of Indicator
Male-female ratio of entrepreneurial activity	Collated Annually.	GEM	Global comparativeness, data available for 2002 to 2008 providing opportunity for comparison	
Impact				
Early Stage Entrepreneurial Activity (TEA index)	Collated Annually.	GEM	Global comparativeness, data available for 2002 to 2008 providing opportunity for comparison	
Early stage entrepreneurial activity by age band (including 18-24)	Collated Annually.	GEM	Global comparativeness, data available for 2002 to 2008 providing opportunity for comparison	
VAT/PAYE Registrations per 10,000 population	Collated annually	ONS Business Demography	Enables trend to be viewed over time; regional comparativeness with UK;	Not directly attributable to participation in EE; not all businesses registered as dependent on size and inclination of owners

A9.4 Future Developments

Northern Ireland is tackling the delivery of entrepreneurship education through a cross-departmental approach which sees the DE focusing on primary and post primary education, the DEL focusing on further education and the DETI concerned with the impact that skills and knowledge of the workforce can have on economic growth. The reformed curriculum is increasingly trying to ensure that entrepreneurial capabilities and attitudes are engrained into the future workforce of Northern Ireland through the education system.

There is no concerted effort to drive national monitoring of this activity and there are no plans for a framework to be developed looking forward. Attention is being targeted towards ensuring that the school curriculum provides the key learning themes which will then be delivered through school teaching. Such activity will be difficult to monitor, and it is likely that wider monitoring surveys such as GEM will be the main mechanism to establish the impact that the curricular reform has had on creating more entrepreneurial and enterprising students for the future economy.

Annex 10 UK - Scotland

A10.1 Introduction

The devolved government for Scotland has been in place since 1999, concerned with ensuring that public services are focused on creating a more successful country with opportunities for sustainable economic growth. Part of the government's remit is education - identified by one of their 45 national outcomes through ensuring that '*young people are successful learners, confident individuals, effective contributors and responsible citizens*'.¹⁶⁹ Education falls under the governance of the Department of Education. Enterprise in education was first identified in 2000 leading to the first Enterprise in Education strategy "Determined to Succeed" which was published in 2003.

A10.2 Entrepreneurship Education Policy Context and Objectives

A10.2.1 Determined to Succeed, 2003

In 2000, an HM Inspectorate of Education (HMIE) report on Education for Work in Schools established an expectation that all pupils should have the opportunity to experience enterprise activity in schools.¹⁷⁰ In September 2001, the Scottish Executive established the Review of Education for Work and Enterprise with 20 recommendations to government published in 2002.¹⁷¹

The government agreed the Review Group's recommendations and published "Determined to Succeed" (DtS) in 2003 which covered the period up to 2008. DtS defines Enterprise in Education (EiE) as provision of the opportunity for young people to:

- *"Develop enterprising attitudes and skills through learning and teaching across the whole curriculum;*
- *Experience and develop understanding of the world of work in all its diversity, including entrepreneurial activity and self-employment;*
- *Participate fully in enterprise activities, including those explicitly entrepreneurial in nature, and in which success is the result of "hands-on" participation; and,*
- *Enjoy appropriately focused career education."*¹⁷²

The Strategy involves all local authority education departments in Scotland at primary and secondary levels, as well as indicating the need for business engagement. The strategy emphasises that students at all education levels should have access to enterprise activities from Primary 1 to Senior 6 with pupils over 14 years of age given the opportunity for involvement with businesses. Subsequently, enterprise education is an entitlement for all young people wherever learning takes place with focus on the delivery of subjects in an enterprising way rather than teaching enterprise as a subject.

¹⁶⁹ Scottish Government "National Outcomes"
<http://www.scotland.gov.uk/About/scotPerforms/outcomes/youngpeople>

¹⁷⁰ HMIE (2000) "Education for Work in Schools" <http://www.hmie.gov.uk/documents/publication/hmieieie-00.html>

¹⁷¹ "Determined to Succeed: A Review of Enterprise in Education"
<http://www.scotland.gov.uk/Publications/2002/12/15978/15392>

"Determined to Succeed: A Review of Enterprise in Education: Evidence Report"
<http://www.scotland.gov.uk/Publications/2002/12/15980/15408>

¹⁷² Scottish Executive (2003) "Determined to Succeed: Enterprise in Education. Scottish Executive Response"
<http://www.scotland.gov.uk/Resource/Doc/47034/0023917.pdf>

A10.2.2 Curriculum for Excellence, 2004

In 2004, the “Curriculum for Excellence” (CfE) introduced reforms for 3 to 18 education including four key capacities for students. Key to entrepreneurship education was the capacity of students to be ‘*effective contributors*’ through development of an enterprising attitude, resilience and self-reliance also illustrating enterprising outcomes and experiences throughout the curriculum.

Commitment to DtS was further reiterated by the Scottish Government in 2008 with financial support extended to 2011. However after 2011, it is hoped that CfE will have suitably and effectively integrated enterprise into Scottish education through enterprising outcomes and experiences gained through the curriculum.

The refreshed Scottish Skills strategy¹⁷³ of 2010 emphasises that the Government’s focus on enterprise in education was continuing through the integration of DtS into CfE. The Curriculum seeks to demonstrate the relevance of skills for all your people from the early years of education to senior learning and higher education. Through embedding DtS into the Curriculum, local authority schools and ensuring students develop to be enterprising and entrepreneurial and prepared for the world of work, in self employment or as an employee.

A10.3 Indicator Mapping

As part of their response to the Review Group’s recommendations in 2002, the Scottish Government identified that the National Priorities for Education in Scotland took account of key outcomes relevant to EiE. They stated they would work with employers and local authorities to ensure measures of performance tracked progress of EiE and that quality indicators relating to EiE would be developed through cooperation with HMIE. A number of evaluations have taken place which seeks to establish the impact of the DtS strategy, but, despite this, there is no continuous monitoring system in place to measure any change or progress made through the strategy.

Given that there is no monitoring framework in place related to DtS or other entrepreneurship education policy in Scotland, a review of key research and documentation has been undertaken to establish indicators for education which are collected in Scotland, these include:

- Benchmarking Research of Young People’s Perceptions of Enterprise;¹⁷⁴
- Determined to Succeed: Enterprise in Education SME Survey;¹⁷⁵
- Scottish Employer Skills Surveys;¹⁷⁶
- Global Entrepreneurship Monitor Scotland (GEM Scotland); and
- Office for National Statistics.

A10.3.1 National Monitoring and Evaluation

A10.3.1.1 Benchmarking Research of Young People’s Perceptions of Enterprise

A one-off benchmarking exercise was carried out by an external consultant for the Scottish Executive in 2005. The research was based upon self-completion questionnaires filled in by 11-12 (Primary 7) and 15-16 (Senior 4) year old pupils across Scotland with varying academic ability and through focus on the attitudes of confidence, self expression, notions of success and career success.

¹⁷³ “Skills for Scotland: Accelerating the Recovery and Increasing Sustainable Economic Growth”

¹⁷⁴ Scottish Executive (2005) “Benchmarking Research of Young People’s Perceptions of Enterprise”
<http://www.scotland.gov.uk/Resource/Doc/37432/0010385.pdf>

¹⁷⁵ Scottish Executive (2005) “Determined to Succeed: Enterprise in Education SME Survey”
<http://www.scotland.gov.uk/Resource/Doc/36496/0028774.pdf>

¹⁷⁶ Undertaken by Futureskills Scotland, 2008 survey (published in 2009) is found at
<http://www.scotland.gov.uk/Resource/Doc/263613/0078884.pdf>

Indicators include:

- % of Senior 4/Primary 7 students who desired to be their own boss;
- % of Senior 4 students who had undertaken a work experience placement;
- % of Senior 4 students who had a part time job;
- % of Senior 4/Primary 7 students who had run an enterprise or business project at school; and
- % of Senior 4/Primary 7 students who felt that local business people were 'successful'.

A10.3.1.2 Determined to Succeed: Enterprise in Education SME Survey

DtS established the need for business involvement in schools to support the EiE agenda. The EiE SME Survey aimed to identify any barriers to EiE so that policy could be developed to increase engagement. Whilst the survey asked a number of questions relating to EiE, only a few are of direct relevance to the logic model of entrepreneurship education, including:

- % of businesses involved in enterprise activity; and
- % of businesses who were "likely" to continue engagement with enterprise activity;

A10.3.1.3 Scottish Employer Skills Surveys

Futureskills Scotland¹⁷⁷ undertake a survey with Scottish employers biennially, entitled The Scottish Employer Skills Survey. The survey assesses over 6,000 employers' views on a variety of topics relating to recruitment (such as vacancies and skills shortages) and workforce development (skills gaps and training).

The survey asks a number of questions of employers which could relate to results of entrepreneurial education, although not necessarily directly attributable to it, namely:

- % of employers who had recruited a school leaver directly from school and felt they were 'well prepared' for work; and
- % of employers who had recruited a college leaver directly from college and felt they were 'well prepared' for work.

A10.3.2 Global Entrepreneurship Monitor Scotland (GEM Scotland)

GEM for Scotland is collated by Professor Jonathan Levie based at the Hunter Centre of Entrepreneurship at the University of Strathclyde. The Centre also works with Aston Business School to compile the UK Report.

Scotland has been part of the GEM consortium since 2000 with data on entrepreneurship collated annually enabling the comparison of entrepreneurship trends over time and against the UK and other countries who are part of the GEM consortium. The focus of the survey is on attitudes to entrepreneurship and entrepreneurial behaviour, a number of indicators could provide an indication on entrepreneurship education;

- % of population (18-64) who feel they have the skills or knowledge to start a business;
- % of population (18-64) who hope to start a business in the next 3 years;
- % of population (18-24) who hope to start a business in the next 3 years; and
- % of population (18-24) who are running a business.

A10.3.3 Office for National Statistics

¹⁷⁷ Futureskills Scotland is part of the Lifelong Learning Unit of the Analytical Services Division of the Scottish Government's Education Directorate.

Statistics are collected by the Office for National Statistics across the UK at the regional level which indicates levels of entrepreneurship including through Business Demography statistics:

- VAT/PAYE Registrations per 10,000 population.

A10.3.4 Project Level Monitoring

At the project level, data is collated for a number of enterprising activities which provide opportunity to assess the impact of entrepreneurship education where activity is non-compulsory. Whilst not nationally reported, this activity is provided to the Enterprise and Employability Division of the Scottish Executive. Data is received from a number of sources including Young Enterprise Scotland (YES) and Co operative Education Trust Scotland (CETS)¹⁷⁸. Data collated which is related to entrepreneurship education include:

- Young Enterprise Scotland
 - % of students who engage with Young Enterprise Scotland;
 - % of YES alumni who would consider starting a business;
 - % of YES alumni who have started a business;
 - % of YES alumni aged 18 to 24 who have set up or are in the process of setting up a business, compared to the wider 18 to 24 population.
- Co operative Education Trust Scotland (CETS)
 - % of secondary schools who have engaged with CETS;
 - % of primary schools who have engaged with CETS;
- Princes Scottish Youth Business Trust (PSYBT)
 - Number of students engaged with the programme;
 - Number of businesses supported.

Table A10.1 Indicators identified in Scotland

Indicator Description	Method and Frequency of Collection	Data Source (or likely source)	Strengths of Indicator	Weaknesses of Indicator
Input				
Determined to Succeed – Enterprise in Education Strategy	Strategy embodies the acceptance of recommendations of Expert Review Group between 2001 and 2002.	Expert Group – Scottish Government, Educational Institutions, Business Entrepreneurs.		
Output				
% of businesses involved in enterprise activity	Collated in 2005 as one-off survey to assess the views of SMEs on EiE. Telephone interview with <500 EiE participating and non-participating businesses with a	<i>Determined to Succeed: Enterprise in Education SME Survey</i>	Illustrates engagement of business with EE	Does not illustrate continuation of activity or length of time over which activity took place.

¹⁷⁸ Details of data collected received from the Enterprise and Employability for Young People Division/ Employability, Skills & Lifelong Learning Directorate, the Scottish Executive.

Indicator Description	Method and Frequency of Collection	Data Source (or likely source)	Strengths of Indicator	Weaknesses of Indicator
	smaller number of follow up interviews.			
% of students who engage with Young Enterprise Scotland	Project level monitoring	YES Exploring the Value of Enterprise Education	Illustrates the number of students choosing to engage with non-compulsory activity	Project level monitoring not directly comparable to other countries/projects
Number of students engaged with the PSYBT programme	Project level monitoring	PSYBT Monitoring	Illustrates the number of students choosing to engage with non-compulsory activity	Project level monitoring not directly comparable to other countries/projects
Number of businesses supported through the PSYBT programme	Project level monitoring	PSYBT Monitoring	Illustrates business commitment to a non-compulsory programme	Project level monitoring not directly comparable to other countries/projects
Outcome				
% of businesses who were “likely” to continue engagement with enterprise activity	Collated in 2005 as one-off survey to assess the views of SMEs on EiE. Telephone interview with <500 EiE participating and non-participating businesses with a smaller number of follow up interviews.	<i>Determined to Succeed: Enterprise in Education SME Survey</i>		Aspirational indicator, does not indicate actual continuation of activity
% of population (18-64) who feel they have the skills or knowledge to start a business	Collated Annually.	GEM - Scotland	Global comparativeness; Regional comparativeness (UK); Opportunity to view trend in EE over time	
% of YES alumni who would consider starting a business		YES Exploring the Value of Enterprise Education	Indicates the success of Young Enterprise where students choose to engage with the programme	Project level monitoring not directly comparable to other countries/projects
% of employers who had recruited a school leaver directly from school and felt they were well prepared' for work	Collated biennially. Survey of 6,000+ employers	Scottish Employer Skills Surveys	Opportunity to view trend in EE over time	Qualitative – depends on industry, requirements of employer. No ability to assess whether student

Indicator Description	Method and Frequency of Collection	Data Source (or likely source)	Strengths of Indicator	Weaknesses of Indicator
				engaged in EE.
% of employers who had recruited a college leaver directly from college and felt they were 'well prepared' for work	Collated biennially. Survey of 6,000+ employers	Scottish Employer Skills Surveys	Opportunity to view trend in EE over time	Qualitative – depends on industry, requirements of employer. No ability to assess whether student engaged in EE.
% of population (18-64) who hope to start a business in the next 3 years	Collated Annually	GEM - Scotland	Global comparativeness; Regional comparativeness (UK); Opportunity to view trend in EE over time	Aspirational indicator which does not indicate that business will start up; not directly attributable to EE.
% of population (18-24) who hope to start a business in the next 3 years	Collated Annually	GEM - Scotland	Ability to assess Entrepreneurship attitude after students leave school; Global comparativeness; Regional comparativeness (UK); Opportunity to view trend in EE over time	Aspirational indicator which does not indicate that business will start up; not directly attributable to EE.
Impact				
% of population (18-24) who are running a business	Collated Annually	GEM - Scotland	Global comparativeness; Regional comparativeness (UK); Opportunity to view trend in EE over time	Not directly attributable to EE.
VAT/PAYE Registrations per 10,000 population	Collated annually	ONS Business Demography	Enables trend to be viewed over time; regional comparativeness with UK;	Not directly attributable to participation in EE; not all businesses registered as dependent on size and inclination of owners
% of YES alumni who have started a business	Project level monitoring	YES Exploring the Value of Enterprise Education	Indicates the success of Young Enterprise where students choose to engage with the programme	Project level monitoring not directly comparable to other countries/projects
% of YES alumni aged 18 to 24 who have set up	Project level monitoring	YES Exploring the Value of Enterprise	Indicates the success of Young Enterprise where	Project level monitoring not directly

Indicator Description	Method and Frequency of Collection	Data Source (or likely source)	Strengths of Indicator	Weaknesses of Indicator
or are in the process of setting up a business, compared to the wider 18 to 24 population		Education	students choose to engage with the programme compared to wider population of non-participants	comparable to other countries/projects

A10.4 Future Developments

There is currently no monitoring framework in place for entrepreneurship education in Scotland. While surveys have been undertaken in the past to assess employer and student attitudes to entrepreneurship, these were principally one-off surveys which established a benchmark from which Determined to Succeed could review progress.

Data on entrepreneurship education is collected at the project level through schemes (such as YES, CETS) and through annual surveys (such as GEM and ONS Business Demography) with informal monitoring taking place at the school level. However, there are no plans to update the DtS Strategy, instead EiE delivery has been embedded into the refreshed curriculum.

The integration of entrepreneurship education into Scotland's schools is at an early stage. There has been no real impetus put on monitoring entrepreneurship education because a whole generation of students receiving EiE has not been engaged in the new curriculum or new priorities. The future monitoring of entrepreneurship education is likely to be focused on quality through HMIE inspections and the wider attitudinal surveys carried out by the GEM consortium.

Annex 11 UK - Wales

A11.1 Introduction

Wales is governed by the Welsh Assembly Government (WAG), as a devolved administration of the UK. Entrepreneurship education was first addressed by economic policy in 2002, which led to the introduction of the first “Youth Entrepreneurship and Enterprise Strategy (YES) for Wales” in 2004. This strategy was refreshed in 2010, leading to the development of a new Action Plan including the introduction of a number of 5 year targets. A monitoring framework is yet to be formally established – however, in June 2011 an Action Panel is due to be appointed who will be responsible for agreeing targets, monitoring progress and agreeing a framework for evaluation up to the 2015.

A11.2 Entrepreneurship Education Policy Context and Objectives

The importance of Enterprise was first established by the Welsh Assembly Government’s (WAG) economic policy “A Winning Wales”¹⁷⁹ which recognised the need to improve the climate for enterprise and ensure that the school and college systems were aligned to the importance of team work, project work, creativity and business venturing; key elements of entrepreneurship education. The policy set out a ten year vision for Wales to ensure that the conditions for sustainable development were achieved, including an action to implement an Entrepreneurship Action Plan to minimise the barriers to enterprise in education at all levels.

A11.2.1 Youth Entrepreneurship and Enterprise Strategy for Wales (YES)

In 2004, the “Youth Entrepreneurship and Enterprise Strategy for Wales”, known as ‘YES’, was introduced which acknowledged a need to ‘empower (the) education system to contribute towards a more entrepreneurial culture’.¹⁸⁰ The strategy was developed through a consultation and mapping exercise, led by the Welsh Development Agency (WDA) and monitored by a Panel of stakeholders with interest in economic development and education.

YES looked to establish a ‘common model’ of entrepreneurship learning through a framework to improve enterprise skills, values and attitudes in a manner which equipped young people (aged 5 to 25) with ‘*aspiration, confidence, experience and skills to want to create opportunities for themselves*’. YES developed a model for understanding and teaching entrepreneurship through four key dimensions of entrepreneurial behaviour; Attitude, Relationships, Creativity and Organisation (ACRO).¹⁸¹ It aimed to achieve this through three key action areas: awareness, learning and support. Initially a baseline of entrepreneurial skills, attitudes and quality benchmarks was to be established and then progress monitored through project level targets and high level key performance indicators (KPIs). KPIs include youth economic inactivity, the level of enterprise activity amongst under 25s and the number of business starts ups compared to other parts of the EU and the world.

In 2007, WAG reiterated their commitment the entrepreneurship education agenda through acknowledgement of the need to establish and develop links between education and entrepreneurship.¹⁸² This was later joined by a new economic policy¹⁸³ which committed the

¹⁷⁹ WAG (2002) “A Winning Wales: The National Economic Strategy of the Welsh Assembly Government” http://wales.gov.uk/docrepos/40382/dhss/strategies/walesabettercountry_-_e.pdf;jsessionid=RTS2NJJPTp62y5BGGzyP18mz0yh5LJNQP9kKdsTkJ5B8GBX0DmJD!1531853584?lang=en

¹⁸⁰ WDA & WAG (2004) “Youth Entrepreneurship and Enterprise Strategy for Wales”

¹⁸¹ Attitude (including self-knowledge, belief and confidence, motivation, determination, aspiration and competitiveness), Relationships (including communication, working with others, managing difficult situations, negotiation, persuasion, influence and presentation), Creativity (including problem solving, innovation, spotting and creating opportunities and lateral thinking) and Organisations (including planning, managing resources, decision making, managing risk, research and understanding, vision and goal setting).

¹⁸² WAG (2007) “One Wales – A progressive agenda for the government of Wales”

government to revising the YES Action Plan to outline key issues for young people, education, business and the community to develop the skills which would support enterprise.

A11.2.2 The Youth Entrepreneurship Strategy: An Action Plan for Wales 2010-15

Following WAG's commitment to re-launch YES, an Action Plan was published in November 2010 to cover the period up to 2015.¹⁸⁴ The Action Plan brings together the Department of Education and the Department of the Economy and Transport as key deliverers of activity, in a cross departmental approach to improving entrepreneurship education. Alongside the strategy, WAG launched a website (www.bigideaswales.com) and campaign to drive the plan forward and provide students with inspiration, access to information and enable partners to share information about the YES campaign.

The renewed action plan drew upon key successes and learning points from YES which had been identified through a rigorous process of evaluation. Entrepreneurs, key stakeholders and young people were consulted on evaluation findings, following which the action plan was sent to Ministers and officials across WAG and its departments to ensure that there was 'buy in' from the necessary leads for actions going forward.

The primary objectives of YES are:

- To increase impetus of entrepreneurship education and bring more impressive results; and
- To equip young people aged 5 to 25 with enterprise skills and attitudes to raise aspirations.

The government appreciates that YES must be viewed as a long- term investment to create a prosperous Wales and that the gross impact of the Action Plan is a crucial part to its success and future delivery of more entrepreneurial activity. The Department for the Economy and Transport are in the processes of setting up YES Action Panel to measure the plan's success. The Panel will ensure that strategic needs of Wales can be responded to at all levels from the grass roots upwards. More specifically, the Panel will:¹⁸⁵

- Agree targets for the Action Plan;
- Monitor progress against set targets;
- Agree a framework for evaluation to measure the qualitative and quantitative impact of the plan nationally and internationally through benchmarking;
- Provide quality assurance guidance;
- Ensure the Plan's future direction is aligned with changes to economic priorities; and
- Ensure that lead partners deliver against the targets they are responsible for.

A11.3 Indicator Mapping

The renewed strategy aims to increase the impetus on enterprise education and build on the results of the previous strategy which included an increased share of under 25s with aspirations to work for themselves (compared to the 16 – 64 group) and higher levels of graduate entrepreneurship than in the UK as a whole. The Action Plan traverses three delivery themes:

¹⁸³ WAG (2010) "Economic Renewal: a new direction"
<http://wales.gov.uk/docs/det/report/100705anewdirectionen.pdf>

¹⁸⁴ WAG (2010) "The Youth Entrepreneurship Strategy: An Action Plan for Wales 2010-15"
<http://wales.gov.uk/docs/det/publications/101115yesen.pdf>

¹⁸⁵ WAG (2010) "The Youth Entrepreneurship Strategy: An Action Plan for Wales 2010-15"
<http://wales.gov.uk/docs/det/publications/101115yesen.pdf>

- Engaging – promoting entrepreneurship’s value to create opportunities and develop young people;
- Empowering – providing young people with entrepreneurial learning opportunities;
- Equipping – supporting young people to create a grow business.

Under each theme, a number of indicators for monitoring have been established focusing on the output and impact of EE activity, as illustrated in Table A11.1.

These indicators will be finalised by the YES Action Panel once established in June 2011, in addition to the introduction of a Monitoring and Evaluation Framework. The indicators suggested in the Action Plan have been collated on the basis of evidence¹⁸⁶ and provide 5 year targets for the strategy; much of the data will be collated bi-annually to feed into twice yearly Action Panel meetings (with the exception of those indicators collated by an external body which are primarily collated annually).

In addition to the macro-level indicators established by WAG, there is focus on project level activity. Partners will be encouraged to work collaboratively and increase the impact of their activities. As part of this, Regional Groups will be established which may lead to the introduction of a Regional-level YES with focus on the FE or HE level. Big Ideas Wales is the catalyst for the YES strategy and will work alongside education institutions, monitoring will also enable regional activity to be compared to see where entrepreneurial hotspots exist or where future activity is required.

The mapping illustrates that primarily the Welsh Assembly Government focuses it entrepreneurship education indicators at the output and impact stages of the logic model with particular focus at the macro-level.

YES 2004 illustrated that behavioural change such as increased graduate start ups and propensity to become an entrepreneur had improved. WAG continues to align policy, as well as indicators, to ensure that there is a holistic approach to entrepreneurship and that an interest in entrepreneurship and entrepreneurial skills and attitudes are instilled in young people.

Whilst there is no framework in place at present, the Action Panel will be tasked with ensuring that monitoring and evaluation of EE activity takes place. Furthermore, they will ensure that progress against key targets are assessed on a 6 to 12 monthly basis to meet the 5 year targets and that the lead ministers and departments remain committed to the strategy.

Table A11.1 Indicators identified in Wales¹⁸⁷

Indicator Description	Method and Frequency of Collection	Data Source (or likely source)	Strengths of Indicator	Weaknesses of Indicator
Input				
Youth Entrepreneurship and Enterprise Strategy	2010 to 2015	WAG	Commitment to developing EE in Wales	

¹⁸⁶ Such as GEM, Omnibus Survey, HECBIS and the previous Action Plan

¹⁸⁷ WAG (2010) “The Youth Entrepreneurship Strategy: An Action Plan for Wales 2010-15”, Dynamo Monitoring Framework (from Suzanne Morgan, Senior Manager Youth Entrepreneurship, WAG)

Indicator Description	Method and Frequency of Collection	Data Source (or likely source)	Strengths of Indicator	Weaknesses of Indicator
YES An Action Plan for Wales	2010 to 2015	WAG	Commitment to developing EE in Wales	
Outputs				
# of entrepreneurs engaged with young people	Biannually(?) to feed into Action Panel meetings	Dynamo ¹⁸⁸ Role Model Programme monitoring	Ability to assess regional progress/ engagement	Does not take account of number of students engaged with entrepreneurs
# of students involved in entrepreneurial activity as part of the curriculum	Annual	Welsh Bacallaureate monitoring	Ability to assess regional progress/ engagement	
# of students in schools involved in entrepreneurial learning opportunities in variety of environments	Annual	Welsh Bacallaureate monitoring	Ability to assess regional progress/ engagement	
# involved in experiential learning activities in FE and HE	Biannually(?) to feed into Action Panel meetings	FE/ HE activity mapping	Ability to assess regional progress/ engagement	
# attending Big Ideas Wales events	Biannually(?) to feed into Action Panel meetings	Big Ideas monitoring	Ability to assess regional progress/ engagement	
# accessing www.BigIdeasWales.com	Biannually(?) to feed into Action Panel meetings	Big Ideas traffic monitor	Ability to assess regional progress/ engagement	Unable to ascertain whether access leads to development entrepreneurial attitude
# of young people receiving start up support	Biannually(?) to feed into Action Panel meetings	Start Up Data Capture		Difficult to pin profile of start ups to EE activity
# of graduates receiving start up support	Biannually(?) to feed into Action Panel meetings	Start Up Data Capture		Difficult to pin profile of start ups to EE activity
Outcome				
% Awareness of self-employment as career option	Biannually(?) to feed into Action Panel meetings	Online catalyst assessment	UK/ Global Comparability?	

¹⁸⁸ Dynamo is part of the range of activities developed through the Entrepreneurship Action Plan (EAP) for Wales as part of the first iteration of YES – it was implemented between 2001 and 2007 and included a network of “Role Models” and a variety of curriculum materials.

Indicator Description	Method and Frequency of Collection	Data Source (or likely source)	Strengths of Indicator	Weaknesses of Indicator
% Young people considering being their own boss	Annual	Annual Omnibus Survey	Global comparability	
Benchmarking against SEET countries	(indicators yet to be established)	SEET monitoring	(indicators yet to be established)	(indicators yet to be established)
Impact				
Graduate start up surviving for 3 years	Annual	Higher Education Business and Community Interaction Survey (HEBCIS)	UK comparability	Difficult to assess whether start up is due to EE activity.
% graduate start up companies as % of UK population	Annual	Higher Education Business and Community Interaction Survey (HEBCIS)	UK comparability	Difficult to assess whether start up is due to EE activity.
Entrepreneurially active young people aged 18 - 24 (above UK average)	Annual	GEM profiling	Global Comparability	Difficult to assess whether entrepreneurial activity is due to EE.

A11.4 Future Developments

The indicators introduced by the revised YES strategy will be finalised after June 2011, once the Action Panel has been established; - the indicators have, however, already been agreed by ministers at WAG and are therefore unlikely to change significantly. Key to the monitoring framework will be its holistically driven foundations which will ensure that the approach is not just academically or economically driven, but that schools themselves have ownership and are driven to improve the development of entrepreneurship education within their institution.

The Welsh government are keen to work further with the partners established through SEET at the European level, and these benchmarks will be developed further over the coming months and feed into the monitoring framework.

WAG have recently worked with the National Council for Graduate Entrepreneurship (NCGE) to undertake a survey at the higher education level which will be made public shortly which will be used to benchmark Welsh entrepreneurial activity against those in England.

Annex 12 Germany

A12.1 Introduction

Due to the federal structure of Germany, responsibility for the education system is shared between the *Länder* (the 16 federal sub-divisions of Germany) and the Federal Government. As stated in Germany's Basic Law (Grundgesetz), educational legislation and administration for the school system, higher education and the adult education/continuing education sector are primarily the responsibility of the *Länder*. The Land Ministries of Education, Cultural affairs and Science, the regional authorities (Bezirksregierung/Oberschulamt) and the lower-level school supervisory authorities (Schulamt) take part in the administration of the educational system. The *Länder* cooperate with each other within the framework of the Standing Conference of all 16 Land Ministers of Education and Cultural Affairs on matters of trans-regional importance.¹⁸⁹

The responsibilities of the Federal Government in education comprise the legislation concerning the admission to and administration of higher education institutions, including financial support for individual training and the promotion of younger academic staff. The promotion of research is a shared responsibility between the Federation and the *Länder*.¹⁹⁰

The sector of Vocational Education and Training (VET) is regulated in the (German) Vocational Training Act (Berufsbildungsgesetz). Initial training takes place in a dual system, comprising training at both workplace and school. The workplace activity follows nationally coordinated training regulations; each vocation has its own regularly updated training regulation, supervised by public-law corporations (such as chambers of industry and commerce, chambers of handicraft, etc.). For the school-based part of work, framework curricula are in place, adapted to the training regulations. These curricula are established by the *Länder*. In Germany, two-thirds of all school leavers are trained in the VET-sector.¹⁹¹

However, as to the inclusion of entrepreneurship education in school curricula, there is no national strategy in place.

A12.2 Federal and regional education monitoring

In recent years, the school curricula of the *Länder* have increasingly taken into account the concept of lifelong learning. Transversal key competences such as the acquisition of fundamental knowledge, abilities and skills, as well as the acquisition of competences for further learning have become important educational objectives. Consequently, the *Länder* believe that the development, the implementation and the evaluation of national educational standards (Bildungsstandards) is a central element in order to assure the quality of the German education system. In 2007, the *Länder* resolved to develop national educational standards for the general qualification for university entrance (Allgemeine Hochschulreife).

Along these lines, the Federal Government and the *Länder* have agreed to a joint education reporting, introducing an education monitoring system referring to these national educational standards. The 'general strategy of educational monitoring' defines aims for the individual school and the whole education system and ways of observing and monitoring the improvement. The 'National Report on Education' is indicator-based and presented as a continuous, data-based, problem-centred examination of the German education system. The volumes will be published every two years and present a permanent set of core indicators in order to guarantee the consistency of educational reporting.

¹⁸⁹ EURYDICE, National system overviews on education systems in Europe and ongoing reforms. Germany, July 2010. Available online: http://eacea.ec.europa.eu/education/eurydice/documents/eurybase/national_summary_sheets/047_DE_EN.pdf

¹⁹⁰ EURYDICE Ibid.

¹⁹¹ EURYDICE Ibid.

The first report including an analysis of education and migration had been published in 2006.¹⁹² For the VET sector, there is an annual report (Berufsbildungsbericht).¹⁹³ The *Laender* also publish separate educational reports, although on a less frequent basis. Baden-Wuerttemberg, for example, has published its last report in 2007.¹⁹⁴

However, the report does not contain any indicators on entrepreneurship education or key competences related to entrepreneurship education (innovativeness, risk-taking, assertiveness etc.). The report on VET contains one reference to the necessity of entrepreneurship education against the background of demographic change.¹⁹⁵

A12.3 Entrepreneurship Education: Best Practice on regional level (Baden-Wuerttemberg)

Baden-Wuerttemberg is a land with ca. 10.25 million inhabitants. Roughly 1.25 million students attend general education institutions; 440,000 students attend VET schools.¹⁹⁶

According to the Regional Statistical Bureau, Baden Wuerttemberg is one of the wealthiest regions in Europe with a GDP (nominal) per capita above German average and EU-average.¹⁹⁷ Baden-Württemberg is also the region with the biggest strengths in innovation in Germany (and in Europe, based on expenses for research and development, reputation of universities, number of patent applications and a number of other factors).¹⁹⁸ It also cultivates a longstanding tradition of independent, small and medium-sized entrepreneurship.

However, regional data highlights that founding activities in Baden-Wuerttemberg in the last decade had decreased to a figure below German average.¹⁹⁹ The foundation of 'ifex', the Initiative for Start-ups and Business Transfer by the Ministry of Economic Affairs, in 2001 is therefore regarded as part of a package of countermeasures to preserve the economic structure of the land and to maintain its entrepreneurial tradition and self-conception.

'School and Entrepreneurship' is a core area of activity within 'ifex'.²⁰⁰ A cross-stakeholder partnership for entrepreneurship education has been developed that includes the regional education and economy ministries, the Chamber of Industry and Commerce, the Chamber of Crafts as well as business and entrepreneurship education support institutions. There are also links to the federal economy ministry.

'Ifex' has developed a four-level entrepreneurship education strategy

- Sensibilisation and motivation for entrepreneurship;
- Qualification for entrepreneurship;
- Support the development of ideas on entrepreneurial activity (business plan competitions); and
- Entrepreneurial practice ('junior companies');

which focuses on:

- Targeted support for more entrepreneurial students;
- Student-led enterprise creation;
- Experiential entrepreneurial learning and role modelling; and

¹⁹² <http://www.bildungsbericht.de/zeigen.html?seite=6609>

¹⁹³ <http://www.bmbf.de/de/berufsbildungsbericht.php>

¹⁹⁴ <http://www.lsbw.de/bildungsberichterstattung/>

¹⁹⁵ Berufsbildungsbericht 2010, P. 8, <http://www.bmbf.de/de/berufsbildungsbericht.php>

¹⁹⁶ <http://www.statistik.baden-wuerttemberg.de/BildungKultur/Landesdaten/#BS>

¹⁹⁷ <http://www.statistik.baden-wuerttemberg.de/Pressemitt/2011083.asp?VolkswPreise>

¹⁹⁸ http://www.statistik.baden-wuerttemberg.de/Veroeffentl/Monatshefte/PDF/Beitrag07_07_01.pdf

¹⁹⁹ *Ibid.*, p. 3

²⁰⁰ http://www.schulen.newcome.de/schulen/13_English_information/index.php

- The development of formal qualifications in entrepreneurship education.²⁰¹

Various strategies and instruments to motivate young people to become an entrepreneur have been developed and introduced. Among other activities, 'ifex' organises state-wide business game competitions and information campaigns, student, junior and practice companies, support for further training of teachers, the development of textbooks and teaching materials as well as an internet portal²⁰² and other advice on the topic of school and entrepreneurship.²⁰³ The following activities have also been set up:

- a seed capital fund by an accredited regional bank where students can submit requests for financial support set against viable business plans;
- a telephone hotline for students with queries on school-based enterprises is addressing issues such as company registration, taxation, patenting, finance etc.; and
- a systematic student tracking framework to determine impact which doubles up as an alumni support framework.

A12.4 Indicator Mapping: Indicators collected against logic model

As has already been stated, the evaluation of entrepreneurship education is not part of the general national and regional education monitoring. The VET monitoring contains only one relevant indicator for the impact of entrepreneurship education:

- % of students (over 14) who are offered work-based vocational learning.

Due to Germany's dual system, the figure is quite high (two thirds of the school leavers) and consequently this is not very meaningful to entrepreneurship education.

To collect and map indicators, the following data and documents have been screened for this study:

- The data collected for Germany which feed into the annual updates of the Global Entrepreneurship Monitor;
- The Global Entrepreneurship Monitor Special Report on 'A Global Perspective on Entrepreneurship in Education and Training in 2010';
- the KfW Gruendungsmonitor; and
- the IFEX evaluation framework.

A12.4.1 Global Entrepreneurship Monitor

For Germany, the research for the GEM is done by IAB (Institute for Labour Market and Vocational Research) alongside the University of Hannover.²⁰⁴

The GEM results for Germany include five indicators which are interesting regarding the evaluation of Entrepreneurship Education:

- % of working age population who are seeking to establish a business within 3 years (nascent entrepreneurs);
- % of working age population (18-44) who have received EE;
- % of under 25s who have started their own business;
- % of working age population who are self-employed;
- Rate of new firm foundation.

²⁰¹ A Pilot Action on Entrepreneurship Education: High Level Reflection Panel. Fifth Cluster Meeting. Zagreb, 18-19 March 2010, p.20. Available online: [http://www.meda-ete.net/pubmgmt.nsf/\(getAttachment\)/F14FA189FEB04301C12577520031F749/\\$File/NOTE86WCP3.pdf](http://www.meda-ete.net/pubmgmt.nsf/(getAttachment)/F14FA189FEB04301C12577520031F749/$File/NOTE86WCP3.pdf)

²⁰² www.schulen.newcome.de

²⁰³ <http://www.ifex.de/ifex/index.php>

²⁰⁴ Global Entrepreneurship Monitor, Unternehmensgruendung im weltweiten Vergleich. Laenderbericht 2009. http://www.wigeo.uni-hannover.de/fileadmin/wigeo/Geographie/Forschung/Wirtschaftsgeographie/Forschungsprojekte/laufende/GEM_2009/gem2009.pdf

A12.4.2 The Global Entrepreneurship Monitor Special Report on ‘A Global Perspective on Entrepreneurship in Education and Training in 2010’

In the Global Entrepreneurship Monitor, entrepreneurship education and training have repeatedly been ranked as inadequate. Therefore, the GEM examined this topic in its 2008 adult population surveys²⁰⁵ and published a Global Entrepreneurship Monitor Special Report on ‘A Global Perspective on Entrepreneurship in Education and Training in 2010’.

This report contains figures on six indicators which are interesting regarding the evaluation of Entrepreneurship Education:

- % of working age population (18-44) who have received EE;
- % of students receiving EE as part of compulsory studies;
- % of students receiving EE (collated at pre-primary and early years, primary education, secondary education, VET or HE levels);
- % of students gaining a qualification in EE;
- % of students who start up a business after xx years of EE completion;
- Ratio of male to female engagement with EE

It must be noted, though, that both editions of the GEM deliver facts and figures on federal level, not on regional level. These two instruments are not suitable to describe the development in the best practice region of Baden-Wuerttemberg - there are no data available to set out differences between the regions or ‘Laender.’

A12.4.3 KfW Founding Monitor

The KfW founding monitor is annually published and describes founding activity in Germany.

KfW (Kreditanstalt für Wiederaufbau) is a public law institution. It has the function of performing promotional tasks, in particular financings, pursuant to state mandate concerning small and medium-sized enterprises, liberal professions and business and start-ups, risk capital, housing, environmental protection, infrastructure, technical progress and innovations, internationally agreed promotional programmes, and development cooperation.²⁰⁶

KfW has conducted annual surveys on the start up of businesses since 2000. The KfW “founding monitor” is the most comprehensive source on the topic in Germany. It contains indicators on the increase or decrease of business start up activities in the preceding year, survival rates of start-ups, the area of business activity, financial requirements and other structural data on start-ups.

The KfW founding monitor also allows for a regional distinction of activities. Baden-Wuerttemberg is the best practice region when the ratio of start ups per capita is considered, on rank five (of sixteen) of the German *Laender* in 2010 – a figure that shows significant progress since preceding years which had necessitated the introduction of measures to foster and support entrepreneurship activities (as mentioned previously in A12.3). The KfW founding monitor does not contain any statements as to entrepreneurship in school or impact of entrepreneurship education.²⁰⁷

More detailed regional data on founding activities are collected by the Regional Statistical Bureaus.²⁰⁸

²⁰⁵ Global Entrepreneurship Monitor, available online: http://www.gemconsortium.org/events_article.aspx?id=33

²⁰⁶ Information of KfW cf.: http://www.kfw.de/kfw/en/III/Download_Center/The_Bank/index.jsp

²⁰⁷ KfW Gründungsmonitor 2010, long version. Available online: http://www.kfw.de/kfw/de/III/Download_Center/Fachthemen/Research/PDF-Dokumente_Gruendungsmonitor/Gruendungsmonitor_2010_Langfassung.pdf

²⁰⁸ <http://www.statistik.baden-wuerttemberg.de/VolkswPreise/>

A12.4.4 Ifex Evaluation framework

For ifex, the following indicators are important to measure the quantitative impact of their activities:

- % of educational institutions with entrepreneurship integrated into the institution (=participating in ifex activities);
- Proportion of EE activity delivered at regional or local levels (=regional distribution of ifex activities);
- % of students receiving EE (collated at pre- primary and early years, primary education, secondary education, VET or HE levels);
- % of students engaging in entrepreneurial activity ('junior companies', which is one special activity of ifex).

Once a year they try to get an overview on how many primary and secondary schools engaged in entrepreneurship education also participate in ifex-measures. 3,000-5,000 schools in Baden-Wuerttemberg fall into the target group and therefore this can only be done through sampling the target group. However, the number of HE institutions is lower (approximately 40) and this allows the systematic review of HE institutions by through phone calls and interviews. They also collect feedback during conferences, congresses and regional business fairs.

Ifex aims to maintain the current level of business activity and the number of SMEs in the region (99% of business activities in Bade-Wuerttemberg is based on SMEs). To keep this rate up and to foster continuity - especially in family enterprises and companies - they introduced activities on to promote business growth and progression. The assessment of outcomes is focused on developing those start ups that establish themselves and that existing businesses can be sustainable. Therefore, the number of start ups is not deemed to be a suitable measure of impact for ifex, moreover, they look to retain the number of start ups and sustain them longer term.

A12.5 Conclusion: Indicators against logic model

In Germany, several indicators at the outcome and impact-level are monitored for the Global Entrepreneurship Monitor. This data is collected to feed into the Global Entrepreneurship monitor but they do not describe the situation in a specific region or 'Land'.

The KfW founding monitor differentiates between regions and displays increasing entrepreneurship activities in Baden Wuerttemberg. The regular monitoring instruments for education (National Education Report and National VET Report) in Germany do not contain any information and analysis on the assessment of entrepreneurship education.

On the basis of the data reviewed it can be said that monitoring activities in Germany regarding entrepreneurship activities in general and education and/or entrepreneurship education are not combined. They are collected for separate monitoring instruments. Data relating to entrepreneurship activities at the federal level are collected, but, based on the literature review undertaken and the interviews conducted, these only are used to feed into in the Global Entrepreneurship Monitor, Education and Training report.

At the national level, a considerable gap exists between data on global impact and data at the output/results level. Intermediate effects are barely monitored.

Monitoring data on activities and their output are collected at the project level and at the regional level with regard to the strategy pursued in Baden-Wuerttemberg. Since Baden-Wuerttemberg does not aim to increase the rate of start-ups, ifex focuses on the impact and outreach of their activities addressing schools, higher education institutions and students.

The GEM-EE-report 2010 reveals that national experts of Germany score highest of all 31 sample countries in believing that public and/or private agencies provide adequate entrepreneurship education and training outside the formal education system. The level of informal education and training provided by public and/or private institutions is rated higher

than the need for assistance in starting businesses. This ratio is only found in one other sample country; Finland.

Finland is at the forefront of governments committing to entrepreneurship education throughout its school system and has the highest level of entrepreneurship training among the 38 countries surveyed, Germany - in line with its perception that adequate entrepreneurship and training is already provided - has been reluctant to introduce formal entrepreneurship education to school curricula or other parts of formal training and scores only a medium range on the provision of entrepreneurship training.

This reluctance in introducing strategies reaching beyond the status quo is mirrored by a lack of data on intermediate level.

Table A12.1 Indicators identified in Germany (Baden-Wuerttemberg)

Indicator description	Method and frequency of collection	Data source	Strength	Weaknesses
Operations				
% of educational institutions with entrepreneurship integrated into the institution	Annually	Ifex	In-depth monitoring	Samples, no systematic evaluation, only institutions are addressed that are already known as participating
Proportion of EE activity delivered at regional or local levels	annually	Ifex, ESF/EFRE monitoring	In-depth monitoring	No systematic collation of data
Output				
% of students receiving EE (collated at pre-primary and early years, primary education, secondary education, VET or HE levels)	Singular survey connected to GEM	GEM-EE	Global comparativeness	Unspecific on preconditions
% of students receiving EE as part of compulsory studies	Singular survey connected to GEM	GEM-EE	Global comparativeness	Unspecific on preconditions
Outcome				
% of students engaging in entrepreneurial activity	annually	Ifex, ESF-EFRE monitoring	direct monitoring of measures	No systematic data gathering
% of students gaining a qualification in EE	Singular survey connected to GEM	GEM-EE	Global comparativeness	Unspecific on preconditions
Ratio of male to female engagement with EE	Singular survey connected to GEM	GEM-EE	Global comparativeness	Unspecific on preconditions

Indicator description	Method and frequency of collection	Data source	Strength	Weaknesses
% of working age population who are seeking to establish a business within xx (3?) years	Biannually	GEM	Global comparativeness	Unspecific on preconditions
% of working age population (18 – 64) who have received EE	Annually, Singular survey connected to GEM	GEM/GEM-EE	Global comparativeness	Unspecific on preconditions
Impact				
% of students who start up a business after xx years of EE completion	Singular survey connected to GEM	GEM-EE	Global comparativeness	Unspecific on preconditions
% of under 25s who have started their own business	annually	GEM	Global comparativeness	Unspecific on preconditions
% of working age population (18-64) who are self-employed	annually	GEM	Global comparativeness	Unspecific on preconditions
Rate of new firm formation	annually	GEM	Global comparativeness	Unspecific on preconditions

A12.6 Future developments

Ifex does not plan to intensify their level of activity as to evaluation. The project monitoring connected to ESF- and EFRE-funding already requires a lot of time and work. Due to scarce resources, ifex cannot undertake a systematic monitoring.

Furthermore, the stakeholder interviewed is uncertain of any coordinated measures or a common monitoring framework that is planned on the national level.

Annex 13 Spain

A13.1 Introduction: Entrepreneurship Education Policy Context and Objectives

A13.1.1 Spanish governance system

Political power in Spain is organized as a central government with devolved power for 17 autonomous communities. These regional governments are responsible for the administration of schools, universities, health, social services, culture, urban and rural development and, in some cases, policing. The autonomous communities have wide legislative and executive autonomy, with their own parliaments and regional governments. The distribution of power may be different in each community, as laid out in their Statutes of Autonomy.

A13.1.2 Legal background

The basic regulation, which determines the legal background of all levels of the education is the Organic Law 2/2006, 3 May, on Education (Spanish initials, LOE), which entered into force in 2009. This law describes the National Curricula (Art. 6.1 LOE), which is the set of objectives, basic competences, contents, teaching methods and assessment criteria of each one of the teaching levels.

Article 6.4 of the LOE is put into practice in the different autonomous communities (namely the Regional Ministries of Education) through their respective education administrations, who are in charge of establishing the curriculum for the different teaching levels regulated in the LOE. The regional teaching centres play an active role in their determination, as they develop and complete, where appropriate, the curriculum established by the education administrations.

A13.1.3 Entrepreneurship definition

LOE introduces different aims, in its Art. 2(f). On regulating each education stage, the LOE introduces the community guidelines and more specifically, the concept of entrepreneurship:

Art. 17 (b) of the LOE states that one of the objectives of Primary Education is “to develop individual and team work habits, effort and responsibility in study, as well as self-confidence attitudes,

Art. 23 (g) of the LOE states that the objective of Compulsory Secondary Education will contribute to develop in students the capacities that will enable them to “develop entrepreneurship and self-confidence, participation, critical sense, personal initiative and the capacity to learn to learn, plan, make decisions and assume responsibilities”.

Art. 33 (k) of the LOE establishes that the objective of Higher Education is to contribute to develop in students the capacities that will enable them to “consolidate entrepreneurship with attitudes of creativity, flexibility, initiative, teamwork, self-confidence and critical sense”.

And finally, according to Art. 40 (f) of the LOE, the objective of Vocational Training in the education system is to contribute to the students acquiring capacities that will enable them to “consolidate entrepreneurship to carry out enterprising activities and initiatives”.

Entrepreneurship education is included in the national framework curriculum and is compulsory for all VET fields (technical, industrial, commercial, etc). Although in most cases entrepreneurship is still an optional subject or is compulsory only in some parts of the vocational education system.

The law started to be implemented in 2009 at the local level by the autonomous regions. Until the entry into force of the LOE, only a few autonomous communities had included entrepreneurship as an optional subject in their curricula. Groundbreakers include: Asturias, Navarra and Castile-Leon. Once the LOE was enacted, it is being systematically introduced into the curricula of all the autonomous communities, especially in Training Cycle and Vocational Training Education.

A13.1.4 Policies and programmes

As previously mentioned, entrepreneurial education is encouraged at all levels of education, although there is no national policy or action plan which would focus on this particular area. The different regions are acting independently to include entrepreneurial education into the different levels of the education; consequently regions vary as to whether the compulsory education and post-compulsory education curriculum includes factors which foster an entrepreneurial culture.

Generally, entrepreneurial education in Spain is based on an educational model that works from an early age on the key skills of students, including activities which help pupils to learn about work, business and labour. Entrepreneurship programmes and activities as part of established courses normally account for a minimum of 35 hours per year, distributed over three hours per week in the second year of studies. The 35 hours refer to 55 % of curricular content (as the Ministry of Education provides general directives on educational policy), but Autonomous Communities can increase this to as much as 100%.

There are several autonomous regions which are pioneers in launching entrepreneurial education programmes.

A13.1.5 Best practices in the autonomous regions

Numerous business creation initiatives have been carried out in secondary education and occupational training centres in many autonomous communities over the past few years: Asturias, Extremadura, Galicia, etc. Some of them collaborate with each other or even share methodology and educational materials, as occurs with the EJE (**Empresa Joven Europea - Young European Enterprise**) and EME (**Empresa en mi Escuela - a company in my school**) programmes, created by Valnalon in Asturias, and set up in many other autonomous communities. **Junior Achievement Foundation** was created in 2001. It collaborates directly with school centres all over Spain order to prepare and inspire young people for them to be successful in a global economy, generating entrepreneurship through different education activities and contests.

A13.2 Key stakeholders in entrepreneurship education

There are various key institutions and government bodies which are playing leading role in the elaboration of entrepreneurial education programmes in Spain. The educational administrations, in cooperation with the labour administrations and the social partners, and through the General Council of the vocational training, take part in developing programmes in the field of entrepreneurial education.

The **Ministry of Education, Social Policy and Sport** is responsible for regulating the general programming of the education system, the contents of the minimum core curriculum and for defining the education standards at the national level. Whilst the **Ministry of Industry, Tourism and Trade** is responsible for policy which supports SMEs and supports the creation of start ups and disseminates and monitors community guidelines in support policies to entrepreneurship. Furthermore, in compliance with the commitment of the Spanish Business Promotion Plan of 2006, it carries out actions to boost and promote entrepreneurship, some of which are undertaken in collaboration with the Ministry of Education.

At the regional level, the regulation is under the control of the Regional Ministries of Education, while the explicit curricula development is elaborated by the regional teaching centres.

A13.2.1 Why there is no national policy

While entrepreneurship education is included in the Spanish national framework curriculum and is compulsory for all VET fields (technical, industrial, commercial, etc), the exact content of the curricula is elaborated by the education centres at the autonomous region level. Education is one of the main issues which is under the authority of regions in Spain which

leads to difficulties in elaborating a national strategy or action plan in specific fields such as entrepreneurial education.

A13.3 Monitoring and indicators

As no framework for entrepreneurial education exists, there is not a separate monitoring system to measure the performance of EE at the national level. Progress is measured indirectly, through labour force data created by vocational education, the increase of self-employed people and the generation of new small and medium businesses.

At the regional level, indicators which measure progress for certain programmes exist. For the Asturias programme, monitoring is based on specific indicators, which periodically assess the degree to which its objectives are being fulfilled. The Ministry of Industry and Employment presents an annual performance report which reflects the performance indicators of the intervention for each year period.

The following tables contain indicators which are available in Spain at national and regional levels, and also contains the latest data of the existing indicators.

Table A13.1 Indicators identified in Spain

Indicators	Statistic	Method / Source ²⁰⁹	Strength	Weakness
Operations				
% of educational institutions with entrepreneurship integrated into the institution	100%	vocational training centres are the ones that include in their curriculum and training module and a Career Guidance Enterprise and Entrepreneurship. These centres represent this percentage of total non-university schools in Spain.		
% of educational institutions with EE integrated into the curriculum	12.99%,			
% of educational institutions with EE integrated into the core curriculum	100%,	all curricula curriculum for compulsory and post-compulsory levels of the Spanish educational system have content related to basic entrepreneurial skills.		
Outputs				

²⁰⁹ All data obtained from Ministry of Education – source of indicators not yet established

Indicators	Statistic	Method / Source ²⁰⁹	Strength	Weakness
% of students receiving EE as part of compulsory studies	100%			
		all curricula curriculum for compulsory and post-compulsory levels of the Spanish educational system have content related to basic entrepreneurial skills.		
Outcome				
% of students exhibiting entrepreneurial competences	100%			
		all curricula curriculum for compulsory and post-compulsory levels of the Spanish educational system have content related to basic entrepreneurial skills.		
% of students who became interested in becoming an entrepreneur due to school studies	59%	Bertelsmann Foundation		
% of students engaging in entrepreneurial activity	6%	Bertelsmann Foundation		
% of students considering self-employment as a career	59%	Bertelsmann Foundation		
Ratio of male to female engagement with EE	51% female, 49% male			
% of educational institutions with links to businesses or business associations	100%, as VET centres are all in connection with businesses			
Impact				
% of working age population (18-64) who are self-employed	16-17%			

Table A13.2 Indicators (examples) used in Entrepreneurship Program 2009-2012, Asturias

Indicators (examples)	Type
Number of involved stakeholders	Output
Number of financed entities	Output
Number of edited materials	Output

Number of trained persons	Result
Number of assessed persons	Result
Number of newly created firms	Impact
Number of new jobs	Impact
Number of new services	Impact

A13.4 Future developments

According to the information given by the Ministry of Education, entrepreneurship education is quite a new policy area in Spain. Further developments are planned or are being implemented this year. Among them there is a call to aid innovation programmes for schools, groups of schools and businesses. The aim is to increase the involvement of companies in the world of training and knowledge transfer between them, in parallel with the encouragement of quality training programmes. There is no intention to create an explicit framework for monitoring entrepreneurial education but statistical data collection about the topic does take place as previously mentioned.

The intention of those responsible for education and employment policies is to improve the system of indicators in a way that allows changes in productive sectors to be quickly noticed, and the provision of services that warrant changes in training programmes, adapted to business needs. Legislation has recently been passed that will ensure that these changes take place across the shortest possible timeframe; the Law of Sustainable Economy, and the Organic Complementary Law.

Statistical data collection and indicators directly dedicated to entrepreneurial education does not exist. The existing measuring systems gain information about the performance of this policy area through labour market data. Between 2012 and 2013, a new permanent statistical process will be implemented that will permit to obtain data continuously on these aspects.

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- Segundo Programa de foment de la cultura emprendedora, 2009-2012
- Your project, our commitment, Ministry of Industry and Employment, Asturias

Internet pages:

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- Oficina de estadística del Ministerio de Educación:
<http://www.educacion.es/mecd/jsp/plantilla.jsp?id=310&area=estadisticas&contenido=/estadisticas/educativas/eenu/avances/Curso09-10/avances.html>
- Red Trabaja <https://www.redtrabaja.es/es/redtrabaja/portal/index.jsp>

Annex 14 List of Consultees

A14.1 Belgium (Flanders)

- **Bart De Beeter**, Syntra Vllanderen

A14.2 Denmark

- **Ms Charlotte Romlund-Hansen**
- **Ms Charlotte Holm-Billund**
- **Dr Christian Vintergaard**
- **Mr Lene Vestergaard**

A14.3 Finland

- **Suomen Yrittäjät** , Representative of the Ministry of Education

A14.4 Ireland

- No stakeholders responded to consultation request.

A14.5 The Netherlands

- **Drs Jos van Meegen**, Coördinator Actieprogramma Onderwijs en Ondernemen

A14.6 Poland

- Representative from the Ministry of Economy

A14.7 Sweden

- **Mr Jonas Herhrne**
- **Mr Jan Schierbeck**

A14.8 UK - England

- **Tim Simons**, Enterprise Directorate; Department for Business, Innovation and Skills
- **Andrew Ledger**, Department for Business, Innovation and Skills

A14.9 UK Scotland

- **Kirsty McFaul**, Determined to Succeed - Enterprise and Employability for Young People Division, Employability, Skills & Lifelong Learning Directorate, The Scottish Government

A14.10 UK- Northern Ireland

- **Mark Pinkerton**, Economic Strategy Unit, Department of Enterprise Trade and Investment
- **Amanda Crothers**, Economic Strategy, Unit Department of Enterprise Trade and Investment
- **Sharon Polson**, Invest Northern Ireland,
- **Harriet Ferguson**, FE Learning Curriculum Policy, Further Education Department of Employment and Learning
- **Niall Brown**, Department of Education
- **Deborah Johnston**, Department of Education

A14.11 UK - Wales

- **Susan Morgan**, Senior Manager Youth Entrepreneurship, Department for the Economy & Transport/, Welsh Assembly Government

A14.12 Germany

- **Prof. Peter Schaefer**, Head of ifex

A14.13 Spain

- **Rosa Maria HERNANDEZ CRESPO**, Director – European Social Fund Programme – Ministry of Education
- **Fatima MINGUEZ LLORENTE**, Deputy Director Institutions & Intl Coordination of SME policies – Ministry of Industry, Tourism and Trade
- **Mónica Baretino Coloma**, Department of Entrepreneurial Education (VET)

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