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Best practices for co-operation between vocational education and nature-based enterprises

Envolve (Nature Based Entrepreneurs and Vocational Education Training Providers Learning and Working Together), best practice report



Anne Matilainen
Rosaleen Courtney
(eds.)

Reports 67





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Table of contents

1. BACKGROUND.....	5
2. DOCUMENTATION TOOL.....	7
The documentation model	7
3. BEST PRACTICE DESCRIPTIONS	9
3.1 Estonia.....	9
3.1.1 Vocational education in Estonia.....	9
3.1.2 Case - development of Õpipoiss (apprentice) curricula	11
3.2 Finland	13
3.2.1 The education system in Finland	13
3.2.2 Case - Triangular assessment among nature based training (VET)	15
3.3 Italy.....	17
3.3.1 Political, socio-cultural and economic context in the Italian VET system	17
3.3.2 Case - MINT, Innovation Management for SMEs	20
3.4 Norway.....	22
3.4.1 The vocational education system in Norway	22
3.4.2 Case - Sea urchins.....	23
3.4.3 Case – Candle dipping machine	24
3.5 United Kingdom	26
3.5.1 The vocational education system in UK	26
3.5.2 Case - Developing synergy between small enterprises and vocational learners.....	26
3.5.3 Case - Developing skills and employment prospects for young people.....	29
4. DISCUSSION.....	31
REFERENCES	31
AUTHORS IN ALPHABETICAL ORDER	32

1. Background

Anne Matilainen, University of Helsinki, Ruralia Institute, Finland

Increasing and diversifying co-operation between enterprises and VET is continuously enhanced in various EU and national policies (e.g. Lisbon Strategy, Education & Training 2010 WP, Action Programme of LLL 2007-2013). The main aim is via co-operation to improve the quality of training and ensure that the skills of future labour will meet the needs of the enterprise sector (e.g. the Education Council 2001). This is particularly vital in the micro business sector, where the stress of hiring new personnel is high and the new staff often have to bring some special skills to the company (Small Business Act for Europe 2008).

Most VET organisations involved in co-operation with enterprises mainly focus their interest on larger companies. However, small and micro enterprises are not yet properly involved in this co-operation nor benefiting from it, even though 99 % of companies in EU can be classified as SMEs with 90 % micro companies (EU 2007) and their role in regional and rural economics is essential. The benefits to micro companies originating from VET co-operation could be e.g: access to skillful specialised labour, access to innovation networks in the region, opportunities to improve their own business activities and potential additional income (especially off-season). The VET organizations, on the other hand, could e.g. diversify their training provision economically, increase services targeted at micro enterprises, find new customer segments and provide specialised entrepreneurship orientated modules.

The current good practices for enterprise-VET co-operation are developed for larger companies or are on a very general level. These co-operation models should be modified according to the specialties of micro companies for enhancing systematically the co-operation between micro enterprises and VET. The existing good practices need to be collected together, evaluated and combined with the experiences of previous initiatives in order to find the most feasible models for micro enterprises. An example of these initiatives is the work of the Leonardo funded NEMO-project.

One typical micro or small enterprise sector with identified problems in matching the needs of enterprises and education in most European countries is nature-based entrepreneurship (NBE). NBE can be defined as sustainable entrepreneurship based on resources and experiences offered by nature, like nature tourism and recreation activities. The sector is one of the fastest growing tourism sectors (Agenda for a sustainable and competitive European tourism 2007) and most of the VET students in the sector end up as micro entrepreneurs or their staff. As a relatively new professional business sector, NBE does not have much established contact with VET organisations. Nevertheless, the entrepreneurs often possess special skills and could bring knowledge on production methods and natural materials or cultural and sustainability approaches to professional education, that could expand even the cross sectoral training provision. The NBE sector provides an excellent environment to pilot the developed models to one specific sector. Selecting one relevant sector will also increase the synergies in developing and piloting co-operation models in the project, even though the co-operation models can be used also in other industry sectors.

This report is a part of the Envolwe project (Nature Based Entrepreneurs and Vocational Education Training Providers Learning and Working Together). The overall objective of the project is to increase the quality and attractiveness of VET by strengthening the co-operation between VET and micro enterprises and providing practical tools for it. ENVOLWE will focus on transferring and further developing organisational innovations in the VET sector by collecting existing innovative practices of co-operation between rural small and micro entrepreneurs and VETs. The innovative practices identified from partner countries will be

complemented by the models and tools developed on a more general level by previous initiatives, like the Leonardo funded NEMO project (New models of co-operation; school-enterprise partnership in vocational education). The Envolwe partnership consists of VET and SME organisations and networks from Finland, Estonia, Norway, Italy and UK. In addition in the partnership, there are two international associations.

The Envolwe project will focus on transferring and further developing organisational innovations in the VET sector by collecting together existing good innovative practices for co-operation between entrepreneurs and VET identified by the partner organisations from their countries. The experiences and knowledge of good practices and co-operation models collected together are presented in this report. Evaluation of how the existing good practices will contribute to enhancing the co-operation between micro enterprises and VET instead of the co-operation between VET and larger enterprises is also analysed.

The existing practices developed for co-operation with larger companies will be collected from different industry sectors and modified to be suitable for micro enterprises and piloted in the nature-based entrepreneurship sector in the later phase of the project. The NBE sector provides a good testing ground for the typical micro entrepreneurship sector with a fast growth rate, high entrepreneur-staff ratio, seasonal activities and a relatively new industry sector. The NBE sector also has the optimal “cognitive proximity” with several other industry sectors essential for successful innovation transfer (e.g. Storhammar & Virkkala 2003). The NBE approach will also provide possibilities in cross-sectoral innovations e.g. including and strengthening the role of nature knowledge, skills and values into design, health care, social sectors (e.g. rehabilitation) and utilisation of nature and multi-sense methods in teaching (teacher education, special education).

In this report first, the documentation model used for the documenting the best practices is described. After that, the collected best practices from partner countries are briefly described. At the end some conclusions are presented.

2. Documentation tool

Anne Matilainen, University of Helsinki, Ruralia Institute, Finland

The documentation tool used in describing the best practices is strongly based on the documentation model used in the NEMO-project (New models of co-operation; school-enterprise partnership in vocational education). The main principle of the documentation is to describe the co-operation model in relatively simply way, "this is how we did it" or "this is how it has been done". The aim is to have a common way to describe the best practices, so that they can be easily compared, collected together and understood by all.

The documentation model itself has two parts. Part A (Table) contains basic information of the co-operation model and Part B (figure) describes the action itself as a process chart. In part A firstly the actors related to the co-operation model are described. After that the reason for co-operation and expected results (why the co-operation was established) is explained. The activities in the model are explained task by task on a practical level. The process charts (Part B) are also used to illustrate the activities. In addition each best practice case has been evaluated by the national authors of the cases based on its strengths and weaknesses, as well as its suitability for nature-based sector.

The documentation model

The documentation model has two parts.

Part A contains basic information of the co-operation model.

Name of the case	
Country of origin	
Area for co-operation	What was the co-operation about, e.g. implementing practical training periods for students, creating new training modules etc.
Operators/Actors	
Expected results	Why the co-operation was established? What was planned to be achieved?
Actions done	What was done?
Describe the implementation process and its critical points on a practical level (the part B supports the description)	
Total duration of the process in months	
Evaluation of the strengths and weaknesses of the model	How did it work out?
Evaluation of the suitability to VET - micro entrepreneurship co-operation especially in nature-based entrepreneurship sector.	

Part B describes the action itself as a process description. The required operators, their tasks and responsibilities are described in the process chart. The following codes for different activities are used.



form



decision



additional information/
sub-project



knowledge



action, process

3 Best practice descriptions

The identified models presented below have been used in the past by the partner organizations of the Envolwe project as well as other national organisations in establishing and maintaining the co-operation between VET and the enterprise sector. The models have proved to be useful, at least when operating with larger companies. There is a reason to assume that these models could, after modification, also be used to enhance co-operation between micro enterprises and VET organisations. The best practices have been presented in table form in order to help compare practices. In addition, for each best practice a process chart is presented.

3.1 Estonia

Roger Evans, Eesti Maaulikool (Estonian University of Life Sciences), Estonia

3.1.1 *Vocational education in Estonia*

Vocational education in Estonia, which can be acquired through several options on the basis of both basic and secondary education, provides both professional knowledge and skills.

There are three levels of vocational education:

- vocational education without the requirement of basic education
- vocational education based on basic education
- secondary vocational education

Studies take place on the basis of a discrete curriculum and last for at least 15 study weeks during which pupils acquire basic knowledge of the selected profession and receive a certificate confirming the completion of the vocational education course. The knowledge and skills acquired in basic school or upper secondary school can be taken into account in further studies if the pupil wishes to continue their studies in the same specialty.

There are 45 vocational educational institutions in Estonia, 31 of which are state, 3 municipal and 11 private vocational schools.

Development Plan

The Development Plan for the Estonian Vocational Education and Training System 2009-2013 was adopted by the Government of the Republic on 11.09.2009.

The most important aspects of the new development plan are student-orientation as well as quality, timeliness and appreciation of VET. VET has to be open and accessible for different target groups and fulfil a social and engaging function on the one hand and offer excellence for innovative and knowledge-based development of society and economy on the other hand.

The main objectives of the Development Plan are:

1. The VET system is flexible and available and corresponds to the needs of learners
2. Education is of high quality and competitive
3. The VET system is coherent with society, the economy and labour market
4. Organisation of the VET system is purposeful, effective and sustainable

System of professional qualifications

Professional certificates are issued to people who have passed their professional examinations where the skills, knowledge and personal qualities required for working in a specific profession are assessed.

According to the Vocational Education Standard, vocational students have the right to take the relevant professional examination instead of the vocational graduation examination. A graduate of a vocational educational institution can take a professional examination for free within a year of graduation. In the 2007/2008 academic year, 34.4% of graduates took the professional examination, 79% of whom passed the exam.

Professional standards are approved by professional councils. A professional council is an administrative body operating at the professional institution, which consists, on an equal basis, of representatives of employees, employers and professional associations of the same area of professional activity and representatives of the state. (Professions Act, 2008)

Funding

Vocational education is funded from the state budget under the jurisdiction of the Ministry of Education and Research according to state-commissioned education needs. Funding is based on the base cost of a student place and the coefficients of curriculum groups. The multiplication of the base cost by the relevant coefficient gives the cost of a student place in the given specialty. State, municipal and private vocational institutions are all funded through state-commissioned education.

Source: Estonian Ministry of Education and Research, <http://www.hm.ee/index.php?1510001> (visited 15.06.2010)

3.1.2 Case - development of Õpipoiss (apprentice) curricula

Name of the model/case	Õpipoiss (apprentice) curricula
Country of origin	Estonia
Area for co-operation	The aim of the project was to create new vocational training modules & curricula across a number of rural subjects including agriculture, horticulture, catering, butchery, electrical, metalworking, cleaning, welder, building, business, forestry & logging.
Operators/Actors	Estonian Vocational Schools and local SMEs
Expected results	<ol style="list-style-type: none"> 1. To create new curricula suited to students without school leaving qualifications or vocational qualification awards from Professional Councils 2. For VET Schools to create links with local SMEs 3. Placements of students in SMEs 4. For schools to develop a new and innovative training model 5. To try and create new income possibilities
Actions done	<ol style="list-style-type: none"> 1. Schools identified local SMEs interested in working with them in developing new curricula 2. New competence based curricula were written cooperatively between schools & SMEs 3. SMEs provided practical training based around the new curricula and VET schools provided theoretical training
Describe the implementation process and its critical points in practical level (the part B supports the description)	<ol style="list-style-type: none"> 1. After identifying the SMEs interested in co-operation with schools, teachers and SMEs operating as employers for the students during the practical training were trained in <ol style="list-style-type: none"> a. the new teaching methodology b. how to deliver competence based assessments c. how to develop and work together in partnerships 2. Curricula were prepared in cooperation with companies using a competence based criterion referenced qualifications structure which was new to Estonia 3. Companies were evaluated in terms of their suitability to place students 4. Students were recruited to the courses 5. Teaching was done 33% in school and 66% in SMEs 6. Student experiences were evaluated 7. In most cases training in SMEs was provided for their existing personnel.
Total duration of the process in months	Pilot project allowed 1 year of basic education, but follow on Õpipoiss programmes have been developed some were successful in attracting students to the course but others were less so in part due to high costs of student participation.

<p>Evaluation of the strengths and weaknesses of the model</p>	<p>Strengths:</p> <ol style="list-style-type: none"> 1. This model was popular with the students since they were actually getting real experience in the workplace, which increased their self-confidence related to their skills 2. Employers were trained in how to teach and assess students in the workplace environment which helped 1/ the SMEs gain a better understanding of the course, the educational needs of students and the scope of what is possible to include in vocational education programmes; 2/ helped schools to provide a deeper and more relevant practical instruction programmes 3. The workplace training allowed students to get real work experience linked in terms of both the theory training and assessment in school. For this the curricula had to be carefully planned and structured. 4. It was a good model for students, who wanted to learn but had problems with classroom studies 5. New models for VET-SME partnerships based on trust were created during the process. 6. VET Schools established effective and working partnerships/networks with their local SMEs. This led to further new curricula creation and new training topics being identified. 7. New training modules in topics of partnership building/leading, networking and cooperation with SMEs were created (which were not available previously) leaving a legacy of learning materials for building additional SME networks 8. It was an especially suitable method for innovative fields of activity especially in subjects with a high technological content since VET school's equipment cannot be renewed as quickly as needed and SMEs were able to provide the latest technology. 9. It increased the attractiveness of VET schools and increased the popularity of their curricula.
	<p>Weaknesses:</p> <ol style="list-style-type: none"> 1. Students felt they had a limited range of practical training experiences and this was also too much focused on the field of the SME. 2. Employers preferred to have the same student throughout the whole placement period and were reluctant to have students move on to other SMEs in the network: <ol style="list-style-type: none"> a. To reduce risk of exchange of production secrets b. Having trained the students in their methodologies they did not want to start again with a new group of students 3. With students who had "dropped out" of school education the model was not so successful because they still found the theoretical component difficult to cope with 4. In the difficult economic climate SMEs could not afford to retain students on full wages after the training period thus limited number of permanent jobs were created through the project. 5. The pilot Öpipoiss programmes were based on a new funding model and when the pilot project was completed it was difficult to A/ identify resources within limited school budgets to maintain the SME networks/partnerships. B/ to maintain the new training courses based on traditional school funding models 6. The number of local enterprises in each field of activity is limited and the number of students who could be trained at same time is one or two from one SME (to be sure that work process doesn't suffer when they are participating in theoretical training and this was a limiting factor in the creation of new or broader Öpipoiss SME networks

Evaluation of the suitability to VET - micro entrepreneurship co-operation especially in nature-based entrepreneurship sector.	It is a good model for establishing VET-SME co-operation, since there was an element of win-win for both schools and SMEs through access to high quality practical training go resources for schools and to students and potential future employees for SMEs. Training resources in partnership & co-operation were developed. Good examples of commercial training programmes were also subsequently developed. A number of VET schools continued the method after finishing the project. New curricula were developed during the project and later in response to continuing SME interest.
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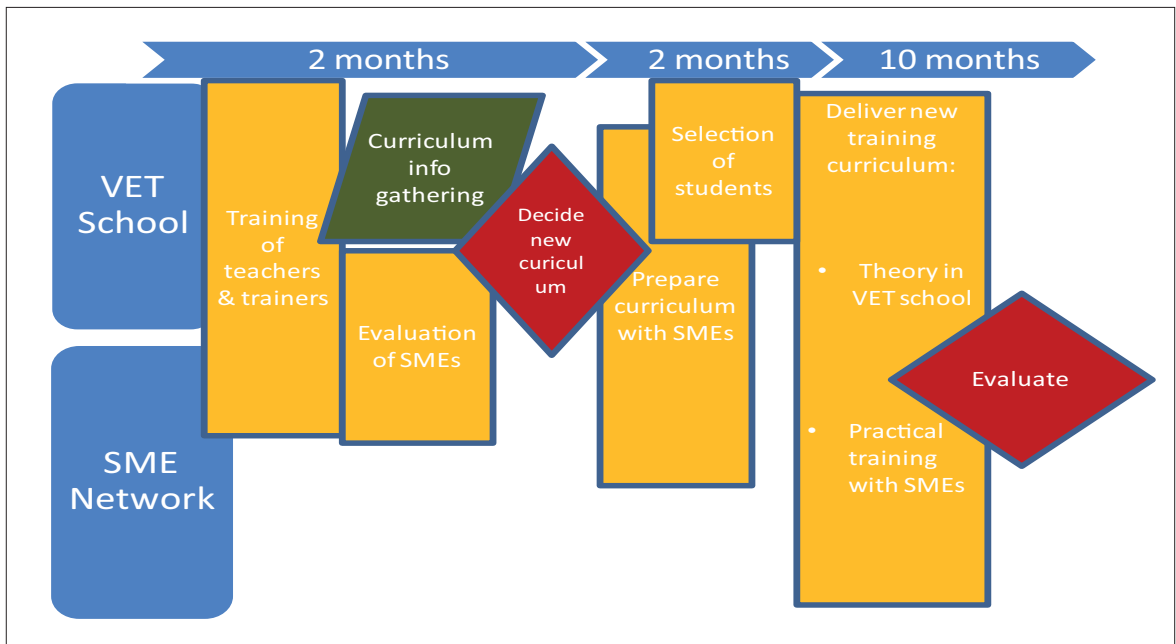


Figure 1. The process chart of öpipoiss co-operation model.

3.2 Finland

Kaj Jääskeläinen, Ylä-Savo Municipal Federation of Education, Finland and
Anne Matilainen University of Helsinki, Ruralia Institute, Finland

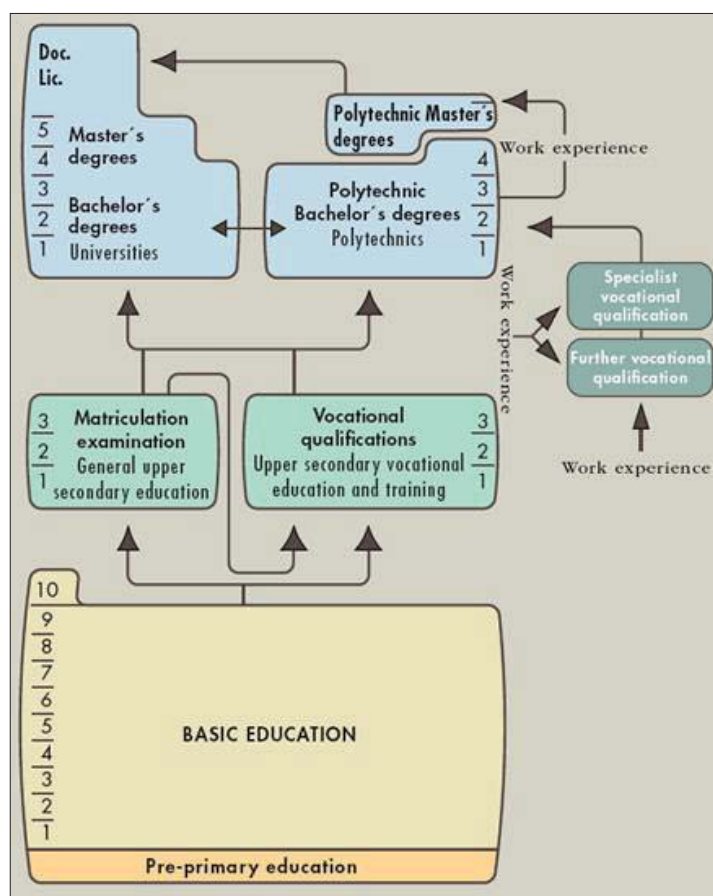
3.2.1 The education system in Finland

Education is the responsibility of the Ministry of Education in Finland. The National Board of Education works together with the Ministry to develop the educational aims, content and methods for primary, secondary and adult education. It is also responsible for assessing the education system with the exception of higher education. Most of the primary and secondary upper level institutions are maintained by municipalities or federations of municipalities. The responsibility for education funding is divided between the state and the local authorities. For the funding of primary and secondary education, the state subsidises on average 57% of the costs. The municipality contributes an average of 43%.

Students, who have successfully completed compulsory education (basic education, primary education), are eligible for general and vocational upper secondary education (fig. 2). The scope of study programmes in vocational upper secondary education is 3 years (120 credits). Each vocational qualification consists of vocational studies, including at least 20 credits of on-the-job learning in companies; core subjects, such as

languages and sciences; free-choice studies and student counselling. The initial vocational qualifications can be taken in institutional education or as apprenticeship training. The National Board of Education decided on the general objectives for both general and vocational upper secondary education. Based on the national core curriculum, each provider of education prepares the local curriculum. The vocational upper secondary education students put together their own study plans on the basis of which they can partially decide on the progress of their studies. This gives some flexibility for the educational institutions and students to work together with SMEs.

However, when establishing co-operative processes, the teachers' qualifications have to be taken into consideration. Depending on the institution and subject, vocational and polytechnic (fig 1) teachers are required to have either 1) an appropriate higher academic degree 2) an appropriate polytechnic degree or 3) the highest possible qualification in their own vocational field, work experience in the field of at least 3 years and to have completed the pedagogical studies of at least 35 credits.



Source: Description of education system Finland (www.oph.fi) and Finnish National Board of Education, Education in Finland.

Figure 2.
The Finnish education system, overview
(Source Finnish National Board of Education
http://www.oph.fi/english/education/overview_of_the_education_system)

3.2.2 Case - Triangular assessment among nature based training (VET)

Name of the model/case	Triangular assessment among nature based training (VET)
Country of origin	Finland
Area for co-operation	Implementation of professional skills assessment from three different aspects: employers, employees, and educators. To create professional skills' assessment consensus through co-operative processes.
Operators/Actors	<ol style="list-style-type: none"> 1. Employer / entrepreneur 2. Employee / worker 3. College / teacher 4. Qualification committee / National Board
Expected results	Consensus assessment of student's professional competence (skills and knowledge)
Actions done	Vocational skills demonstration by the students and assessment process by nature-based businesses and training
Describe the implementation process and it's critical points in practical level (the part B supports the description)	<ol style="list-style-type: none"> 1. Assessment group (3 prs) nomination by the college (from the list, which is already approved by the national qualification committee) 2. Pre-material assessment 1 to 2 weeks prior to the competence test / skills demonstrations 3. Skills demonstration as close to the real working conditions as possible 4. Self – assessment after the skills demonstrations 5. Assessment discussion 6. Assessment proposal – published? 7. Final assessment decision by the qualification committee – 2 to 4 weeks after the skills demonstrations 8. Qualification certificate by the Qualification Committee
Total duration of the process	6 - 8 weeks
Evaluation of the strengths and weaknesses of the model (How did it work out?)	<p>+ combining three different views to one (consensus decision)</p> <p>+ strong view from working life (employer / employee)</p> <p>+ national criteria given will offer an objective platform</p> <p>+ assessors have been selected, orientated and trained to carry out the assessment</p> <p>- Consensus will not always be easy or simple to implement</p> <p>- Different views might sometimes be quite diverse</p> <p>- Problems to find place and suitable time to suit all (high season)</p> <p>- National criteria might be inflexible to situations and skills that students demonstrate</p> <p>- Certain written ?? might be difficult to adopt because they are too general in terms of practical work</p>
Evaluation of the suitability to VET - micro entrepreneurship co-operation especially in nature-based entrepreneurship sector.	<p>In principle, the described assessment fits the nature-based context well, especially because in a small business the practical work enables flexible assessment planning and skills demonstration.</p> <p>The entrepreneur understands and can organise the customers' needs and he / she is the best expert to adjust the current practices and possible changes of the assessment timing.</p> <p>The entrepreneur is usually present and can take part in the planned assessment.</p> <p>In the high season, timetables, and especially lack of time, seem to cause a lot of time-related problems</p>

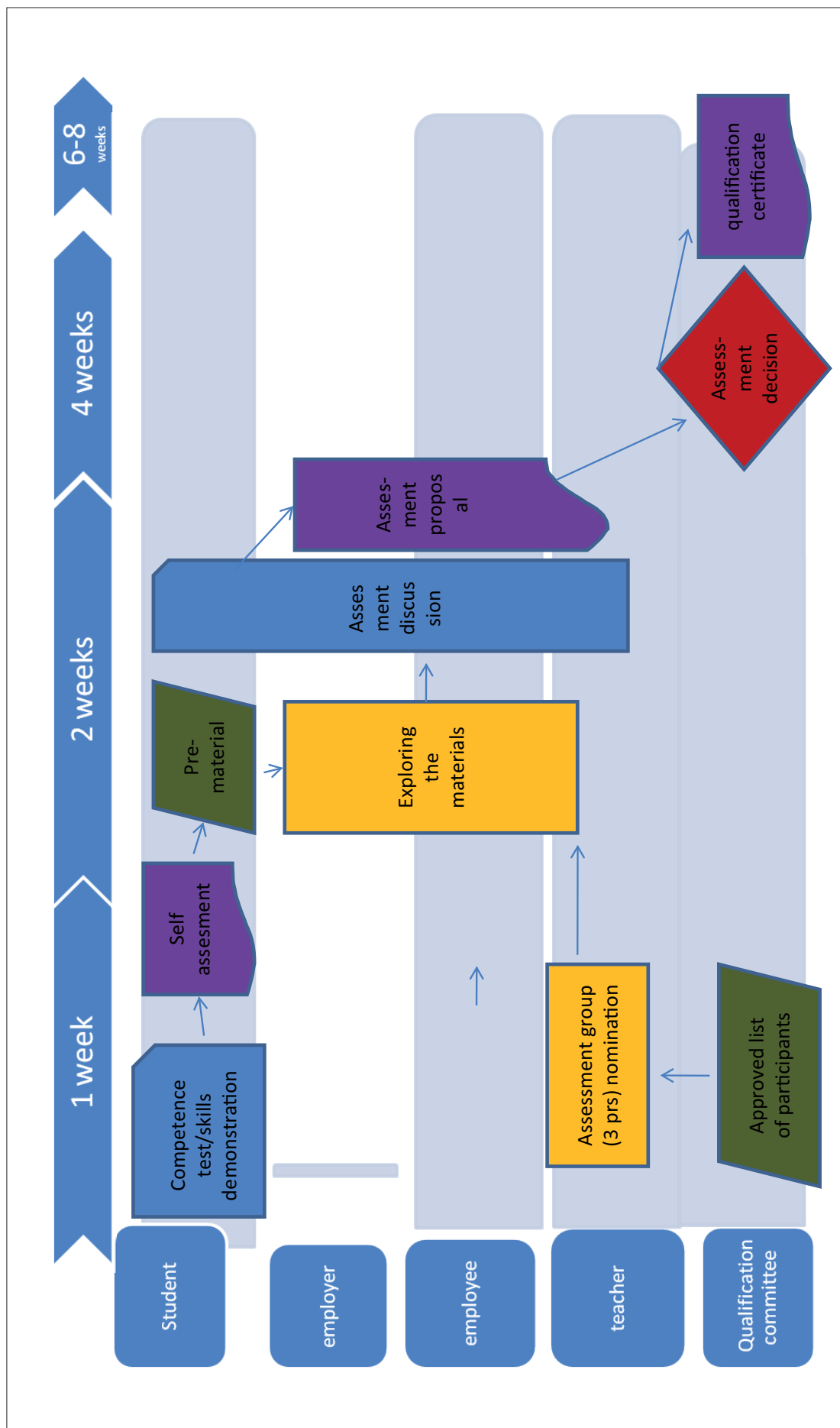


Figure 3. The process chart of "triangular assessment process among naturebased training" – co-operation model.

3.3 Italy

Stefano Tirati, Centro Servizi Cultura Sviluppo Srl, Italy

3.3.1 *Political, socio-cultural and economic context in the Italian VET system*

Italy is a democratic Republic and has 20 Regions, 107 Provinces and 8,100 local authorities. The State has exclusive legislative powers over most of the main issues, including general rules on education and the setting of minimum service levels (Article 117 of the Constitution). Five Regions (Trentino-Alto Adige, Friuli-Venezia Giulia, Valle d'Aosta, Sicily and Sardinia) have special status and are given greater autonomy under the Constitution in various areas including education. The Trentino-Alto Adige Region, moreover, has two autonomous provinces (Trento and Bolzano) which in turn have considerable autonomy over education and vocational training.

The Regions have 'exclusive' legislative powers over vocational education and training, apart from tasks connected with the European Union and parallel legislative powers over general education, although the State is responsible for deciding the basic principles. In fact, Law no. 3 of 2001 reformed the Title V of the Constitution. In particular, art. 117 makes a distinction between: a) general education, which falls under the exclusive authority of the State regarding general rules, essential levels of performance and fundamental principles of legislation at regional level; b) vocational education and training, which falls under the responsibility of the Regions, although the essential levels of performance remain the responsibility of the State. Provinces and local authorities provide school buildings and infrastructure, and carry out tasks in the area of adult education and guidance, including the management of employment services.

Italy has a diversified industrial economy with roughly the same total and per capita output as France and the UK. This capitalistic economy remains divided into a developed industrial north, dominated by private companies, and a less-developed, welfare-dependent, agricultural south, with a figure of about 6.7% unemployment for 2008 in Italy. Most raw materials needed by industry and more than 75% of energy requirements are imported. Over the past decade, Italy has pursued a tight fiscal policy in order to meet the requirements of the Economic and Monetary Unions and has benefited from lower interest and inflation rates. Moreover, the current government has enacted numerous short-term reforms aimed at improving competitiveness and long-term growth. Italy has moved slowly, however, on implementing needed structural reforms, such as lightening the high tax burden and overhauling Italy's rigid labour market and over-generous pension system, because of the current economic slowdown and opposition from labour unions. But the leadership faces a severe economic constraint, following also the global trend of recession: the budget deficit still breaching the 3% EU ceiling. The economy experienced in 2008 a period of recession with a reduction GDP of -2.9% in the fourth semester of the year, unemployment remained at a high level, higher than 2007 (+0.6%).

Educational attainment of population

Although gradually diminishing from 2002 to 2007 (thanks to the education policies implemented in the 90s), the Italian percentage of early school leavers, (19.3% in 2007), is definitively above the European average and still far from reaching the Lisbon goals. For this reason, active policies, especially for young people, are strongly oriented to fight against drop-out/early school leavers, trying to supply alternative

training opportunities and tools for the exploitation of skills possessed. In the school system, school drop-outs are particularly widespread, especially in vocational training pathways, with 45% of those registered at least 1 year behind their own training pathway.

On the other hand, the decrease in the number of graduates at ISCED levels 4 and 5 in 2006 can be explained by a reduction in the attractiveness of three year degree pathways, which at first attracted a lot of 21 year old students. The decrease was also due to the possibility of recognising previous studies or work experience.

The trend concerning the raising of school attendance levels is however confirmed by the rate for population aged 20 to 24 having completed at least upper secondary education (table 3): from 69,6% in 2002 to 76,3% in 2007. This aspect is particularly stressed by the percentage of females who in 2007 have acquired an upper secondary school diploma (80, 0% compared to the EU27 80.8%).

Besides dropout/ school leavers' issues, another critical aspect is represented by the low participation of the adult population in lifelong learning activities, still below the European average. In particular, between 2002 and 2007, although the percentage of population aged 25-64 participating in training and education over the four weeks prior to the survey has increased (from 4.4% in 2002 to 6.2% in 2007), there is still a significant difference from the European average (7.2% in 2002 and 9.5% in 2007).

Definitions

Educazione Generalista (general education):

This definition mainly concerns the lycée system, i.e. pathways not particularly leading towards specific professions. General education differs from vocational training.

Educazione Pre-Professionale (pre-vocational education):

Education mainly designed to introduce participants to the world of work and to prepare them for entry into vocational or technical programmes. In the case of Italy, Technical Institutes are included in this category

Educazione Tecnico professionale (Vocational and technical education):

Vocational education aims to provide specific theoretical and practical preparation to carry out qualified functions in the trade, services, industry, artisanship, and agriculture and navigation sectors. Vocational and technical education refers to Istituti Tecnici (technical schools) and Istituto professionale e Istituti d'arte (respectively vocational and art schools)

Formazione (Training)

The definition of training includes education, learning, education and practice.

Istruzione e Formazione professionale iniziale (Initial vocational education and training)

The definition includes:

- first level (or basic) training pathways, addressed at those who have completed the first cycle of education
 - second level training pathways addressed at those who have completed the upper secondary level of education or who have obtained a first-level vocational qualification
-

Istruzione e Formazione Professionale Continua (Continuing Vocational Education and Training)

Training pathways not immediately linked to the productive process, aimed at permanent training and the improvement of professional and employability levels, involving individuals in a lifelong learning pathway.

Programmi scolastici (School Based Programmes)

A strict definition is not possible, as the majority of vocational education programmes, apart from apprenticeships, are implemented partly in educational institutions.

Alternanza Scuola Lavoro (Alternance Training)

Alternance training is mainly intended in the framework of education and vocational training pathways, as an effective tool for guidance and assistance to enter the labour market.

Apprendistato (Apprenticeship)

Systematic, long-term training alternating periods in a school or training centre and at the workplace; the apprentice is contractually linked to the employer and receives remuneration (wage or allowance). The employer assumes responsibility for providing the trainee with training leading to a specific occupation. There is also an apprenticeship (addressed to students between 18 and 29 years old) enabling the student to obtain a second level diploma or higher education qualifications.

Qualifica professionale (Qualification)

No significant differences with the given definition (source EQF). Qualification is intended as a formal outcome of an assessment and validation process which is obtained when a competent body determines that an individual has achieved learning outcomes to given standards.

Source: Italy VET in Europe – Country Report 2009. CEDEFOP
http://libserver.cedefop.europa.eu/vetelib/eu/pub/cedefop/vetreport/2009_CR_IT.pdf

3.3.2 Case - MINT, Innovation Management for SMEs

Name of the case	MINT, Innovation Management for SMEs
Country of origin	Cyprus/Italy
Area for co-operation	Supporting small and medium sized enterprises to develop a strategy on innovation management
Operators/Actors	University, research and VET centres and local SMEs
Expected results	<p>To develop and adapt an innovation management training package</p> <p>To employ blended learning techniques by developing an online course</p> <p>To pilot and promote the training package on innovation management to SME owners, managers and employees</p> <p>To assist and coach participants in obtaining innovation management skills</p> <p>To foster an innovation culture among European businesses</p> <p>To foster co-operation between VET providers and local SMEs</p>
Actions done	<p>1) International comparative research on innovation management practices and attitudes adopted by SMEs was carried out</p> <p>2) Development of new curricula and educational materials on innovation management</p> <p>3) Pilot testing of the blended learning activities</p> <p>4) Publication and dissemination of final educational programme on innovation management</p>
Description of the implementation process and its critical points in practical level (the part B supports the description)	<p>1. International comparative research:</p> <ul style="list-style-type: none"> ● development of questionnaire ● selection of target groups/users ● implementation of the questionnaires ● co-operation between VET and SMEs to identify needs ● transnational comparative analysis, publication of the results and key findings for the educational process <p>2. Educational materials developed by University, VET providers and research centres:</p> <ul style="list-style-type: none"> ● define a new teaching methodology, based on blended learning: face to face sessions with online / distance activities ● selection of existing educational materials / development of new educational materials and exercises ● adaptation of educational materials and resources to the blended learning context ● pilot testing of the new methodology and of the educational materials on innovation management <p>3. Selection of 5-15 SMEs in 6 EU countries (CY, UK, IT, ES, LT, GR)</p> <p>4. Provision of blended learning activities</p> <p>5. Implementation of innovation management activities within SMEs with support and coaching provided by local VET-research centres</p> <p>6. Publication and dissemination: evaluation of the impact and outcomes of the educational activities; final adaptation of the training resources</p>

Total duration of the process in months	<p>The pilot test of the full MINT training programme on innovation management covers around 12 weeks.</p> <p>The modular structure allows customisation based on the needs and characteristics of the entrepreneurs</p>
Evaluation of the strengths and weaknesses of the model (How did it work out?)	<ul style="list-style-type: none"> + MINT has been very well received by entrepreneurs of micro and small enterprises + Methodology very flexible and adapted to the characteristics of SMEs + Educational materials and activities focus on key elements for the companies' growth and innovation, which is in most cases not covered by traditional business courses + Learning programme based on practical and pragmatic exercises where SME owners are guided to analyse their own operations and to apply contents to their own company + New co-operation and synergies between VET and SMEs as well as among SMEs - Bigger and more structured companies did not appreciate the course as they felt they already had all the competencies needed in-house - Some participants did not complete the educational programme due to difficulties attending face-to-face workshops - Some participants had difficulties keeping motivation and interest during the distance learning and thus did not complete the online exercises
Evaluation of the suitability to VET - micro entrepreneurship co-operation especially in nature-based entrepreneurship sector.	<p>MINT has proved to be a good model for establishing and fostering co-operation among VET and SMEs, especially micro businesses. Those companies involved in the pilot were from rural environments and nature based businesses, and the results illustrate directly the suitability of the model for the sector.</p> <p>The nature of the educational materials and the methodology used are particularly coherent with the micro entrepreneurship and nature-based sectors.</p> <p>The model can be customised to the specific needs and characteristics of the SMEs involved; furthermore only the blended learning and coaching phases can be implemented as it is not compulsory to carry out the research phase nor the final publication/dissemination phase.</p>

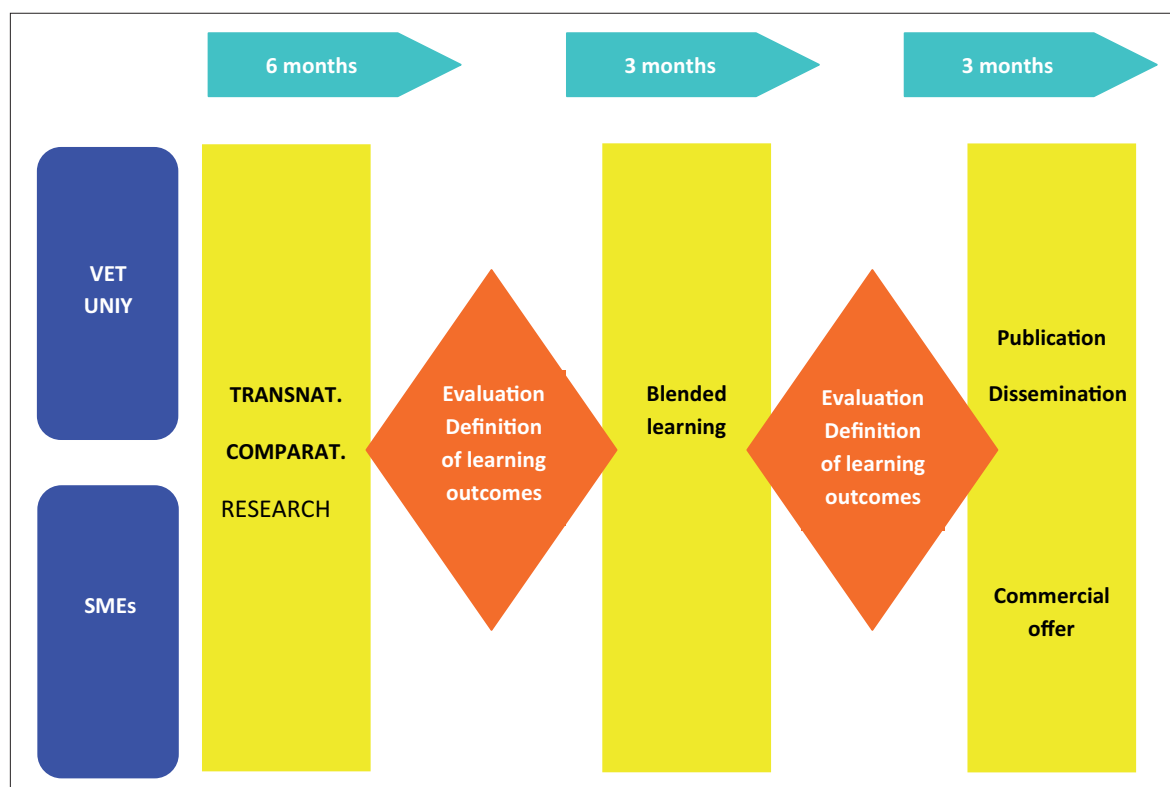


Figure 4. The process chart of the MINT co-operation model.

3.4 Norway

Thomas Nilsen, Rogaland School and Business Development Foundation, Norway

3.4.1 *The vocational education system in Norway*

Norway has a VET system built upon the tripartite co-operation principle. A system of co-operation, mandated by the Education Act, is established both at national and regional level, involving both employers' and workers' unions.

At national level, the National Council for VET, a body for co-operation on vocational education and training, appointed by the Ministry, gives advice and takes initiatives within VET. A Vocational Training Council exists for each VET programme. At regional level, there are county vocational training boards, one in each county. These boards have specific advisory tasks as stated in the Education Act. The organisation of pupils/apprentices is represented in both in the National Council for VET and in the County Vocational Training Boards. Education and training is conducted both in schools and in enterprises. Both public and private enterprises accept apprentices and are approved as training enterprises by the county. Training Offices and Training Circles, i.e. enterprise driven co-operation ensuring apprenticeship place provision, have become increasingly common.

The first stage at which VET is provided in Norway is at lower secondary level through elective programme subjects. These enable 8–10th year students to try out subjects from the different upper secondary level program, including VET.

Having completed lower secondary education, a student can choose to enter one of the following nine Vocational Education programmes: Technical and Industrial Production; Electricity and Electronics; Building and Construction; Restaurant and Food Processing; Social Care; Media and Communication; Agriculture, Fishing and Forestry; Service and Transport; Design, Arts and Crafts. The standard model for VET at upper secondary level is often called the 2+2 model. This refers to the division of the standard four-year programme into two years school-based training followed by two years enterprise-based training which corresponds to one year in school. The model carries a certain degree of flexibility depending on the different programmes.

After the first year at upper secondary level in one of the nine programmes, the student has to choose between several specialisations in year 12 leading to a further specialisation in year 13 when the profession is chosen. The subjects within VET are divided into Common Core Subjects, Common Programme Subjects and In-depth Study Project. As the curricula are regulations, the schools and training establishments are bound by their content. Should a student wish to transfer to a General Studies Programme, he/she may do so by completing a year of Supplementary Studies Qualifying for Higher Education.

The co-operation with SMEs is very usual in nearly all schools in VET sector at all levels. The companies are very willing to let youth get experience and try out the profession during their studies. It is both in the interest of the companies to be able to try out for free new apprentices and in the interest of the pupils to get a real impression of how the trade really is.

3.4.2 Case - Sea urchins

Name of the model/case	SEA URCHINS
Country of origin	NORWAY
Area for co-operation	Production, research and sales of sea urchins through co-operation between the VET school and a private micro enterprise on one of the islands outside Stavanger
Operators/Actors	Rygjabø Vocational School and Sea Urchin Farm
Expected results	<ol style="list-style-type: none"> 1. Motivate students to take up entrepreneurship 2. Create more publicity for a small vulnerable VET school 3. Student placements 4. Common use of facilities in the interest of both parties 5. The school can start their own business in sea urchin farming with their students 6. Wish to be innovative and look at future income possibilities
Actions done	Set up a formal agreement for the co-operation model for the use of facilities and how VET would use the results and get access to research participation
Describe the implementation process and it's critical points in practical level (the part B supports the description)	<ol style="list-style-type: none"> 1. Purchase of equipment needed 2. Set up of equipment and research facilities 3. Get it up and running 4. Agree on student participation at different levels and stages 5. Students start to participate in daily routine of growing algae for feeding sea urchins, measuring temperatures, water inlet etc. 6. Students participate in simple daily routines at the research station 7. The agreement is a standard A-4 paper with an agreement between the company and the school about legal issues like insurance, responsibilities and frame factors. Also included are the content of the training.
Total duration of the process in months	24 months of their basic education
Evaluation of the strengths and weaknesses of the model (How did it work out?)	<p>This model is very popular with students since they are actually taking part in real innovative research, and since this island is quite far away from Stavanger it was natural for them to unite forces with local entrepreneurs to ensure sustainability of the VET/SME co-operation on the island in general.</p> <p>The weakness is that this model does not give any immediate results for the students, since the research will have to go on for years to find the most cost effective way to produce sea urchins.</p>
Evaluation of the suitability to VET - micro entrepreneurship co-operation especially in nature-based entrepreneurship sector.	Excellent, since typically the investments are quite big for a micro enterprise in the research phase. By utilising the school's "publicly financed equipment" it is a win+win situation for both

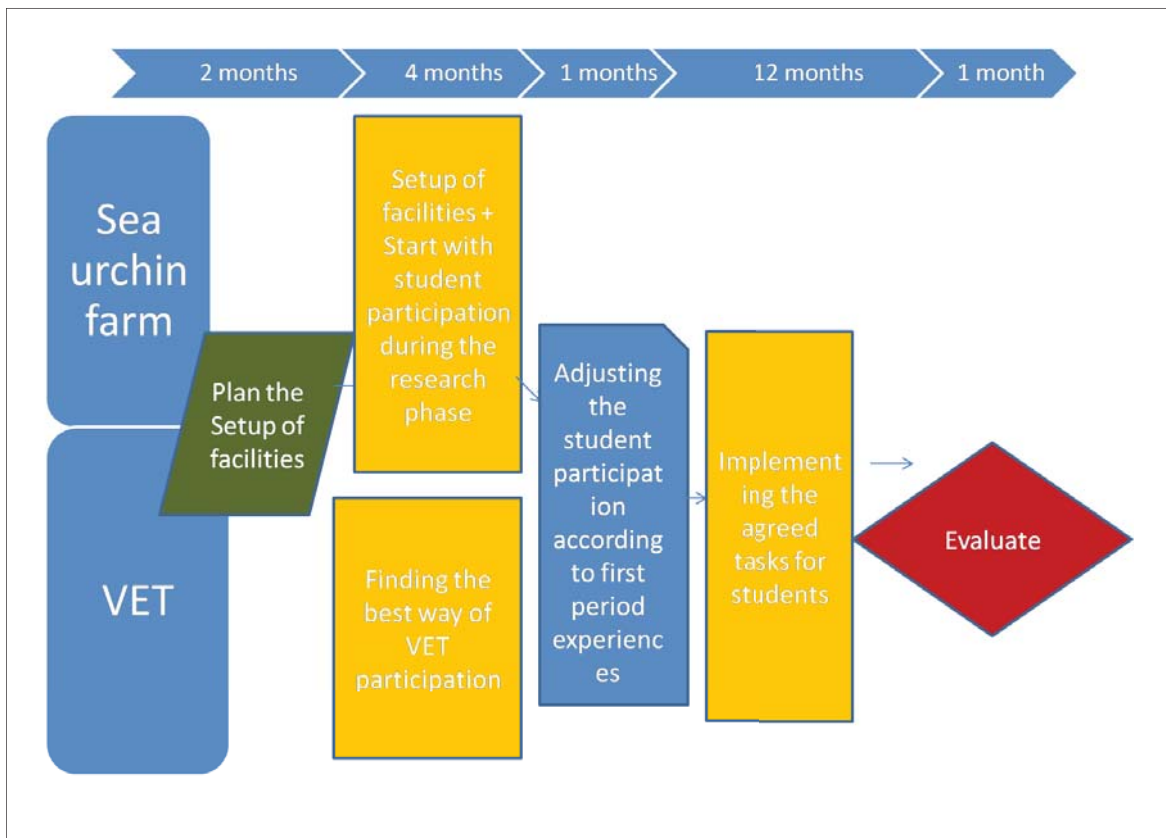


Figure 5. The process chart of sea urchins -case.

3.4.3 Case – Candle dipping machine

Name of the model/case	CANDLE DIPPING MACHINE
Country of origin	Norway
Area for co-operation	A nature based company in the mountains wanted to establish a new business for making candles but did not have the technology or skills to produce the necessary equipment. Co-operation with a vocational school with necessary competence and motivation for the task was established in order to produce the requested equipment in the mechanical department of the school.
Operators/Actors	Godalen Vocational School and Byrkjedalstunet
Expected results	<p>Motivate students from the outskirts to be entrepreneurs</p> <p>Involve students in the whole process from planning, drawing, producing, delivering and setup of manual candle dipping equipment</p> <p>Make students understand the commitment they have when taking on an order from a micro enterprise/ entrepreneur who is dependent on your on-time delivery</p> <p>Get publicity for the school</p>

Actions done	<p>Company facilities visit by the students to see what they are doing there.</p> <p>Make formal contractual agreements</p> <p>Plan and draw the equipment and get feedback from company owner</p> <p>Production</p> <p>Delivery and setup</p> <p>Students testing the equipment by making candles for the Christmas season</p>
Description of the implementation process and it's critical points in practical level (the part B supports the description)	<p>The main question was how to design this equipment to fit the needs of the micro enterprise.</p> <p>A lot of time was used for agreeing on the drawings and measurements of the equipment</p> <p>The last implementation phase was critical. Did the micro entrepreneur like the solution when seeing it in practice?</p>
Total duration of the process in months	8 months of the second year in mechanical education
Evaluation of the strengths and weaknesses of the model (How did it work out?)	It is a very simple model for production in principle, but student truancy, participation and interest in the project is always an insecure element in such co-operation. But in this case they met no obstacles or unforeseen incidents. Everything was delivered as foreseen.
Evaluation of the suitability to VET - micro entrepreneurship co-operation especially in nature-based entrepreneurship sector.	Excellent, since it will be exactly this way the students will have to do it if they start their own business or work for another business that produces something to order.

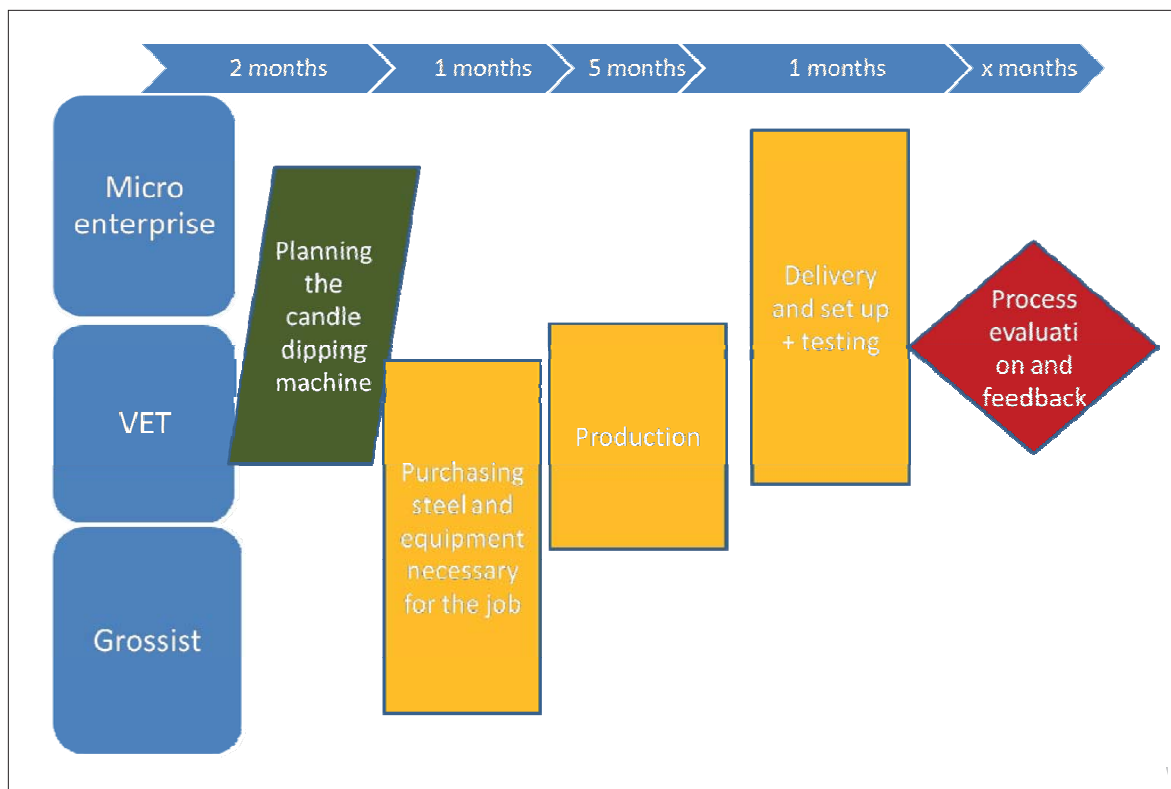


Figure 6. The process chart of the Candle Dipping machine -case.

3.5 United Kingdom

Rosaleen Courtney, Norton Radstock College, United Kingdom

3.5.1 *The vocational education system in UK*

In the UK, vocational education and training takes place in Further Education Colleges, schools and the workplace. The National Skills Strategy aims to provide a framework and delivery plan for meeting the economy's skills needs, including the development of the vocational ladder and the qualifications framework. It aims to engage employers across all areas of skills development and to make sure there is a coherent approach to policy in vocational education and training. Awarding bodies are responsible for the design and assessment of vocational education and training qualifications.

National Vocational Qualifications focus on learning and assessment in the workplace for employees. They are available in many skills sectors and are developed by employer-driven organisations (the Sector Skills Councils) so that they are relevant to the job. However, there is sometimes seen to be a gap between qualifications and the skills needed in the workplace with some qualifications seen to be out of date particularly where technology is concerned. Competence, knowledge and understanding are defined as the standard. Candidates are then assessed against the standard, using standard assessment methodologies and by assessors who have relevant occupational expertise. National Vocational Qualifications will be replaced by diplomas from September 2010.

Modern Apprenticeships are at Level 2 and 3 for learners between 16 and 24. Apprentices spend time in the workplace with experienced employees to gain job-specific skills and time with a learning provider, gaining knowledge and training which is unavailable in the workplace. At college, the apprentice learns about specialist skills such as surveying techniques and legislation and key skills that will be useful in the job market – like working in teams, problem-solving, communication and using new technology. In the land based sector, many work placements are in small to medium sized enterprises.

Recent trends include new vocational diplomas which can be studied from the age of 14-19 involving practical, hands-on experience as well as classroom learning. Diplomas have been designed with employer involvement and must include periods in the workplace.

3.5.2 *Case - Developing synergy between small enterprises and vocational learners*

Name of the model/case	Developing synergy between small enterprises and vocational learners
Country of origin	United Kingdom
Area for co-operation	Finding a win-win situation where both parties benefit; sharing knowledge, skills and experience
Operators/Actors	Vocational students; small enterprise owner/managers; individuals wanting to start their own business; teachers; environmental charity called Envolve; local tourism organisation (Bath Tourism Plus)

Expected results	<p>The co-operation process was established to work more closely with SMEs, understand their needs, develop training to meet their needs and enable students to gain experience of working with entrepreneurs. At the end of the training, a certificate in rural tourism development (ERTD www.ertd.info) was awarded. The students' work contributed to an element of the business qualification they were studying. Entrepreneurs and students worked closely together to develop innovative and creative ideas for business development.</p>
Actions done	<p>Monthly workshops during which entrepreneurs and students discussed and developed ideas; visits to rural enterprises and blended learning (tasks and activities) between workshops. For example, students helped entrepreneurs to design a visitor trail linking rural enterprises and local produce at the same time making good use of website design and information technology skills.</p>
Description of the implementation process and its critical points in practical level (the part B supports the description)	<p>The target groups of small enterprises were defined and ways of engaging them in the co-operation process were agreed e.g. contact previous participants in business courses at the college, e-mails to enterprise networks, etc.</p> <p>Face-to-face discussions with enterprises to establish their training and business development needs then took place as well as a discussion with the teacher and business students.</p> <p>A series joint workshops with students and entrepreneurs of workshops and blended learning took place which was the critical point during the co-operation process. Experts (environmental, local tourism organisations) were included in workshops to answer questions and provide information. Students learnt from the experience of the entrepreneurs and the entrepreneurs learnt from the theoretical and technology skills of the young students.</p> <p>All parties evaluated the process on a monthly basis and improvements were made to meet their needs.</p> <p>After the training, the network continued and opportunities for further co-operation were developed. For example, a network of accommodation providers developed their own website and passed on business to others if they did not have space. Also, entrepreneurs came to other training courses at the College.</p>
Total duration of the process in months	12
Evaluation of the strengths and weaknesses of the model (How did it work out?)	<p>One of the strengths of the model was that the training met the needs of the small businesses, particularly the workshops which served as a catalyst for SME networks to develop. The rural tourism network developed by the vocational college has continued to build over 5 years. Start-ups and experienced businesses gained mutual benefit from discussions. Participants were willing to travel a distance to come to the monthly training sessions. Students also gained valuable experience including work experience in Spain. Visits to existing rural businesses were very effective.</p> <p>The weaknesses of the model were that SMEs felt that they did not have time to complete all the tasks and activities due to business pressures. The different interests of students and SMEs were at times difficult to manage.</p>
Evaluation of the suitability to VET - micro entrepreneurship co-operation especially in nature-based entrepreneurship sector.	<p>The model is a particularly good match for nature based entrepreneurs. The training was provided in a very flexible way to meet the needs of each group and at a time to suit them (off peak). The rural location of the College also helped to reach the target groups.</p>

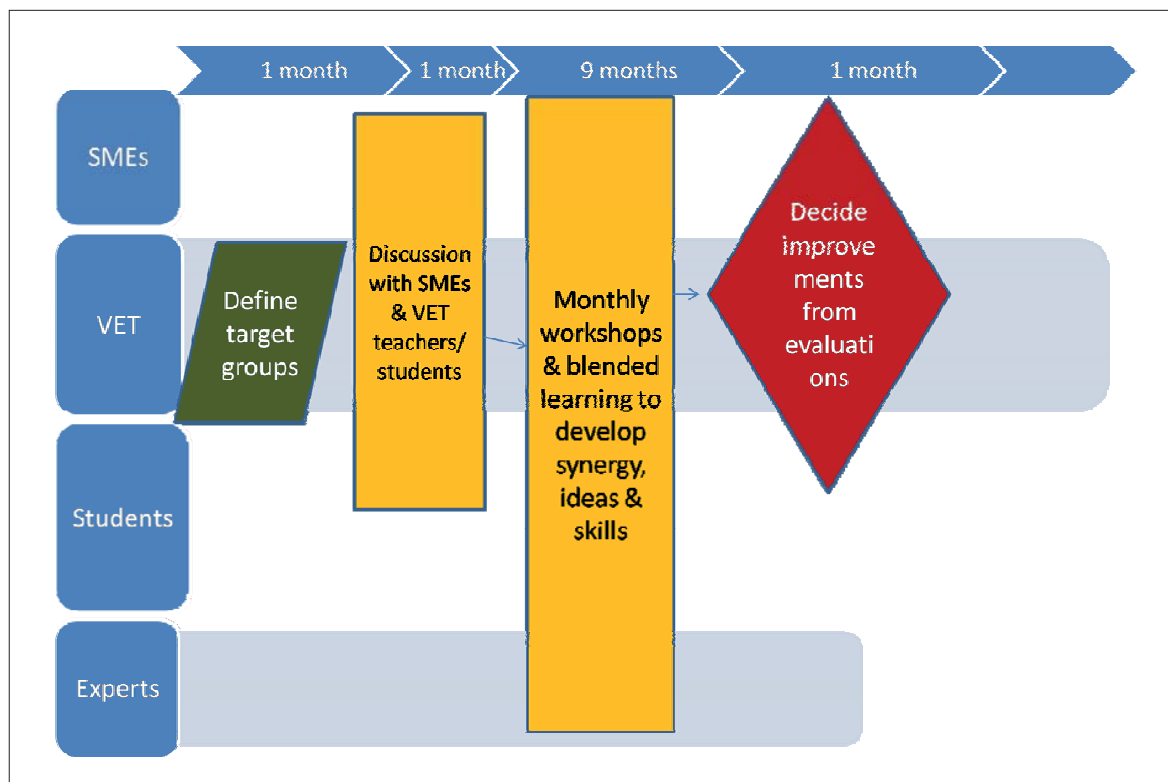


Figure 7. The process chart of Developing synergy between SMEs and Vocational Colleges -case.

3.5.3 Case - Developing skills and employment prospects for young people

Name of the model/case	Developing skills and employment prospects for young people
Country of origin	United Kingdom
Area for co-operation	Lifelong learning college (Norton Radstock College) and nature based enterprise (Laurel Farm) working together to develop the confidence and land based skills of young people including young offenders and those who have been excluded from mainstream education..
Operators/Actors	Small groups of young people from youth offenders' unit and special school; small enterprise owner; vocational teachers (land based studies); 'Get sorted' team from college
Expected results	To re-engage young people in skills training through a flexible system of co-operation between the college and the nature based entrepreneur. The aim is for the young people to gain a recognised land based qualification and the social and life skills to help them to gain employment.
Actions done	A good working relationship has been developed between the entrepreneur (a former social worker and trained assessor) and the college. Groups of young people move from Laurel Farm to the college every 4 months. The transition to accredited training has been flexible depending on individual needs as the young people develop their confidence and a taste for learning. Examples of progression include Level 1 land based studies in horticulture.
Description of the implementation process and its critical points in practical level (the part B supports the description)	Small groups of young people start at Laurel Farm. Depending on their individual needs, they are gradually introduced to different tasks on the farm such as feeding the pigs, collecting eggs, etc. At the same time they develop social and life skills and learn to have fun as a group. The rural setting often seems to calm them down. When they are ready, they start to attend the college for one to two days a week with the support of a specialised team under the 'Get Sorted' initiative. This helps them to adjust to an educational setting in a relaxed way and to start to trust their teachers. They move on to selected courses at the college with workplace training at Laurel Farm. The teaching takes place in units so that they can join in at any time and take units with them with the aim of gaining accredited qualifications such as National Vocational Qualifications (NVQs). The 'Get sorted' team provides a safety net if there are problems and they can go back to Laurel Farm as and when needed and work at their own pace. The aim is for them to gain employment under the apprenticeship scheme and continue their learning to the next level of NVQ.
Total duration of the process in months	24 months with 3 starts per year at 4 month intervals (very flexible depending on individual needs).
Evaluation of the strengths and weaknesses of the model (How did it work out?)	<p>The main strength of the model is the flexibility to suit individual needs. Young people can go back to the rural setting if they are not ready to enter formal training. The model also helps prepare them for employment. It has been proved to work and there are success stories of students gaining qualifications and employment.</p> <p>The weakness of the model is that it is very labour intensive in terms of support. Resources in terms of trained staff, facilities and funding are critical. Also it does not work for everyone and there will be drop outs.</p> <p>The model has had to be used with single sex groups for young offenders.</p>
Evaluation of the suitability to VET - micro entrepreneurship co-operation especially in nature-based entrepreneurship sector.	The model is suitable for a particular type of small nature based entrepreneur who wishes to help young people and has the necessary training. The rural setting of the college and the entrepreneur has helped to make the model work.

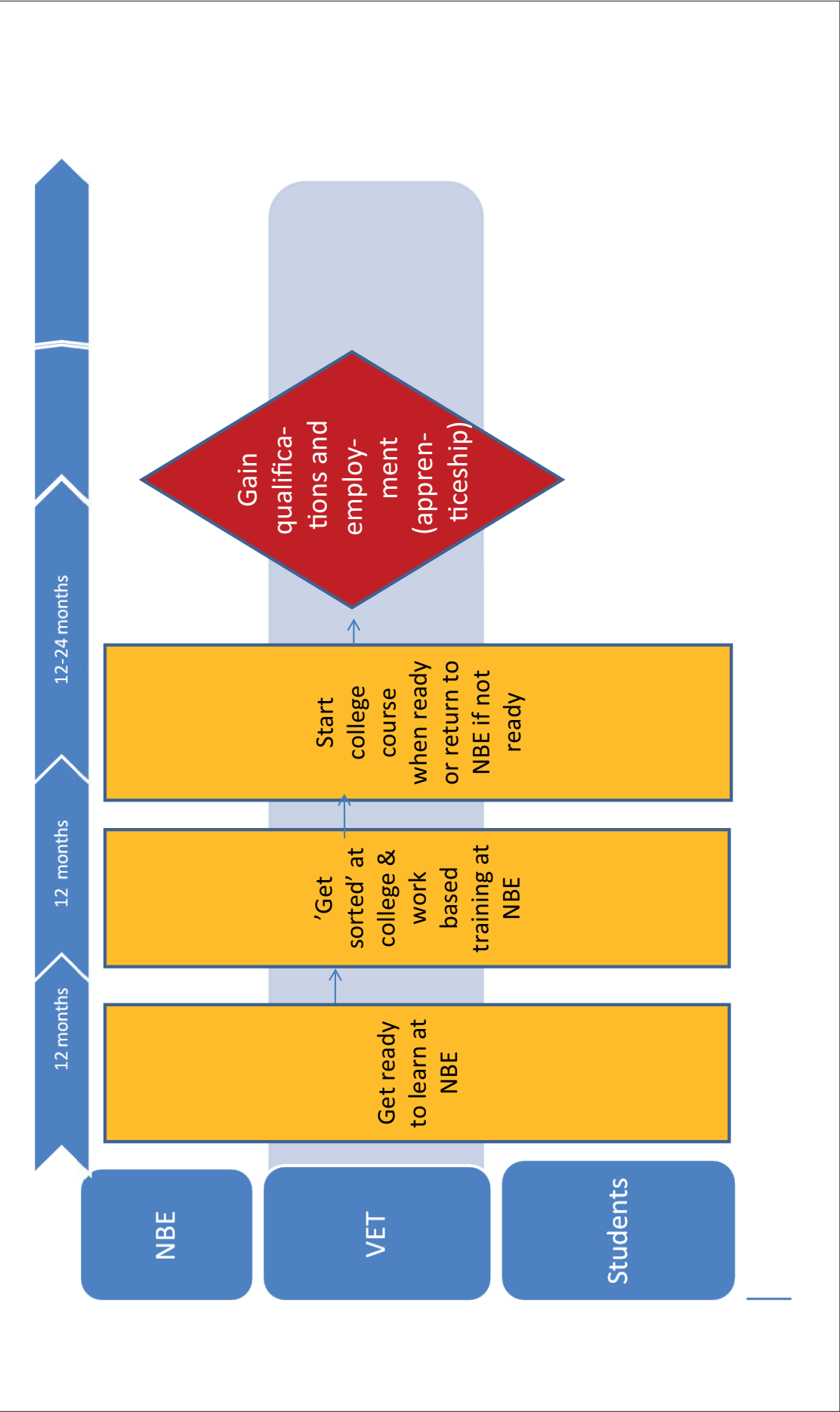


Figure 8. The process chart of Developing skills & employment prospects for young people -case.

4 Discussion

The role of this report is to provide information on several best practice cases concerning the co-operation between SMEs and VET organisations. The suitability of the co-operation models for implementing co-operation with micro enterprises especially in NBE sector has been evaluated. However, when studying the presented models, it must be borne in mind that the different institutional structures in vocational and education and training and the regional or local context of the cases may require the models to be modified during implementation. Nevertheless, the models provide excellent elements and practices for improving the systematic co-operation between the small and micro enterprises and VET organisations that can be utilised also in different contexts.

In the next phase of ENVOLWE project some of the good practices will be transferred between the sectors and countries and will be tested out at a practical level by the project partners.

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