

Appendix 6: Gotland, Sweden

Introduction

Entrepreneurship and innovation have increasingly become part of the education discourse, also in a Nordic context. This is due to the globalisation and pervasive societal changes (Moberg 2014). In the Nordic countries there is, in general, a great focus on implementing innovation and entrepreneurship in the education system to ensure that pupils and students acquire entrepreneurial competences. And with good reason!

Entrepreneurship education is an important factor in changing and developing society. Focusing on and aiming at obtaining more entrepreneurship education throughout the entire education system is based, among other things, on the economic belief that the Nordic countries need more entrepreneurs and innovative employees in order to increase job creation, new business ventures, and productivity. This is particularly urgent for outlying geographical areas and islands in the North.

Today the Nordic countries experience different socio-economic challenges, and the outlying geographical areas are especially marked by challenges such as lack of education possibilities and jobs, depopulation, and economic stagnation. This requires focus and a special effort.

This is particularly so in some Nordic islands who also experience a loss of high skilled labour as young people with high career ambitions leave the area and move to urban areas due to job shortage. Moreover, new companies and working places do not replace the ones that have disappeared and thus new jobs are not generated. One of the reasons is that there is a lack of entrepreneurs and innovative employees.

Teaching children and young people the entrepreneurial skills during their education in local schools and educational institutions and supporting the local development of new business can help redress such challenges and stimulate economic growth in the local area.

The one-year pilot project, *Nordic Entrepreneurship Islands*, launched in November 2015, especially addresses the educational and new business venture challenges on seven selected islands. The project also addresses the opportunities and potentials arising from an increased focus on entrepreneurship education and start-up capital for student start-ups on the islands.

In order to define the opportunities and to forecast the potential development of entrepreneurship education and future potential candidates for receiving a student start-up Micro Grant, a mapping of the existing spread of entrepreneurship education at the upper secondary and tertiary education levels has been carried out on the seven islands. The entrepreneurial potential of each island is assessed on the basis of these results as well as on other research.

Indicators of the full entrepreneurial potential are the number of young people partaking in entrepreneurship education and the expected amount of new companies/jobs created as an outcome of implementing different initiatives. The objectives of enhancing pupils and students with entrepreneurial competences and start-up capital are based on the rationale of increasing societal creativity and ideation. The ambition is that, in the long term, new companies will emerge as a result of these initiatives and more students will obtain skills and competences that will enable them to create and establish new companies.

The quantitative objective is to ensure that young people at different educational levels will engage in entrepreneurship education at least once during their education. As a whole, the project is about enhancing the islands' market position internationally and contributing to a sustainable development, growth and jobs through young people who remain in the local area and start up new businesses.

Methodology and Structure of the report

This report maps the present situation on Gotland with regard to aspects concerning entrepreneurship education on three levels: the macro, the meso and the micro level. Moreover, a Micro Grant was awarded to a promising student start-up on Gotland.

In order to map the status of entrepreneurship education on Gotland, data were collected by means of surveys in the form of questionnaires to respondents on three levels of the "entrepreneurship education ecosystem".

The three levels are:

- Macro level: The national strategy for entrepreneurship education in the islands/countries.
- Meso level: The strategy for entrepreneurship & innovation of educational institutions.
- Micro level: The number of pupils and students participating in entrepreneurship education at upper secondary and tertiary level.

The report is divided into chapters according to the three levels and the Micro Grant. As a background for the mapping, demographic data provided by Nordregio concerning population changes and employment situation on Gotland is shortly discussed in the first chapter.¹⁴⁷

Definitions of entrepreneurship and entrepreneurship education

In Autumn 2010, the Danish Foundation for Entrepreneurship formulated a definition of entrepreneurship with the aim of applying and incorporating it in a variety of educational contexts and of accommodating both a commercial entrepreneurial approach and an educational and competence-based approach. In 2013, a definition of entrepreneurship education was formulated.¹⁴⁸

Entrepreneurship is defined in the following way: "Entrepreneurship is when actions take place on the basis of opportunities and good ideas, and these are translated into value for others. The value thus created can be of an economic, social or cultural nature." (FFE, 2011). This definition shows that the creation of value can take different forms and may thus include intrapreneurship, social enterprise, cultural innovation, etc.

Entrepreneurship education is defined as: "Content, methods and activities that support the development of motivation, competence and experience that make it possible to implement, manage and participate in value-added processes." (FFE, 2013)

Both definitions are used as a frame to define the questionnaires and course descriptions on the meso and micro levels and thus set the frame for the mapping of entrepreneurship education on the seven Nordic islands.

Macro level

The Progression Model for Entrepreneurship Education Ecosystems in Europe from the European Commission (see Appendix A for further details) has served as inspiration for framing the data collection on the macro level. The model identifies four different stages in the development of a strategy for entrepreneurship education:

- Pre-strategy (based on individual initiative).
- Initial Strategy Development.

¹⁴⁷ <http://www.nordregio.se/> Nordregio is a leading Nordic research institute within the broad fields of regional development and urban planning.

¹⁴⁸ See www.ffe-ye.dk A Taxonomy of Entrepreneurship Education: Perspectives on goals, teaching and evaluation, 2015 for a detailed discussion of this.

- Strategy Implementation, Consolidation & Development of Practice.
- Mainstreaming.

The model also identifies five key areas in which a development of practice takes place during the development and implementation of a national strategy for entrepreneurship education. The questionnaire for the macro level is built on these five key areas:

- Developing the national strategy framework.
- The role of local and regional authorities.
- Implementing entrepreneurship education.
- Teacher education and training.
- Engaging with businesses and private associations and organisations.

The project manager on Gotland completed the questionnaire in the course of 2016. Wherever necessary, the project manager received expert knowledge from relevant government officials and people with knowledge within the area.

Meso level

To map the meso level, which constitutes the link between the national strategy level and the implementation level, that is the actual teacher practice, a questionnaire targeted the institutional management of educational institutions was designed. The questionnaire examines the strategy of entrepreneurship education at educational institutions at the upper secondary and tertiary education levels on four main areas:

- School strategy & form.
- Organisation.
- Competence.
- Practice.

The purpose of this survey at the meso level is to provide an overview of the existing measures related to a strategy for entrepreneurship education in the educational institutions as well as their experiences with activities related to entrepreneurship education.

The Danish Foundation for Entrepreneurship has not previously conducted a mapping at the meso level. As a continuation of the Progression Model for Entrepreneurship Education Ecosystems in Europe, the Danish Foundation for

Entrepreneurship therefore developed the questionnaire specifically for the mapping of the meso level in this project. "A Quality Standard for Enterprise Education", developed by Centre for Education and Industry, University of Warwick, and "HEInnovate", a self-assessment tool for entrepreneurial higher education institutions, initiated by the European Commission, DG Education and Culture and the OECD LEED forum,¹⁴⁹ both served as inspiration for elaborating the questionnaire for the Nordic Entrepreneurship Islands project. The questionnaire is also framed by the definitions of entrepreneurship and entrepreneurship education, which were formulated by the Danish Foundation for Entrepreneurship.

The questionnaire was sent through the project manager on Gotland to the management of educational institutions on the upper secondary level and the tertiary level on Gotland.

Micro level

The micro level concerns the actual practice of teachers in educational institutions at the upper secondary level and vocational/VET and the content of the course descriptions at the tertiary level.

At upper secondary level and vocational/VET the data were collected by means of a questionnaire directed at the teachers. The two different types of teaching have been taken into consideration when designing the questionnaires. One questionnaire is used for the upper secondary level and another for vocational/VET.

The purpose of the survey is to map the number of pupils in upper secondary education and vocational/VET who in the school year 2015/2016 participated in education or in activities leading to increased competence levels in innovation and/or entrepreneurship.

The two questionnaires examine basic information about the teachers' evaluation of their school's policy on innovation and entrepreneurship education.

It also examines the teachers' evaluation of the teaching in entrepreneurship education, but the methods vary in the questionnaires for upper secondary education and for vocational/VET education. The questionnaire aimed at upper secondary level teachers focuses on four areas or "entrepreneurial dimensions". Please see "A Taxonomy of Entrepreneurship education" for further elaboration on the entrepreneurial dimensions.¹⁵⁰

The four entrepreneurial dimensions examined are:

¹⁴⁹ <https://heinnovate.eu/>

¹⁵⁰ <http://eng.ffe-ye.dk/media/555477/taksonomi-eng-2.pdf>

- Action.
- Creativity.
- Environment (outward orientation).
- Attitude.

The questionnaire for vocational/VET teachers focuses on the type of teaching, e.g. innovation or entrepreneurship (start-up).

For the purpose of mapping entrepreneurship education at the tertiary education level, data were collected in the form of descriptions of courses within innovation and entrepreneurship and the number of students following these courses during the academic year 2015–16. To examine how and to which extent entrepreneurship and innovation are implemented at the tertiary level, “Stjernemodellen” is used as a tool for the categorisation of courses (see Appendix B for further details).¹⁵¹

The Star Model was developed by Øresund Entrepreneurship Academy with the purpose of identifying and quantifying entrepreneurship education courses in Danish universities. It was later updated by the Danish Foundation for Entrepreneurship in order to be applied for diploma and bachelor educations too, and was used by the Foundation during the last 6 years to map entrepreneurship education at the tertiary level in Denmark.

The model and method is used exclusively to identify the extent to which the course/subject focuses on entrepreneurship, it is not an evaluation or assessment of the quality of the course/subject as such.

At both the meso and micro levels, descriptive statistics were used in the treatment of the survey results.

Micro Grants and the innovation ecosystem on the islands

All islands in the pilot project have had the opportunity to award a micro grant to a promising student start-up. The Micro Grant is a small financial aid of DKK 25,000, that allows the student start-up to take their business further. A small case written about the local start-up and Micro Grant recipient documents the effects, needs and possibilities for young people on the island after receiving a Micro Grant.

The project manager on Gotland has also provided information about the innovation ecosystem on the island in the form of a case.

¹⁵¹ “Stjernemodellen” will henceforth be referred to as the Star Model.

All data were collected in the summer of 2016 and the preliminary findings were presented at a conference in November 2016 with the participation of different stakeholders from all 7 islands. The preliminary findings were discussed, elaborated on and developed to customise and adjust the report and the forecasting about entrepreneurship education and Micro Grants on the seven islands.

Limitations of the methodology

Nordregio has provided the data for the overall demographic mapping of the seven Nordic islands. Nordregio was selected as the single source in order to ensure that the same method was applied to all islands and countries in question. Small variations between data may, however, occur when our data are compared with local statistics or surveying methods.

The desk research regarding the macro level is based on questionnaires, which have been answered by the responsible project manager on the island. Whenever answers were missing or elaboration was needed, a few additional questions have been sent per email to the responsible project manager on the island. A few data were collected from other sources as well. The way in which the questionnaire was answered differs from island to island. Some have answered in more detail than others and also with different strategic knowledge behind the answers. The data given about each island/country are therefore not always equivalent, because they depend on the sources and on which information was available.

When it comes to the meso and micro levels, the percentages of participating institutions and participating teachers also vary from island to island. This mapping is based on the responses received. The mapping may therefore give an inaccurate picture of the actual circumstances on the islands, because it is not possible to know whether entrepreneurship education exists on educational institutions that did not participate in the survey. The actual situation on the individual islands when it comes to the existence of entrepreneurship education may therefore be different than what is communicated in this report.

As entrepreneurship education is a complex subject matter involving many levels of society and many stakeholders, it is not possible to give the full picture of the situation on each island regarding the strategies for entrepreneurship education by means of questionnaires distributed to a few key persons.

This report does not provide any conclusion about the maturity level of the individual islands/countries regarding a national strategy for entrepreneurship education. The Progression Model for Entrepreneurship Education Ecosystems in Europe (Annex 1) offers descriptions of a development of practice on each key area and

thus allows the islands to evaluate the maturity stage of their own entrepreneurship education ecosystem, and at the same time the model suggests possible ways to further develop this ecosystem.

This report maps aspects of entrepreneurship education activity on different levels of society and thus depicts the different aspects of the entrepreneurship education ecosystem on each individual island. This makes it possible to draw conclusions about the potential of each island and define the key actors useful in the future development of the specific island.

The juxtaposition of seven such different islands caused some problems from a methodological perspective as differences in area size, population size, and constitution are so pervasive and had to be taken into account whenever possible. Still, it was of course not possible to account for all differences between the islands.

Demographics

This chapter describes the main demographic development on Gotland in the recent period. This will serve as background for the mapping of the situation on Gotland and for the suggested measures to stimulate growth. See Appendix C for tables on population and age structure as well as labour market for the seven islands participating in the Nordic Entrepreneurship Islands project.

Population and age structure

An increasingly old population is typical of Northern countries, but the situation is especially marked in island areas like Gotland. Between 2009 and 2015, the share of persons aged 0–24 *decreased* (by 4.8%) whereas the share of persons aged 25+ *increased* (by 2.6%). In the same period, the old age dependency rate increased from 31% to 39.2%, corresponding to a 26.5% increase, whereas the youth dependency rate increased from 22.9% to 24.6%, corresponding to a 7.5% increase. So, while Gotland's total population maintains status quo, the oldest part of it increases.

Labour market

The overall employment rate in Gotland is quite good (third best of all islands), and between 2009 and 2013, this rate improved from 74% to 77.4%. In the same period, the unemployment rate decreased from 8% to 6%, thus considerably improving. Actually, when it comes to the overall employment and unemployment rates, Gotland fares

better than Sweden as a whole. This is unusual, compared to other countries and their islands in this mapping. It would have been interesting to see the youth unemployment rate for Gotland, but there were no available data for this mapping. Sweden has the by far highest youth unemployment rate of the Northern countries and islands in this mapping, although the rate improved from 25% to 23.7% in the period 2009–2013.¹⁵²

Education level

The share of the population in Gotland with a tertiary education level is 31.1%, which is in the high end compared to the rates that have been available for the other islands, the lowest rate being 14.4% and the highest 43.2%.

Macro level

Entrepreneurship education requires efforts on several levels to be successfully implemented in a country's education system and to have a societal impact. Measures need to be taken at both the policy level and at the implementation level with the involvement of, and collaboration with, key actors from all aspects of society. The immediate responsible actors for entrepreneurship education are actors at the macro level (policy makers) who provide the framework for working in the area, actors at the meso level (school management), who decide how to implement entrepreneurship education in their respective educational institution, and actors at the micro level (teachers), who provide the entrepreneurship education in practice.

The private sector, e.g. private companies and organisations, is also essential, because they represent the labour market. The collaboration between educational institutions and the private sector helps shape efforts in the area and, again, influences policy makers to provide policies that will sustain these efforts.

As entrepreneurship is recognised as an important factor in a changing and developing society, the last decade has witnessed an increasing focus on developing strategies for entrepreneurship education in the European countries. Some of the Nordic countries are among the frontrunners and have well-established structures at national level. Still, it takes a lot of time and patience to reach educational institutions in every region of a country.

¹⁵² As emphasised by Nordregio during the conference held in November 2016, youth unemployment rates are also affected by the various financial systems for students. That students do not receive student grants during the summer break may be one of the explanations for the youth unemployment rates in Sweden.

This chapter will look at existing initiatives and measures at the macro level on Gotland. The desk research is based on information obtained from the island by means of a questionnaire.

The questionnaire provides data on five main areas, which correspond to the five key components of the entrepreneurship education ecosystem. Ideally, a national strategy for entrepreneurship education has a focus on developing action on these five key areas, according to the European Commission:

- Developing the national strategy framework.
- The role of local and regional authorities.
- Implementing entrepreneurship education.
- Teacher education and training.
- Engaging with businesses and private associations and organisations.

As action and measures are developed in these five key areas, the entrepreneurship education ecosystem goes from one maturity stage to the next. The Model identifies four maturity stages in the development and implementation of a national strategy for entrepreneurship education:

- Pre-strategy (based on individual initiative).
- Initial Strategy Development.
- Strategy Implementation, Consolidation & Development of Practice.
- Mainstreaming.

The Progression Model for Entrepreneurship Education Ecosystems in Europe from the European Commission can be viewed in detail in Appendix A.

Developing the national strategy framework

Sweden has a national strategy including goals. Mainly two ministries are involved, the Swedish National Agency for Education (SNAE) and the Swedish National Agency for Higher Education (SNAHE), without other external organisations directly involved. The main task of both agencies is to formulate the strategy and ensure that government education objectives are achieved and that the quality of education at a local and regional

level is monitored, but they do not promote education.¹⁵³ There is no available information about a regional strategy for entrepreneurship education involving Gotland.

In 2015, the national budget for the entrepreneurship education was EUR 1.9 million, 5–10% of which was given directly to schools.

The role of local and regional authorities

In Sweden, there are no national initiated regional entrepreneurship education centres. However, incubators in universities act, to some degree, as entrepreneurship centres at tertiary level. Uppsala University has a local department, Campus Gotland, where also Science Park Gotland is housed. Science Park Gotland, Uppsala University and Region Gotland have formed a strategic partnership. Science Park Gotland has two purposes: to act as an incubator and to offer programmes for people who want to start their own company.

Implementing entrepreneurship education

Entrepreneurship education is embedded at all levels and types of education in Sweden. It is compulsory and cross-curricular in primary, lower secondary and vocational schools and taught as a separate subject and compulsory in four programmes at the upper secondary level. However, the courses in the subject are offered optionally to other interested students at the secondary level.¹⁵⁴ Entrepreneurship education is taught as a method at all three education levels.

Teacher education and training

Some teacher education institutions have implemented entrepreneurship education, but not as a compulsory part of the education. Moreover, JA Sweden offers teacher training in entrepreneurship education. There is no available information about continuing professional development or in-service training of teachers.

Engaging with businesses and private associations and organisations

Private businesses and organisations are involved in entrepreneurship education, because they have an interest in future recruitment and publicity/CSR. A public ecosystem initiative taking place on Gotland is the collaboration between the incubator

¹⁵³ Entrepreneurship education in the Nordic countries, page 33.

¹⁵⁴ Entrepreneurship education in the Nordic countries, page 33.

at Science Park Gotland and local businesses. Other initiatives include the private Wcreate, which offers co-working space, the nationwide Almi, which is owned by the Swedish government and regional owners, and which offers advice, loans and venture capital through all phases of running a business, and Coompanion Gotland, which offers information, advice and training in how to start your own business. Ung Företagsamhet (JA) has 24 regional offices and supports primary, upper secondary and vocational level with the implementation of entrepreneurship education. There is also an Ung Företagsamhet regional office on Gotland.

Meso level

It requires a strategic and organisational overview of the school management to include entrepreneurship education in the normal education of the school or educational institution. School management (meso level), however, provides the very important link between a national/regional strategy level (macro level) and implementation (micro level) in form of teachers, who teach entrepreneurial skills to pupils and students. The meso level has often been overlooked, or given less attention, in a country's combined efforts to develop and implement entrepreneurship education. But contributing to a (new) ideal of education where students learn to act in an entrepreneurial and innovative way is not only a pedagogical and didactic exercise, it is also a managerial and organisational practice.

In order to map the meso level of the island, and make the link between strategy and practice, a survey was sent to the school management of schools and institutions on Gotland. The survey examines four main areas: School strategy & form, Organisation, Competence and Practice. The purpose of the survey is to provide an overview of the existing measures concerning a strategy for education in Innovation & Entrepreneurship in educational institutions, or the experience with activities related to innovation and entrepreneurship education in schools and institutions.

The purpose of the survey is to map, not evaluate, the state of affairs of educational institutions when it comes to their experience with and strategies for education in innovation and entrepreneurship.

Strategy & Form

This area relates to background, motivation, challenges, objectives, common understanding, communication and evaluation.

Two out of three educational institutions on secondary and tertiary level on Gotland have participated in the survey. The institutions are Gutegymnasiet and Wisbygymnasiet. One of these educational institutions (Gutegymnasiet) has a strategy for entrepreneurship.

The schools' plan and goals for development of entrepreneurship education

The educational institution with a strategy has a precise plan for the implementation of the entrepreneurship strategy and a plan to continuously follow up and revise the entrepreneurship strategy. It appears, however that the educational institution has not created a common frame of understanding of entrepreneurship education and how to practise this form of teaching. And the frame and plan have not been communicated clearly across the educational institution (to teachers, students and other stakeholders such as cooperating partners outside the institution).

Management has set a few concrete targets and goals for development of entrepreneurship education.

The targets and goals are:

- How innovation and entrepreneurship shall be part of the teaching (e.g. as special courses and/or integrated in every-day teaching).
- The cooperation between teachers and local businesses, public institutions and organizations in relation with entrepreneurship education.
- Continuing education of teachers in teaching innovation & entrepreneurship.

However, the educational institution with a strategy has not set targets and goals for the following areas:

- The development of curriculum so that it contains learning objectives and competences for innovation and entrepreneurship.
- The establishment of project weeks in innovation & entrepreneurship.

No strategy but entrepreneurship activities

Although one of the educational institutions does not have an entrepreneurship strategy, the institution states that there is nevertheless entrepreneurship teaching and/or activities related to entrepreneurship taking place. This includes students working with

projects that bring them in contact with the surrounding society and students being taught how to start a business, or being taught in new and innovative ways.

Importance of strategy and education in entrepreneurship

Management from both institutions with and without a strategy on Gotland disagree that education in entrepreneurship is relevant for their students and that it is important for the institution to formulate a strategy for entrepreneurship. Because the institutions have very different views on the matter, Gotland is among the islands with the lowest mean. On a scale from 1 to 5 the data from Gotland show a mean of 2.5 concerning the statement "It is important that my educational institution formulates a strategy for education in innovation & entrepreneurship".¹⁵⁵ This is the lowest weighted mean compared to the other islands. The same mean (2.5) is found concerning the statement "It is relevant for all students at my educational institution to be taught innovation and entrepreneurship".

Importance of goals for entrepreneurship teaching

Only the education institution without a strategy has answered the questions as to why the educational institution can or should set goals for entrepreneurship teaching. Whether this is an indication that the institution with a strategy does not think that one should set objectives and targets is not evident from the data. The institution without a strategy agrees that the goals should be set to strengthen students' interest in their further education and career and to strengthen students' interest in becoming an entrepreneur/starting a new business. This complies with what most institutions on all the islands believe. Management also believes that the goals should be set to prepare students better for working life and to strengthen the cooperation between the educational institution and the local society. However, they do not indicate that goals should be set to e.g. upgrade teachers' skills within entrepreneurship education, to decrease student dropout or to live up to national/regional policy in the area of entrepreneurship education, nor to strengthen the profiling and promotion of the educational institution or to boost the development of the local area, for instance by contributing to new businesses through the skill development of young people.

External network

On Gotland, both educational institutions (the one with and the one without a strategy) give their students the possibility to make contact with the institution's external network. Thus, both institutions provide for guest lectures given by local business

¹⁵⁵ 1 = very much disagree, 2 = disagree, 3 = neither or, 4 = agree, 5 = very much agree.

people, entrepreneurs, or others, and organise visits to companies. These types of external contact are the most frequent types of external contact observed in the data gathered from Gotland. The institution on Gotland with a strategy also provides exchange/trainee service in local businesses/organisations as a possibility for the students. They also provide subject-/project weeks or days in cooperation with external partners and competitions at the educational institution, where external contacts function as judges.

Involvement from school governing body and local businesses

The degree of involvement from the governing body of the institution and the local business as a resource in the work with entrepreneurship education is slightly different at the two institutions. On a scale from 1 to 5 the institution with a strategy has involvement to a medium degree from both the governing body of the institution and the local businesses as a resource in the work with entrepreneurship education.¹⁵⁶ The institution with no strategy has a low degree of involvement from the governing body of the institution and from local businesses.

Organisation

This area is related to topics such as resources, structures and expectations.

Resources, structure and expectations

Both the participating educational institutions on Gotland have earmarked resources to entrepreneurship, but there are great differences as to what and how much. The only resource, which the institution without a strategy, has earmarked is "time". The institution with a strategy has earmarked financial resources, time and other resources such as staff with knowledge and expertise on the area. The institution with a strategy has also appointed a coordinator for entrepreneurship teaching, who has the full backing and practical support from management and who is part of management.

Like most (82%) of the institutions in the survey (all islands), entrepreneurship teaching is a part of the timetables and the annual teaching plans at both institutions on Gotland. However, only the institution with a strategy has communicated their expectations to the teachers concerning where, when and how entrepreneurship teaching should be integrated at the educational institution. Management of the educational institution also requires from the teachers that they describe in their annual plans how they integrate entrepreneurship in other subjects and expect the teachers to

¹⁵⁶ 1 = not at all, 2 = to a small extent, 3 = neither or, 4 = to some extent, 5 = to a high extent.

include entrepreneurial learning objectives in their daily teaching and in the activities they set up with their students. The educational institution moreover uses a feedback system to ensure that the teachers follow up on the pedagogical goals and objectives. This is not the case at the institution without a strategy. Management of the institution with a strategy also support dialogue and cooperation between teachers from different disciplines through common facilities across the educational institution's subdivisions. The institution without a strategy supports dialogue and co-decision between teachers and students. None of them, however, provides the possibility for cross-curricular teaching and/or interdisciplinary project groups.

Competence

This area is about topics related to qualification, knowledge sharing, and pedagogics and cooperative relations.

Plan for teacher competence development

When it comes to a plan for teacher competence development, there is no apparent difference between the institution with a strategy and the institution without. At both educational institutions, the plan for competence development and knowledge sharing within entrepreneurship education manifests itself through the continuing education of teachers in entrepreneurship teaching and through knowledge sharing about entrepreneurship teaching as well as through special networks. None of the institutions indicates that the teachers have a cross-curricular cooperation within the subject of entrepreneurship.

Experimenting with teaching forms

The institution with a strategy allows the teachers to experiment with teaching forms in general through project work / feature weeks or days and cooperation with businesses. Management at the institutions without a strategy offers at present no such possibility.

Cooperation with the surrounding society

Only the institution with a strategy is involved in collaboration and knowledge sharing with the surrounding society/local area through established business/industry, newly started businesses / entrepreneurs, institutions within the public sector and other knowledge organisations. The institution with no strategy is at present not involved in such cooperation/knowledge sharing.

Extra-curricular activities

Extra-curricular activities are also offered to students on the institution with a strategy to strengthen the entrepreneurial competences and mind-set of students. They provide student incubator activities (to help with start-up activities), other forms of advice and guidance for student start-ups and entrepreneurship education given by entrepreneurs. The latter two activities are also present at the institution with no strategy. However, none of the institutions provides student societies, organisational support in relation with innovation and entrepreneurship, arranges business plan competitions or organises networks between students and entrepreneurs/business industry.

Practice

This area is about topics that concern actual teaching forms and programmes, feedback, materials and teachers' aids.

In practice, both educational institutions in the survey have materials and experience with teaching entrepreneurship etc. The institutions give the teachers access to materials and teachers' aids, which can support their teaching in innovation and entrepreneurship, and they have experience with actual teaching forms and programmes within entrepreneurship. In addition, the institution with a strategy measures the impact of the entrepreneurship teaching before, during and after the course/teaching and continuously validates and revises the learning objectives for entrepreneurship teaching with a view to updating its teaching programmes. The institution also develops its curriculum in cooperation with external stakeholders in order to get input concerning useful competences in future.

Micro level

The micro level concerns the implementation level, that is, the actual teaching taking place in educational institutions and the spread of this form of education, that is, how many students participate in this form of education on the island.

In the early phases of the development of a national strategy for entrepreneurship education, this level often relies strongly on individual teachers' enthusiasm. Teacher training is limited with no or little in-service training. But as the island or country develops their activity in the area of entrepreneurship education, measures on the micro level become more systematised, the teachers' central role is increasingly recognised, good practice examples are identified, and teaching materials are being

elaborated. In the more advanced stages, teachers are making increased use of national/regional or local support mechanisms such as training or exchange platforms. More teachers follow the good examples and are engaging with the entrepreneurship education agenda. This development is of course faster and easier when management of the national education institutions have a clear focus on and agenda for working in this field.

This chapter maps entrepreneurship education from the perspective of teachers in upper secondary education on different parameters. Vocational/VET is not a part of the survey due to insufficient answers.

The share of pupils and students who have received entrepreneurship education is calculated on the basis of the total number of pupils and students on the island. It must be emphasised that this share may be inaccurate, as it is based on the responses received. There may be other pupils and students who participate in entrepreneurship education but whose teachers did not participate in the survey for this mapping.

Upper secondary education

At the upper secondary level, data have been collected by means of a questionnaire for the teachers. The purpose of the survey is to map the number of pupils in upper secondary education who participated in education or activities leading to increased competence levels in innovation and/or entrepreneurship in the school year 2015/2016.

The questionnaire is divided into four main categories.

Basic information consists of two questions about whether the teachers perceive that the school has a clear policy of integration of innovation and entrepreneurship in the education. The responses to these questions thus indicate a score that reflects the extent to which this is the case.

Taxonomy contains the following four dimensions: *action, creativity, environment* and *attitude*.¹⁵⁷ These terms refer to entrepreneurial competences, which are not necessarily a subject or subject knowledge in themselves but are competences to set initiatives in motion and create opportunities. As such, a high score in the teachers' perceptions of the fulfilment of these four indicators is desirable. The score in the four dimensions of the pupils and students who have received entrepreneurship education is compared to the scores of the pupils and students who have not received entrepreneurship education.

Entrepreneurship and setting things in motion is the foundation of entrepreneurship education. The total number of pupils and students who have received entrepreneurship

¹⁵⁷ Please see "A Taxonomy of Entrepreneurship education" for further elaboration on the entrepreneurial dimensions. <http://eng.ffe-ye.dk/media/555477/taksonomi-eng-2.pdf>

education in any given area is comprised of all teachers who have answered the questions regarding whether the pupil or student has received instruction in starting a business and/or tried starting up and gained experience starting a business affirmatively.

Entrepreneurship education, which is the percentage of pupils and students who have received entrepreneurship education, is calculated from the total number of pupils and students on the respective island/area. As mentioned above, reservations are taken about the accuracy of this share.

In Table 1 below, the overall results for the upper secondary level are presented. The scale from 1–7, which was used in the survey, has been converted to a new scale, which spans from 1–100. This ensures that all answers in the survey can be compared.

A total of 11 teachers have answered the survey. All together, they represent 433 pupils divided on 25 classes. Overall, 181 pupils at the upper secondary level on Gotland have encountered entrepreneurship education in the 2015/2016 school year. That is the equivalent of 12.3% of the 1,466 pupils in the upper secondary level on Gotland. It is, of course, important to keep in mind that the number of answers has an effect on the result on Gotland.

In comparison, a mapping in the 2014/15 school year shows that 36.9% of pupils in upper secondary education and vocational/VET in Denmark participated in entrepreneurship education.¹⁵⁸ However, this percentage includes pupils and students receiving teaching materials published by the Danish Foundation for Entrepreneurship (hand-outs as well as downloads) in Company Programme as well as in particular educational activities such as regional projects, supported projects, competitions etc.

The mapping shows that the teachers only experience a clear policy on innovation to a lesser degree. The score for this question is 19, whereas the average is 26. However, the teachers find that the policy on *entrepreneurship* is more clearly visible with a score of 29 – above the average of 27.

Table 1 further shows that 40% of the classes receive instruction in starting up a business, and 24% have realistic experience in starting up a business.

Table 1 further shows that 40% of the classes receive instruction in starting up a business, and 24% have realistic experience in starting up a business.

¹⁵⁸ <http://www.ffe-ye.dk/media/783586/samlet-notat-omkring-kortlaegningstal-2014-15.pdf>

Table 1: The results for upper secondary education, Gotland, Sweden

Subject	Variable	Gotland, Sweden
Basic information	Policy on innovation	19
	Policy on entrepreneurship	29
Taxonomy	Action	51
	Creativity	56
	Environment	43
	Attitude	57
Entrepreneurship	Teaching in start-up percentage	40
	Realistic experience with start-up, percentage	24
Entrepreneurship education	Number of students receiving entrepreneurship education	181
Score for students receiving entrepreneurship education	Action	64
	Creativity	66
	Environment	65
	Attitude	67
Score for students <i>not</i> receiving entrepreneurship education	Action	41
	Creativity	50
	Environment	28
	Attitude	50

Note: The result is comprised of answers from 11 teachers with a total of 25 classes and 433 pupils.

According to the teachers, the score for the parameters on the entrepreneurial characteristics *action*, *creativity*, *environment* and *attitude* varies little from pupils who have to pupils who have not received entrepreneurship education. This is in contrast to the other islands in this study. However, the score for all the parameters is higher for pupils who have received entrepreneurship education, which is in line with the previous results. As such, all pupils covered by the Gotland survey score relatively high on these parameters – including the pupils who have not received entrepreneurship education.

Tertiary education

Gotland has not provided any descriptions of educations at the tertiary level for this mapping.

Micro Grant

Since 2011, the Danish Foundation for Entrepreneurship has awarded Micro Grants to students at upper secondary and tertiary level with entrepreneurial ambitions. Initially, the Micro Grants initiative was a pilot project but, since 2014, the Micro Grant initiative has taken the form of a larger programme. The Micro Grant should be viewed as an extra-curricular initiative and thus as a continuation of entrepreneurial education and the competences which the students obtain through their education. The objectives of the Micro Grant Initiative are to enhance growth and employment. By supporting student start-ups, the long-term objective is to create growth companies that can contribute with more jobs, export incomes and societal growth. On a yearly basis, approx. 250 applications are submitted (corresponding to approx. 1,000 students) in Denmark, and approx. 65% of them have participated in entrepreneurship education. 70 grants (DKK 2.5 million) are handed out on a yearly basis.

Analysis shows that the Micro Grant Initiative has a catalytic effect and contributes to enhancing employment in Denmark.¹⁵⁹ Only 4–12 months after receiving a Micro Grant 50 grant recipients created the equivalent of 79 full-time positions in Denmark. Put in another way: For every million invested more than 40 full-time positions have been created in the period. Micro Grant recipients also actively seek new capital after receiving a grant. Two out of three grant recipients have had contact with private investors after receiving the Micro Grant. Nine grant recipients have achieved growth capital (up to DKK 2.3 million) within 4–12 months. None of the control group achieved further growth capital in the period.

On Gotland there are two upper secondary educational institutions and one tertiary educational institution, and the number of pupils and students in the school year 2015/2016 is 2,466. Financial support for student start-ups is already available on Gotland at Science Park and ALMI business partner. However, it is unclear whether this is aimed at established businesses as well as student start-ups and whether the very young/undeveloped start-ups will really have the opportunity to receive funds.

During the project trial granting Micro Grants of DKK 25,000 on Gotland, three applications from student start-ups were received. Normally, a student start-up is comprised of 2 to 6 pupils or students. None of the members of the team that received the grant have received entrepreneurship education. The grant was advertised online at the educational institution's website and Facebook page.

¹⁵⁹ <http://www.ffe-ye.dk/media/699249/effektmaaling-mikrolegater-oktober-2015.pdf>

Effects

For the student start-up, the Micro Grant will have a range of effects.

- The grant is going to be used for marketing and selling outside of Sweden.
- The team can now focus on producing more games for the future. Without the money they would not have been able to travel around and meeting new customers and business partners.
- The company will be able to further market their first released title, allowing them to reach a wider audience and increase the chance of building an income large enough to fund a second game production.
- The grant will also allow TeamCrew to travel to different conventions in order to promote their products and reach a global audience.

Derivative effects for the island and local community as a consequence of the idea: "By launching a product and potentially continuing building products past school, we will inspire our peers to finish their own projects and to create their own companies".

Needs and possibilities

Young start-ups on Gotland need guidance regarding which mentor to use and they need introduction to network, investors etc. There is a lot of game developers on the island that are not born on the island and they need help to get in touch with the right people. Involvement from Science Park (incubator) on Gotland was necessary for the young Micro Grant receiver in their early stages.

Micro grant recipient

Teamcrew

The business idea is producing videogames. We have produced one game that is going to be released soon.

Future entrepreneurial potential

On Gotland, there is an increasingly old population and a decrease in the youth population. In that aspect, they face the same challenges as other Nordic islands in this mapping. However, the employment rate and the education level of the population on Gotland are both high and the island is filled with resourceful people. This means that there is a great potential and starting point on Gotland to give young people on Gotland entrepreneurial competences and mind-set and to meet the challenge of getting young people to stay on the island.

Based on the objective of creating solutions that will entail positive effects for Gotland, the first objective for this pilot project has been to ensure a mapping of entrepreneurship education in the area. There is no or only limited prior data available for mapping entrepreneurship in the educational sector in Gotland. Knowing the present situation on the island the second objective has been to define the potential for entrepreneurship education and Micro Grants on Gotland from 2016/2017 to 2020/2021. This forecast includes economic measures and is based on six years of experience and development rates from the Danish Foundation for Entrepreneurship.

The ambition in the long term is that new companies will follow from initiatives implemented and more students will obtain skills and competences that will enable them to create and establish new companies. Thus, the aim is that young people on Gotland learn how to act on opportunities and good ideas and how to convert these ideas into economic, social and/or cultural value for others. As a whole, the continuation of this pilot project is about enhancing the market position of Gotland internationally and contributing to a sustainable development, growth and jobs.

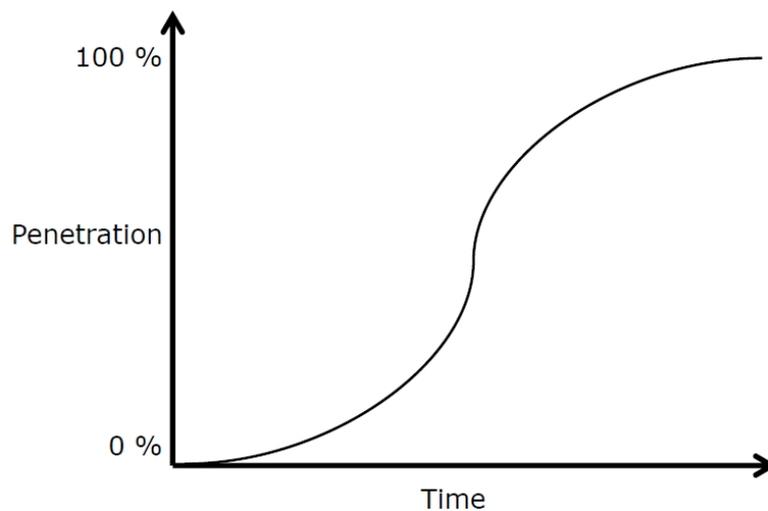
Forecasting entrepreneurship education and Micro Grants for Gotland

This pilot project is the first step in securing a solid foundation for implementing and anchoring future initiatives on Gotland. The quantitative objective is to ensure that young people at different educational levels will engage in entrepreneurship education at least once during their education and that resources for student start-ups are available.

Vital for this development is an informed forecast in terms of the possible percentage increase in students receiving entrepreneurship education, student start-ups receiving a Micro Grant and the annual costs to obtain this increase over a period from 2015/2016 to 2020/2021.

When looking at the penetration rate for entrepreneurship education it develops according to an S-curve (Figure 1). Gotland is in the initial stage, however on the way to where the curve is steep, and initiatives and strategies will have a relative high effect on the penetration rate.

Figure 1: S-curve for entrepreneurship education penetration rate



The forecast is presented in Table 3 and Figure 2 below.

The forecast is based on:

- The data collection and findings in this report.
- Stakeholder insights and comments from Gotland.
- The maturity level on the island with regard to entrepreneurship in education (The "s-curve").
- Development rates from Denmark and Bornholm (2010–2016).
- The average of total costs per student during the last three years in Denmark (including development, Micro Grants and administration/operation costs e.g. salary, travel expenses, communication etc.).

And the forecast is based on the assumptions that:

- There are no changes from school year 2015/2016 to 2016/2017.
- The number of students is constant.
- A percentage increase in the number of students receiving entrepreneurship education which corresponds to the historic percentage increase in Denmark.
- Annual costs per student corresponding to the annual costs per student in Denmark (based on the average of total costs during the last three years).

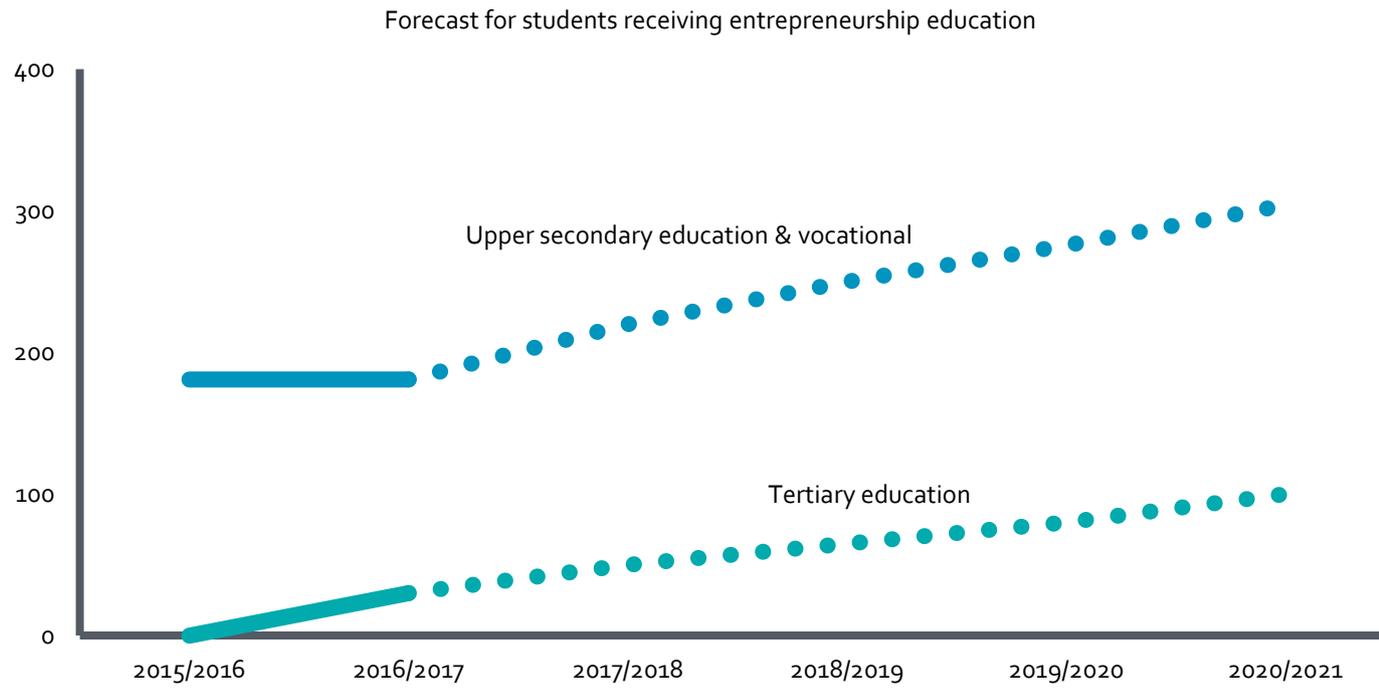
It is important to bear in mind that the forecasts cannot be made with 100% accuracy, but are estimates.

Forecasting entrepreneurship education and Micro Grants for Gotland

Table 2: Forecast for Gotland

Forecast for entrepreneurship and micro grants until the school year 2020/2021, Gotland, Sweden						
	2015/2016	2016/2017	2017/2018	2018/2019	2019/2020	2020/2021
Upper secondary education & vocational/VET						
Students in total	1,466	1,466	1,466	1,466	1,466	1,466
Students receiving entrepreneurship education, forecast	181	181	220	250	276	304
Share of students receiving entrepreneurship education, percentage	12.3%	12.3%	15.0%	17.1%	18.8%	20.7%
Tertiary education						
Students in total	1,000	1,000	1,000	1,000	1,000	1,000
Students receiving entrepreneurship education, forecast	0	30	50	65	80	100
Share of students receiving entrepreneurship education, percentage	0.0%	3.0%	5.0%	6.5%	8.0%	10.0%
Applicants receiving a grant						
Accepted applicants	1	1	2	2	3	4
Average annual costs (4 years) in DKK	DKK 1,400,000–1,800,000					

Figure 2: Forecast for Gotland



General recommendations for Gotland

- A national strategy and a cross-ministerial collaboration are necessary means to build a strong foundation for developing regional and island strategies. Sweden already has this.
- A national operator/ responsible organisation is important to secure implementation and make the link between political level and the educational sector.
- A specifically dedicated budget for development and activities is necessary. Financial resources should be allocated both at national and local level (on the island). This should be a collaborative effort between public and private sector. In 2015, the national budget for the entrepreneurship education was EUR 1.9 million, 5–10% of which was given directly to schools.
- Strong stakeholder relations are essential. Private sector, public sector, and the educational institutions should cooperate when implementing the national and regional strategies. This could take form as a cross-sector board in a national/regional organisation.
- At the national level, the recommendation is to involve more key stakeholders in the entrepreneurship education agenda and in the strategy work. Examples from other countries show that the higher the amount of the involved stakeholders from different levels of society the better. This would help disseminate the agenda and promote entrepreneurship education nationally, which would also benefit Gotland. Local ecosystem initiatives on Gotland are present, such as the collaboration between Science Park Gotland, Campus Gotland (Uppsala University) and Region Gotland as well as local organisations that offer start-up help. Such ecosystem initiatives on the tertiary and post-education levels constitute a resource, which should be supplemented by initiatives on the general compulsory school level in local schools.
- Promote entrepreneurship education. An important part of the efforts at national level is to broadly communicate the focus on, and goals for, entrepreneurship education to all important stakeholders in the Gotland society; educational institutions, teachers, students, parents as well as private and public sectors and local and regional authorities.
- Support and collaboration with schools and educational institutions at all levels. Danish research shows that in order to achieve the greatest effects entrepreneurship education must be differentiated on the respective levels of education and must be provided to pupils as early as possible during their

education. Entrepreneurship in higher education is the most effective way to foster long-run student start-ups. Combined with Gotland's relatively high education level a further focus on entrepreneurship education in local schools and educational institutions can contribute to creating a synergy effect. Research shows that entrepreneurship education stimulates students' ambitions for further education. At the same time, other studies show that entrepreneurs with a high education level create more viable businesses and growth businesses.

- Collecting data to secure knowledge on the development of penetration of entrepreneurship education should not be underestimated. Mapping entrepreneurship education and subsequently compiling impact studies is vital for the support from ministries and private sector.
- Involvement from school management and building strategies at education institution level is essential. School management provides the very important link between a national/regional strategy level and implementation level in the form of teachers who teach entrepreneurial skills to pupils and students. Contributing to a (new) ideal of education where students learn to act in an entrepreneurial and innovative way is not only a pedagogical and didactical exercise, it is also a managerial and organisational practice.
- Communicating the educational institutions' entrepreneurship strategy to all stakeholders both internally (teachers and students) and externally to collaborating partners outside the institution is essential for the strategy to impact the penetration rate for entrepreneurship education on the island.
- A plan and resources for providing and ensuring the teachers the necessary competences in the area are necessary elements from the beginning. There are no or limited resources for entrepreneurship teachers' competence development (e.g. further education in entrepreneurship teaching and networks) on the seven islands. Efforts are made in Sweden to educate teachers in entrepreneurship education, and on-going training is also taking place. However, the mapping shows that goals for teacher training are not a part of the Gotland educational institutions' strategy even though they seem to have access to teaching materials and experience with teaching forms. At the moment, teacher training in Gotland exists almost only in the form of a short teacher training that JA Gotland provides for Company Programme teachers.
- The educational institutions on Gotland have access to Junior Achievement programmes and country specific teaching programmes, all of which are tested and well-functioning entrepreneurship teaching programmes. Studies show that JA programmes subsequently create significantly more entrepreneurs and higher

income and they have a positive impact on the pupils' motivation to study, their school engagement, and their academic confidence and they have a positive impact on the primary school pupils' grades.^{160, 161, 162}

- Extra-curricular entrepreneurship activities such as; incubators, business plan competitions and advice and guidance for student start-ups could be a supplement to the curricular teaching and thus function as a job creator. This is particularly relevant for educational institutions at tertiary level.
- A small financial aid (Micro Grant) to student start-ups in the initial phases of the start-up process has proved (in Denmark) to have a catalytic effect and contributes to enhancing employment. The recipients of the grant also actively seek growth capital after receiving a grant. This could supplement the entrepreneurship teaching and help create new start-ups on the island. However, it takes time before students have become accustomed to applying for this grant. Entrepreneurs are very immobile "people" – this is good news when trying to find a way to retain young people on the islands.¹⁶³
- Whenever possible, synergies across the Nordic islands should be utilised.

¹⁶⁰ Elert, Andersson & Wennberg (2015) developed a propensity score matching on three cohorts of Company Programme pupils, who had finished their training 11 years earlier. 10,103 CP- pupils were matched with 214,735 non CP-pupils.

¹⁶¹ Johansen (2008) conducted a survey on 1,400 9th grade pupils and 1,700 VET pupils.

¹⁶² Johansen and Schanke (2014) conducted a survey on 1880 secondary pupils and 1160 primary school pupils who participated in Junior Achievement's programmes.

¹⁶³ The Danish Business Authority.

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Appendix A. A Progression Model for Entrepreneurship Education Ecosystems in Europe¹⁶⁴

Table 3: A Progression Model for Entrepreneurship Education Ecosystems in Europe

Stage	Pre-Strategy (based on individual initiative)	Initial Strategy Development	Strategy Implementation and Consolidation & Development of Practice	Mainstreaming
Indicative timeframe	Starting position	0–2 years	c. 2–5 years	c. 5 years +
National strategy, frameworks ¹⁶⁵	No formal strategy in place. Entrepreneurship education covered – if at all – in disparate policy documents. Little or no effective inter-ministerial cooperation. No or rudimentary platforms for dialogue with relevant social partners.	Development and promulgation of strategy, with identification and agreement of entrepreneurship education objectives and of competences, roles and responsibilities of key players. Mechanisms being established for cooperation between key ministries. Platforms being established to include wider stakeholders. Vision (and intended outcomes) in process of being determined, which may involve reconciling competing agendas within government and between public and private sectors etc. Mapping and analysis of entrepreneurship education. Good practice examples being identified. Collection of effective teaching methods and materials. Launching of communications campaigns to stimulate interest of business community. Awareness raising with teachers.	Specification of learning outcomes, objectives, indicators and targets. Methods being developed for assessing learning outcomes; and development of appropriate qualifications. Regular cooperation mechanisms being embedded at various levels of system, with relative roles and responsibilities of different stakeholders clearly defined and accepted. Development of funding streams: allocation of dedicated resources. Implementation support mechanisms being put in place. Resource banks of teaching materials available. Dissemination and broad-based application of the effective teaching methods identified. Research base being developed.	On-going monitoring and regular evaluation of entrepreneurship education in terms of quality of activity and learning outcomes being achieved. Implementation support mechanisms part of everyday teacher and school development; entrepreneurship education fully integrated into initial teacher training for every teacher. Continuous application and refinement of effective teaching methods. Robust funding mechanisms established.

¹⁶⁴ Towards Greater Cooperation and Coherence in Entrepreneurship Education, European Commission, 2010.

¹⁶⁵ Or regional strategy and frameworks depending on governance structures.

Stage	Pre-Strategy (based on individual initiative)	Initial Strategy Development	Strategy Implementation and Consolidation & Development of Practice	Mainstreaming
Indicative timeframe	Starting position	0–2 years	c. 2–5 years	c. 5 years +
Schools	Penetration of entrepreneurship education highly variable; much ad hoc activity. Tends to be an “add-on” to the mainstream curriculum with emphasis on “entrepreneurship” as running a business. Tends to be focused in secondary education and in specific subjects. No or sporadic formal assessment of learning outcomes. Use of (unaccredited) prizes and awards to recognize achievement.	Role of schools articulated in strategy – recognition of central role. Entrepreneurship education starting to be developed across the curriculum as an embedded set of competences, not just as a separate subject. Development of entrepreneurship education beyond secondary level especially, e.g. at primary level: and school clustering.	Entrepreneurship education being made available in every school, embedded within the curriculum as part of the overall teaching concept and also as a separate subject. Progressive establishment of partnerships with businesses in all schools (e.g. through pilots).	High quality entrepreneurship education being made available to every student in every phase/type of education. Clear linkages established between different phases/types of education. Progressive development of wider linkages as part of development of local entrepreneurship ecosystem. Learning outcomes assessed.
Teachers	Strong reliance on individual teacher’s enthusiasm. Entrepreneurship education often delivered outside core school hours as extra-curricular activity. Teacher training very limited. No or little in-service training.	Role of teachers articulated in strategy – recognition of central role. Good practice examples being identified of: teacher training; teaching materials.	Teachers making increasing use of national/regional and local support mechanisms (e.g. training or exchange platforms). Use of pilots to spread good practice and increase numbers of teachers engaging with entrepreneurship education agenda. Initial or in-service training on entrepreneurship made available to all interested teachers.	All teachers receiving entrepreneurship education as an integral part of their initial and their continuous in-service teacher training. All teachers teaching entrepreneurship education as integral part of the curriculum.
Regional and local authorities ¹⁶⁶	Patchy involvement: some authorities involved in development of local partnerships; others not involved at all.	(Potential) role of local authorities considered in strategy development process. Development of good practice examples of school clusters and education-business partnerships at local level.	Local authorities playing an increasingly important role in school cluster development and education-business links.	Full participation of local authorities in organising entrepreneurship education. Possible establishment of statutory requirement for organisation of partnerships based on municipality geography.
Businesses, private associations and organisations	Involvement of businesses tends to be patchy, unstructured, and often reliant on individual initiative by parents. Use of programmes developed by private organisations (e.g. JA) tends to be ad hoc on individual school basis but plays vital role in providing essential experiential and “hands-on” learning.	Key role of businesses and private organisations articulated in strategy. Businesses (increasingly) involved through social partner organisations in policy development and in delivery of entrepreneurship education in schools.	Consideration of potential to upscale the role played by businesses and private organisations in entrepreneurship education: extension and deepening of that role. Businesses being more systematically engaged at local level – movement away from ad hoc approaches to establishment of mechanisms for brokerage and establishment of long-term, sustainable relationships with schools.	Full participation of businesses in entrepreneurship education in all schools/universities. Businesses support for entrepreneurship education at all levels increasingly delivered through structured channels, e.g. education-business partnerships, organised brokerage.

¹⁶⁶ The role of regional and local authorities depends on the distribution of responsibilities between tiers of government.

Appendix B. “The Star Model” – a method for identifying entrepreneurship education

“The Star Model” was developed by Øresund Entrepreneurship Academy with the purpose to identify and quantify entrepreneurship education courses in Danish universities. It was later updated by the Danish Foundation for Entrepreneurship to use for short and medium-length tertiary educations also.

Courses and subjects are categorised and given 1–3 stars according to how much focus they put in the individual categories of the model. Apart from identifying a course or subject as entrepreneurship education, the model can be used to get an image of how much emphasis is put on entrepreneurship in the form of content or teaching methodology in a course/subject. The model and method is used exclusively to identify the extent to which the course/subject focuses on entrepreneurship, it is not an evaluation or assessment of the quality of the course/subject as such.

Figure 1 below illustrates the overall structure of “the Star Model” which consists of two dimensions 1) Teaching design and 2) Phases in the entrepreneurial life cycle. The categories under Teaching design on the horizontal axis are divided into two main categories each of which describes the subject content and teaching approaches and methods, which together form a unifying concept for the pedagogics, didactics and methods which characterise the teaching or education. The categories on the vertical axis describe the phases in the entrepreneurial life cycle. To read more about the Star Model, see the report about examination forms, *Eksamensformer*, on the website of the Danish Foundation for Entrepreneurship.¹⁶⁷

¹⁶⁷ <http://www.ffe-ye.dk/videncenter/entreprenorskabs-undervisning/eksamensformer>

Table 4: The Star Model

Teaching design								
Subject-related content					Teaching approaches and methods			
Phases/ Categories	Intrapre- neurship	Entrepre- neurship	Finance/ VC	Law	Practical dimensions	Student participation	Interdisci- plinary	International dimensions
Idea								
Beginning								
Growth								
Running								

Appendix C. Demographic data on the seven islands

Table 5: Population changes (increase and decrease) in % between 2009 and 2015

Unit	Changes in total population	Changes in population aged 0–24	Changes in population aged 25+	Changes female ratio	Youth dependency changes*			Old age dependency changes**		
	2009–2015	2009–2015	2009–2015	2009–2015	2009	2015	Change	2009	2015	Change
Norway	7,6	6,0	8,4	-1,6	28,7	27,4	-4,4	22,1	24,5	10,9
Andøy	-0,8	-2,0	-0,4	-2,3	29,0	25,3	-12,7	33,2	37,9	14,1
Finland	2,7	-0,7	4,2	-0,6	25,2	25,7	2,2	25,2	31,3	24,2
Pargas	0,5	-2,3	1,7	-0,5	27,1	27,8	2,6	30,9	40,0	29,5
Denmark	2,7	2,6	2,8	-0,4	27,8	26,4	-5,0	24,1	28,8	19,5
Bornholm	-6,4	-14,3	-3,6	-0,7	25,5	23,0	-9,6	33,2	44,6	34,5
Faroe Isl	-0,9	-4,3	0,9	1,4	34,4	34,5	0,4	22,2	26,9	20,9
Greenland	-0,3	-7,9	4,6	1,0	32,9	29,8	-9,4	9,3	10,7	15,2
Sweden	5,3	4,8	5,5	-1,0	25,4	27,3	7,4	27,1	31,1	14,8
Gotland	0,4	-4,8	2,6	-0,7	22,9	24,6	7,3	31,0	39,2	26,5
Iceland	4,1	0,9	4,2	2,2	30,9	30,8	-0,3	17,2	20,5	19,2

Note: * population aged 0–14 as a share of population aged 15–64.

**population aged 65+ as a share of population aged 15–64.

Sources: National statistical institutes and Eurostat.

Table 6: Increase and decrease in employment and education rates of the population 2009–2013

Unit	Employment rate*			Unemployment rate**			Youth unemployment rate***			Tertiary education****
	2009	2013	Change	2009	2013	Change	2009	2013	Change	2014
Norway	76,6	75,6	-1,3	3,2	3,5	9,4	9,2	8,6	-6,5	
Andøy	75,6	72,8	-3,7	2,8	4,8	71,4		12,7		26,6
Finland	68,4	68,4	0	8,4	8,4	0	21,5	19	-11,6	
Pargas	74,5	73,2	-1,7	4,9	4,6	-6,1		14,3		43,2
Denmark	75,1	72,3	-3,7	6,1	7,2	18,0	11,8	14,1	19,5	
Bornholm	68,8	69,3	0,7	8,9	8,9	0		19,7		23,7
Faroe Isl	88,1	90,8	3,1	4,8	3,9	-18,8		9,9		35,9
Greenland	64,9	63,3	-2,5	7,5 (2010)	9,7	29,3		17		14,4
Sweden	72,4	74,5	2,9	8,5	8,3	-2,4	25	23,7	-5,2	
Gotland	74	77,4	4,6	8	6	-25				31,1
Iceland	78,3	81,1	3,6	7,2	5,4	-25	16	13,6	-15	

Note: * number of employed persons as a share of the population aged 15–64.

** total number of unemployed persons as a share of the labour force (labour force is made up by the total number of persons employed or looking for a job).

*** unemployed persons aged 15–24 as a share of the labour force aged 15–24.

**** persons with a tertiary education as a share of the population aged 25+.

Source: National statistical institutes and Eurostat.