ANALYSIS OF ENTREPRENEURSHIP EDUCATION IN VOCATIONAL EDUCATION AND TRAINING IN ICELAND

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FOREWORD

This analysis report on the status of entrepreneurship education in vocational education and training in Iceland was part of the preparations for a conference entitled Entrepreneurship in vocational education – a key to social inclusion and economic development in Europe held in Reykjavik, Iceland on 11-12 November. The conference was supported by the Leonardo da Vinci vocational education programme under the auspices of an initiative called thematic monitoring. The Ministry of Education, Science and Culture co-financed this analysis.

Thematic monitoring within the Leonardo Programme aims to strengthen the exchange of experience and nurture networking among practitioners, projects and policy-makers. It also aims to contribute towards increasing visibility of project achievements and to support the mainstreaming of project outcomes. The Icelandic Leonardo National Agency currently leads the work in one of the thematic monitoring group called “VET and the labour market, guidance and other specific groups.”

Many recent EU policy documents have recognized that entrepreneurial attitudes and skills are not sufficiently addressed by training and education establishments in Europe, particularly in vocational education. The scope of entrepreneurship education is much wider than training on how to start a business as it includes the development of personal attributes and horizontal skills like creativity, initiative, and self-confidence, among many others. It also contributes to increasing equality among individuals and the necessary diversity in business life.

The Lisbon strategy from 2000, which addressed the need for a competitive knowledge-based economy and a socially cohesive society, recognized that entrepreneurship is a major driver of innovation, competitiveness and growth. The strategy also lists entrepreneurship education as one of the “basic skills” considered necessary for all in order to live and work in a knowledge-based society. The Oslo Agenda for Entrepreneurship Education from October 2007 supports this strategy and points to specific areas where further work needs to be done in terms of improving the teaching of entrepreneurship within vocational education and training.

This analysis on entrepreneurship education in vocational education is a significant contribution to the Leonardo thematic work on entrepreneurship and in identifying gaps between policy and practice. The analysis, not only maps the extent of entrepreneurial teaching in vocational programmes in Iceland, but is a valuable tool for providers of education, teachers and policy-makers who are involved in fostering access to entrepreneurship education for students in initial vocational education and in adult education programmes. Furthermore, the research model presented can be easily implemented in other European countries for assessing the extent of entrepreneurial teaching in those vocational education systems.

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Program Manager at the Icelandic Leonardo National Agency.
The aim of the research was threefold:

1. Map entrepreneurship education (hereafter EE) in Iceland excluding the university level, including the field of adult education.

2. Provide information about the status of EE in VET in Iceland to help with the revision of the focus for EE in vocational education.

3. Create a research model to use in other educational systems.

RESEARCH STRATEGY

Using quantitative methods can give much information in a short time, but as this research subject (entrepreneurship education) is not a very clear or explicit phenomenon, at least to the public the research strategy chosen was mainly qualitative methods to secure a better understanding of the experience and views of the parties involved. Interviews that were taken in the Ministry of Education, Science and Culture were used to get an overview of the current status of EE teaching in Icelandic vocational education schools and in adult education. Collective data was gathered about all the schools that offered vocational education and training (VET) and sorted into categories. Samples from each category were chosen and the selected schools contacted and principals and teachers interviewed (directly, by phone or by e-mail). By using this method information was gathered that would not have appeared as clearly by using questionnaires or reading the formal curricula of the schools.

THE ICELANDIC EDUCATION AND TRAINING SYSTEM

In Iceland the compulsory school is from 6 years to 16 and after that students are in upper secondary schools or vocational education schools usually until 20 years of age. The municipalities took over the running of compulsory schools from the state in 1996 and continued. The Ministry of Education is still responsible for the nationally coordinated curricula for compulsory schools. At the upper secondary level the most common type of schools are comprehensive schools, where students can graduate either with general or vocational qualifications or a combination. There are just few schools offering only vocational education.

Continuing education in Iceland has become very common. This applies to courses both offered by the private sector and official institutions. Continuing education is a field that is difficult to summarize because of its diversity and because it keeps changing. Broadly it can be divided up into general adult education and training directly linked to specific tasks within the labor market.

The main area of this research covers the ages from 16-20 years though many students in these schools may be older. The research on adult education was not as thorough as on the primary vocational education system and was mainly done through two interviews and a research of curricula available on the Internet.

DATA COLLECTION - QUALITATIVE METHODS

- Interviews at the Ministry of Education, Science and Culture and Iceland University of Education
- Collection of written data about VET schools, reports, websites, curricula, law and prospectus.
- Categorization of VET schools
  - Chosen samples from each category
  - Interviews with concerned parties of sample; headmasters and teachers

1 Friðriksson, 2005; Jónsdóttir, 2005; Lundström, 2005
2 Information in this chapter is from Stefansdóttir (2002)
The research was started by taking interviews with three specialists in vocational education and adult education in the Ministry of Education. One interview with a specialist in adult education at the Iceland University of Education (IUE) was also taken. These interviews gave a good overview over the intended research field and the information gathered there turned out to be very reliable and up to date.

With the information from the ministry and the IUE and information gathered from the Internet about all the schools offering VET education, a list of 23 schools (out of 38 upper-secondary schools) was created. That list was categorized into four groups by size, location and specialization. Categories for sorting VET schools may be different in different countries.

From each category a sample of two to three schools was chosen. Each of those schools was contacted by e-mail and asked to give information about the entrepreneurship education in the school. Interviews were requested either directly, by phone or by e-mail. In the interviews it was possible to follow and dig deeper when something was not clear and get explanations about ambiguous matters. In adult education one interview was taken with an education coordinator of a large bank, as well as the interview with the specialist in the Iceland University of Education, and prospectuses for adult education were explored.

A profile of the sample schools is provided in appendix 2.
RESEARCH FINDINGS

Here will be reported a short description of the main findings and suggestions for potential use. Entrepreneurship education (EE) is not common in vocational education and training in Iceland as a special subject and the definition of the subject is not clear in general.

FINDINGS FOR VET SCHOOLS

- Focused entrepreneurship training (formal courses) is not common in VET in Iceland, from 0%-30% of VET students.
- Formal courses on entrepreneurship are attended by very few students of the whole population of the schools and the VET population, mainly students from business lines take these courses.
- Several elements of entrepreneurship education can be found as a part of and are offered within various subjects and courses in VET.
  - Elements such as creativity, innovation, various aspects of running a firm, contact with worklife, independent work, initiative, cooperation and leadership.
- Interesting examples of entrepreneurship and innovation education were found in several schools.
- Only one upper secondary school includes innovation and entrepreneurship education in its school policy, this is Framhaldsskólinn á Húsavík in the North of Iceland.

FINDINGS FOR ADULT EDUCATION

- Adult education is generally not focused on EE.
- The strongest operation of EE in this field is the work of Impra, The Icelandic Innovation Centre.
- Parts of EE are to be found in adult education, i.e. management training and enhancement of confidence.
- Important issues are being addressed in the field of adult education such as detecting and dealing with illiteracy and developing and implementing proficiency evaluation for people in the workforce to enhance their return to further studies.

UNDERSTANDING WHAT ENTREPRENEURSHIP EDUCATION IS

In the researcher’s requests to the schools for interviews and in the interviews a wide definition of EE was used. The definition was derived from EU and Nordic reports on entrepreneurship education, from an Icelandic specialist in Innovation Education and a curriculum expert in the Icelandic Ministry of Education. The definition used was put forward in keywords or cues and used as a general frame for the interviews.

The schools principals were asked the following question: Does your school’s curriculum offer an entrepreneurial course or some of the elements of entrepreneurship education? To make the detection of such education easier the following list was introduced. The list includes elements that can be regarded as entrepreneurship education or part of entrepreneurship education.

KEYWORDS USED TO DETECT ENTREPRENEURSHIP EDUCATION

Entrepreneurship – leadership training – innovation
Knowledge about the conditions of small firms
Teaching how to start your own business and manage it
Knowledge and/or practice in running a firm
Students run a firm as a part of the course
A connection with the worklife in the community – cooperation
Projects in direct contact with or carried out in the general worklife
Work related projects
Projects that reflect reality
Cooperation and society: changing attitudes towards entrepreneurs
Enterprise – initiative – independence/autonomy
Leadership training
Initiative: enhance knowledge and skills to act on ideas and enhance initiative
Creativity – flexibility – positive attitude – initiative - responsibility – sol
Innovation – creativity – inventiveness

These keywords and definitions were used as a frame for interviews that were half open but focused on the given frame\(^5\). This wide definition of EE was chosen to give the schools a fair chance to review and point out the different elements of entrepreneurship education rather than to use a limited and clear definition such as “a hands-on course in running a firm”. Some of the principals found the definition too wide and hard to grasp but most of them were pleased to get this chance to probe into the school curriculum and look for entrepreneurship education. In Iceland innovation education is considered a core element in entrepreneurship education and is sometimes used interchangeably with entrepreneurship education. In the interviews with the schools it was often said that there was not a clear definition or consensus about what entrepreneurship education is. This view calls for a more concise and agreed definition of entrepreneurship education.

**INITIATING ENTREPRENEURSHIP EDUCATION**

In the sample schools there were different sources of initiation of entrepreneurship in the schools. Teachers are often instigators of entrepreneurship or innovation education in their schools. Sometimes EE courses stop being offered when a teacher takes a leave, gets sick or leaves the school. The teacher of EE has a special role in the view of one principal who said that EE teachers have to adapt to new strategies in teaching, holding back their tendency to control and allow independence and freedom for the students to follow their own ideas. Instances were found of very enthusiastic teachers who were able to engage other teachers in their school, from other fields of specialization, in innovative and entrepreneurial work. General knowledge about innovation and entrepreneurship education is not common among teachers, principals and the public (Jónsdóttir, 2005).

The national curriculum of upper secondary schools seems to both initiate and hold back entrepreneurship education to some extent. EE is placed within the business section of the national curriculum and where that is strictly followed EE is not seen as an offer for all students. EE courses are usually offered within the business curriculum of schools. Even when offered to all students the majority of the attendees are usually from the business lines and those are a small proportion of the population of VET students. The courses in entrepreneurship give credits but the students don’t “need” those credits to fulfill their required quantity of credits to graduate. The curriculum for master craftsmen includes knowledge about founding, running and managing a firm but only a small proportion of the journeyman graduates take the masters’ studies.

Independent associations and institutions have for some time supported and initiated entrepreneurship education in Iceland. The Innovation Centre Impra offers courses for students and others as an extra curricular activity. Junior Achievement Iceland offers training for teachers, learning materials and assistance for schools that want to teach entrepreneurship courses. An independent organization The Entrepreneurship Training Association (Frumkvöðlafræðslan ses) has offered schools and teachers, teaching materials, assistance and training in entrepreneurship education. European projects and Nordic projects had in some cases initiated entrepreneurship and innovation education in schools and influences of those are still visible.

**THE CURRICULUM**

There is no obligation to offer EE for all VET students in the national curriculum in Iceland. The law for upper secondary schools includes aims that EE can help fulfill\(^6\) (see Chapter II, clause 2). The chapter on the function and role in the national curriculum for upper secondary schools\(^7\) also has messages about the duties of the schools that could be fulfilled by EE. Entrepreneurship education seems to be “locked” within the curriculum for business lines which is possibly an unnecessarily narrow interpretation of the curriculum.

The question arises whether EE should be more clearly demanded by the authorities or if it should at least be made more desirable to use entrepreneurship education to fulfill the roles of VET. To make it more desirable we need a clearer definition and a better introduction to all stakeholders; the public, teachers, principals and students, more research is also needed to show the effects of such education and to show how to get the best results. It also seems that teacher education in this area is somewhat missing (Jónsdóttir, 2005), as is clearly indicated when some of the EE teachers have left schools the entrepreneurship courses disappear with them.

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\(^5\)The main subject of the interviews revolved around the question of finding the various factors of EE or special EE courses within the VET in the school. If there were special courses, information was gathered about how many students and how many of the whole student population got these. Questions about who initiated the courses were asked.

\(^6\)The role of upper secondary schools is to enhance the general maturity of students so they be as well prepared for taking active part in a democratic society as possible. The upper secondary schools prepare students for participation in work life and further studies. The schools should enhance responsibility, tolerance, provide training in disciplined and independent methods of work, critical thinking, enjoy cultural

\(^7\)Schools should make an effort to enhance the students autonomy. Therefore schools should emphasize interdisciplinary studies and various skills. Initiative, independency, analytical skills, cooperation and the ability to express their opinion in spoken and written language".
The purpose of this research was to map entrepreneurship education within vocational education and training and adult education in Iceland, describe the status of entrepreneurship education in VET in Iceland and create a research model to use in other educational systems. The information that was gathered from various sources is reliable and gives a fairly clear picture of the provision of Entrepreneurship education.

The reliability lies mainly in the fact that all aspects that were unclear could be explained on the part of the researcher and researched when needed. The research model can be adapted for use in other European education systems, although it will need some adjusting as the Icelandic education system is small and therefore in a way unique.

ICELAND IN COMPARISON

The situation in VET in Iceland is similar to the situation in other European countries regarding entrepreneurship education9.

The research showed that entrepreneurship education in Icelandic VET programmes is very sporadic, mainly focused within business lines, and thus only on offer for a limited number of VET students. Despite this, various elements of entrepreneurship education can be found in different courses taught in VET programmes. Definition of what entrepreneurship education is, is however not clear in the minds of principals and teachers alike. This needs further clarification. Good examples of various undertakings in entrepreneurship education in upper secondary and VET schools could be found.

THE ICELANDIC SITUATION

- Formal EE in VET is sporadic
- Many elements of EE can be found within various subjects
- Good examples of various EE undertakings

RECOMMENDATIONS

A clear national policy is needed that covers the importance of teaching entrepreneurship in different education programmes, particularly in VET programmes, and makes it desirable to do it in an ambitious way. A clear definition of what entrepreneurship education means is also needed so that future courses in entrepreneurship will be based on the same principles. There is also a clear need to raise awareness in society and within the education sector about the importance of entrepreneurship education. More emphasis should be put on educating teachers about the importance of entrepreneurship education and teachers involved in entrepreneurship education need further training and support. Lastly, more research is needed to monitor the progress and to further enhance entrepreneurship education.

RECOMMENDATIONS

- Clear national education policy on EE
- Concise definition about what EE is
- Raise awareness in society and in education system about importance of EE, particularly within VET
- More teacher training and support for teachers involved in EE
- Further research into EE to monitor progress and enhance EE teaching

GOOD EXAMPLES OF ENTREPRENEURSHIP EDUCATION IN VET SCHOOLS

- Framhaldsskólinn á Húsavík has a defined policy of innovation and entrepreneurship education and offers foundational and advanced courses.
- The thought and methods of innovation and entrepreneurship education implemented within various courses (Menntaskólinn í Kópavogi).
- Competitions at school, national and European level – various innovation tasks that students have to tackle (Menntaskólinn í Kópavogi, Íðnskólinn í Reykjavík and others).
- The life skills programs focuses on self expression, enhancing confidence, cooperation, feelings, solving problems and living in modern society. Emphasis is on student active participation and project work (Fjölbrautaskólinn á Selfossi and others).
- Connection with worklife – learning by doing (e.g. Lögregluskóli Ríkisins (The Police Academy), Garðyrkjuskóli Ríkisins (Horticulture department of The Agricultural University of Iceland))
- Changes in society reflected in the schools’ curricula (e.g. Horticulture, Menntaskólinn í Kópavogi.)
- A direct connection with worklife through the apprenticeship training.
- Other practical training where students learn by doing.
- Courses on the pop and rock industry, recording technology and stage performance, running sound and audio machines and offering technical services for the music industry (Fjölbrautaskólinn Vesturlands á Akranesi).
- Arts and design lines offer a variety of creative work (e.g. Bergarholtskóli):
  - Training in ideation, brainstorming, using sketching and notebooks, making and revising work plans, constantly reviewing own work.
  - Real projects
  - Competitions
- Special entrepreneurial courses with a strong innovation element – EE courses for all students – innovation courses – some of the courses are new and up to 50% of VET students are expected to take one or more of the courses. (Fjölbrautaskólinn Suðurnesja)

MAIN CONCLUSIONS

8 (Final report of the Expert Group “Education for Entrepreneurship”. Making progress in promoting entrepreneurial attitudes and skills through Primary and Secondary education., 2004)


Helping to create an entrepreneurial culture. A guide on good practices in promoting entrepreneurial attitudes and skills through education. (2004.).: European Commission.


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## APPENDIX 1

### Zone of Feasible Development of Entrepreneurship Education

A suggested table of indicators (appendix) of development towards the ideal level of Entrepreneurship Education is offered here rising from the research data and an educational development model of Rogan and Grayson (2003). This table of indicators can be used to detect where schools, areas and countries are located in their educational development of entrepreneurship education.

### SCHOOL CONTEXT

<table>
<thead>
<tr>
<th>IDEAL LEVEL</th>
<th>EE obligatory for all students – various options to choose from. Students responsible for actions with teachers as consultants.</th>
<th>Leadership training – training in innovation and evaluation of ideas - cooperation – division of labor. Students run a real firm or an operation as a part of the course. Cooperation with outside establishments.</th>
<th>Teacher organizes and takes part in EE dissemination in his/her own school. Teacher trains, organizes and moves responsibility gradually over to students. Teacher acts as assistant and consultant.</th>
<th>Available access to various tools and materials to fulfill different needs of idea realization – within school location and in firms of need. Access to needed expertise outside of school.</th>
<th>School ethos expects students autonomy and creative work and is supported and highlighted by school leaders. Evaluation procedures value process and creativity.</th>
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<tbody>
<tr>
<td>4</td>
<td>EE incorporated in one way or another into the curriculum of all students. Students accept most responsibility, teachers assist and monitor.</td>
<td>Knowledge about the management of small firms. Training in how to start your own business and manage it. Innovation training. Practice in running a firm or a project. Connection to society. World of work related projects</td>
<td>Updates his initial training in EE regularly. Gives students responsibility for planning and inventing a business and running it. Allows students choice of societal connections and to get them established – assists and monitors.</td>
<td>Access to various tools and materials to fulfill a range of idea realization – within school location in school timetable and extra time.</td>
<td>Leaders support students’ responsibility of projects and highlight the value of such education. Evaluation procedures in school include process and creativity and a need for EE credits is organized.</td>
</tr>
<tr>
<td>3</td>
<td>Offered and expected of all students. Shared responsibility of projects. Hands-on experience.</td>
<td>Projects that reflect reality. Hands-on experience. Training in the innovation process. Creativity – flexibility – positive attitude – initiative – responsibility – solution skills. Innovation skills training.</td>
<td>Has received training and foundational knowledge of EE. Gives students autonomy within certain boundaries. Respects student expertise. Organizes work related projects and hands-on experience for students.</td>
<td>Access to a variety of tools and materials to fulfill different needs of idea realization. Safe environment in which to work</td>
<td>Leaders expect and support projects that reflect reality, hands-on learning and Training in the innovation process. Evaluation procedures in school include process and creativity.</td>
</tr>
<tr>
<td>2</td>
<td>Offered to some student groups.</td>
<td>Creativity and innovation within various subjects, arts, design, crafts and others: knowledge and skills to act on ideas and enhance initiative.</td>
<td>Has minimum knowledge of isolated EE projects. Supports student ideas, encourages creativity and innovation.</td>
<td>Access to some materials for creative work and tools that help make ideas into reality within each subject.</td>
<td>Leaders allow and look positively at entrepreneurship and innovation emphasis in various subjects.</td>
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### APPENDIX 1

<table>
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<tr>
<th>DEVELOPMENT LEVELS</th>
<th>STUDENT LEARNING OPPORTUNITIES</th>
<th>CONTENT</th>
<th>TEACHER EXPERTISE</th>
<th>ARRANGEMENT AND RESOURCES</th>
<th>LEADERSHIP AND SCHOOL ETHOS</th>
</tr>
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</table>

\(^9\)his development table of indicators is built on Rogan and Grayson’s theories that claim that development in education is a change in culture and is best taken in steps rather than one giant leap. Rogan and Grayson call their schema Zone of Feasible Innovation but here the term Zone of Feasible Development is chosen.
## NATIONAL CONTEXT

### DEVELOPMENT LEVELS

<table>
<thead>
<tr>
<th>IDEAL LEVEL</th>
<th>LAW AND POLICY</th>
<th>NATIONAL CURRICULUM</th>
<th>SCHOOL/WORK RELATIONS</th>
<th>HOME AND PEERS</th>
<th>ASSESSMENT PROCEDURES</th>
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<tbody>
<tr>
<td>4</td>
<td>Developmental agendas include support for EE development and assessment is required to include process and creativity. Official discourse about EE is directed towards education on all levels.</td>
<td>Obligatory offer of leadership training – training in innovation and running a real firm or a project as a part of fundamental studies. Cooperation with outside establishments is expected.</td>
<td>Worklife is affected by school initiatives. Relationship between school and worklife is reciprocal, schools initiate real worklife projects and worklife is open to such endeavors. Entrepreneurial qualities are supported and enhanced on the work site.</td>
<td>The community expects and supports innovation and entrepreneurship education. Parents and young people acknowledge the importance of EE as an integral part of school work. Different methods of quality assessment are seen as equally important in the public eye. Entrepreneurs’ impact on finance and society considered imperative.</td>
<td>Assessment procedures value process and creativity and are prominent in official assessment reporting.</td>
</tr>
<tr>
<td>3</td>
<td>Teach education actively includes EE – harmony between TE and official innovation and entrepreneurship discourse.</td>
<td>Requires knowledge and training in how to start a business and manage it, innovation training and a connection to society is obligatory. Hands-on experience and creativity training included.</td>
<td>Worklife offers expertise in schools and is open for visits and work experience. Worklife is aware of the importance of initiative and creativity and supports them.</td>
<td>Parents and young people are interested and supportive towards EE. Creativity and innovation seen as essential elements of learning. Process measures of school quality acknowledged. Entrepreneurs are seen as important to society.</td>
<td>Official assessment procedures include process and creativity and are seen as a necessary part of the quality of schools.</td>
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<tr>
<td>2</td>
<td>Law and policy expects innovation education. Official discourses directed towards education.</td>
<td>Requires connection to world of work in school projects and hands-on experience. Training in the innovation process and entrepreneurship is expected.</td>
<td>Worklife is open to students and schools to enter their site for introduction and to work and appreciates initiative and creativity.</td>
<td>Parents and young people are informed about EE and interested and EE is seen to support traditional subjects. General views in society are supportive of entrepreneurs.</td>
<td>Official assessment procedures include process and creativity.</td>
</tr>
<tr>
<td>1</td>
<td>Law and policy allows innovation education. Official discourses expect entrepreneurship and innovation in society</td>
<td>Allows innovation and entrepreneurship education</td>
<td>Worklife wants innovation and entrepreneurship qualities in their staff and is positive towards linking students with worksites.</td>
<td>Parents interested in IE and EE. Young people positive towards IE and EE. Views of entrepreneurs neutral.</td>
<td>Development of official assessment of process and creativity in education.</td>
</tr>
</tbody>
</table>

A link to Appendix 2: Categorization and sample of VET schools in Iceland can be found on the website for Thematic Monitoring Group 1, VET and the labour market, guidance, and other specific groups. The direct link is: www.lmvet.net/page/tg1_analysis
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