

InnovatiVET Erasmus+ project 2017-1-DK01-KA202-034250



Good Practice examples

InnovatiVET



Turun yliopisto
University of Turku



Co-funded by the
Erasmus+ Programme
of the European Union



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About the project

InnovatiVET is a project funded with support from the European Commission under Erasmus+ Programme - Key action 2 – Strategic Partnerships for vocational education and training - Development of Innovation.

BACKGROUND

Despite years of massive research effort and numerous development projects the actual practices in education continues as usual.

Previous study from the sector shows that up to 50% and 70% of the teachers expresses that they have not changed their daily practice as a result of participating in development projects (The Vocational Education Lab & Damvad 2012). Even though the need for transformation is massive, in Europe the practice of teaching is always the same.

The way curriculum describes learning is changed and reformed, improving the job relevance of vocational education, BUT it seems that this does NOT guarantee a corresponding didactic development improving the processes in learning. It is however important to develop pedagogics in order to support dual mode education. When innovation becomes the core part of the agenda “dual mode” becomes an important arena – This again calls for the development of new practices and learning environments constituting the knotworks between different learning arenas.

There is an urgent need to introduce new models of innovation and inclusion in VET and in all educational system, especially if they are connected with the achievement of the EU 2020 goals declared by the Europe 2020 flagship initiative “An Agenda for New Skills and Jobs”(ensure that people acquire the skills needed for further learning and the labour market through advanced and innovative VET) but also in 2015 Joint Report about ET2020 strategy, Opening Up Education policy, Riga conclusions about VET and Erasmus+ horizontal and VET-specific priorities.

REASON FOR THE PROPOSAL

The elements the proposal is based on are:

- introduce new models of innovation in VET system, and the only effective way is to move the focus on teachers and educators active in the VET system. They need to develop and change their way of teaching in order to change the student skills and increase drastically the students’ employability.
- The selected methodologies/approaches are: Inclusive and Disruptive Learning, Work-Based Learning, Creative Problem Solving Methodology and TRIZ, Shared-Learning approaches (Co-working and FabLab).

The PROJECT PROPOSAL is about innovation in VET and would like to explore innovation in VET in Europe and create several guidelines (interactive, practical and easy-to-use tips) about the ways to introduce a revolution in a job-oriented VET system.

OUTPUTS/RESULTS

The project aims to:

- Explore and discover from across EU successful GOOD PRACTICE examples about innovation in Learning and teaching

- Produce an EVIDENCE-GATHERING report starting from the emerging needs analysis done by a FOCUS GROUPS via INTERVIEWS (stakeholders from VET sectors, teachers, students but also enterprises recruiting from the VET sector) and aimed to let emerge the challenge and the disruption coming from the innovation in VET
- Promote the development, testing and implementation of INNOVATIVE PRACTICES/METHODOLOGIES in VET thanks to 4 Intellectual Outputs focused on evidence-gathering, emerging needs analysis, methodologies and toolkit about: Inclusive and Disruptive Learning, Work-Based Learning, Creative Problem Solving Methodology and TRIZ, Shared-Learning approaches (Coworking and FabLab).
- Stimulate a change in the Educational System coming from innovative and disruptive METHODOLOGIES and APPROACHES after a PILOT TESTING period
- Transfer the knowledge about the METHODOLOGIES through a series of interactive REPORTS AND TOOLKITS describing the methodologies, explaining in detail how to implement them in VET, introducing challenges, tips and providing a suggested quality management system
- Create a WEBSITE integrated with Blog, APPs and Social Networks containing a DATABASE OF MATERIALS TRANSLATED into all partners' National languages to promote and encourage extensive exploitation and dissemination
- Disseminate the project outputs and results throughout EU with a database of OPEN EDUCATIONAL RESOURCES available through open licences
- Arrange a series of MULTIPLIER EVENTS involving a large number of stakeholders to foster exploitation and dissemination of PROJECT Intellectual Outputs.

IMPACT ENVISAGED

The partnership will bring together partners coming from several countries and their stakeholders, both academic and private, with the synergic power to reach a very large and diverse audience.

The double-route to follow in the project is:

- Transfer innovative and disruptive methodologies/approaches for VET to any interested parties (VET sectors, teachers, students but also enterprises recruiting from the VET sector, formal education system, higher education system, adult learners, Erasmus + projects etc.)
- Recognise and validate the knowledge within partner staff thanks to ECVET system and a Memorandum of Understanding to validate an "European Expert in INCLUSIVE AND DISRUPTIVE LEARNING" profile.

PARTNERS

- ERHVERVSAKADEMI SYDVEST - Denmark
- EURO-NET - Italy
- UNIVERSITY OF TURKU - Finland
- MEDNARODNI CENTER ZA PRENOS ZNANJA DOO - Slovenia
- FAB LAB LONDON – United Kingdom

Document background

The document contains the result of the Good practice (GP) research under the project lifetime.

The research about good practice examples is about successful cases of innovation in learning and teaching in Europe.

It is composed by the Best example (selected by project partners) from each country out of 5 topics below.

TOPICS:

1. Inclusive and disruptive learning
2. Work-based learning
3. Creative Problem Solving and TRIZ Methodologies
4. Co-Working
5. FabLab

CRITERIA used to select GPs:

- Transformative (i.e. in terms of change in the actual educational system and VET sector)
 - Transferability (i.e. being replicable)
 - Sustainability (i.e. capable of enduring)
-

GP 1 – Entrepreneur-edu dates

How it works

The concept of the entrepreneur-edu date is that university teaching staffs meet with entrepreneurs to raise entrepreneurial awareness to the teacher and for the entrepreneur to be able to understand the available skills of newly graduates as potential skill pool. The teaching staff and young entrepreneurs are invited to group meeting to discuss about entrepreneurship in general, future available skills and working life collaboration.

The objective of the date is for the teachers to support establishing new connection with entrepreneurs and designing new forms of collaboration in the field of education.

In addition to meeting the young entrepreneurs, the teaching staff also has the opportunity to follow the entrepreneur in their work. In entrepreneurial shadowing, the teachers get acquainted with the day-to-day work of an entrepreneur by observing, discussing and participating in the daily activities of the start-up. This way teachers and lecturers are better equipped to support their students in being entrepreneurial and advise them if they are considering pursuing a career as an entrepreneur. It helps them to integrate entrepreneurial activities into teaching their own subject. Shadowing also helps the teacher to understand the diversity of entrepreneurship and to get familiar with different ways of utilizing business opportunities.

The dates are organized by the University of Turku as well as the YES-Center, a network for entrepreneurial organisations, the Young Entrepreneurs of South-West Finland, and the Entrepreneurial Guild, a voluntary based network for entrepreneurially minded enthusiasts from the University of Turku.

The University of Turku has been named as Entrepreneurial University and this initiative is part of supporting the University's new entrepreneurship training strategy. The University of Turku's personnel training aims to strengthen entrepreneurial attitudes and entrepreneurial practices throughout the university community. Entrepreneurship training is not limited to business, but it also aims to provide graduate students with the skills and means to seize opportunities and to work creatively in any organization.



Geographical Area:

Finland

Criteria:

Transferable

What:

University teaching staffs meet with entrepreneurs to raise entrepreneurial awareness

Implementation:

Local

Reasons for Success:

Part of University' Strategy, involvement of local actors

The entrepreneur-edu dates can be considered as an inclusive and disruptive learning approach due to its method of learning-teaching and the nature of the actors. Also the training is done in a different context, directly at the start-up.

Source of the materials:

<http://www.yrittajyysyliopisto.fi/in-english/>

<http://www.yrittajyysyliopisto.fi/ope-yrittajatreffit-ja-yrittajan-varjostus-kevat-2018/>

Photos, pictures, logos

Teacher and
entrepreneur
meeting



copy 06.02.2018 from <http://www.yrittajyysyliopisto.fi/ope-yrittajatreffit-ja-yrittajan-variostus-kevat-2018/>

GP 2 – Project Aces

How it works

Project Aces is a working life simulation project for the students of the higher education institutions of Turku, which offers to learn the basics of project management through a client project. The students execute the project in multidisciplinary and also international teams of 3-5 students.

The project can include e.g. event planning and management, developing marketing, communication or logistics, or product development. The results of the project can include development plans, reports, demos or events. Part of the project is in English. The client projects tackle the development challenges of local businesses and other organisations, or produce new ideas to planning and executing development work. To the clients, Project Aces offers a possibility to take advantage of the competence of the students, and to get a new perspective in development work.

Prior to work on the client project, the team of students attends a three day- training and other regular meetings. The client project is carried out during ca. 3 months. The estimated duration per student is 135 hours over the given period. Participation in the training and in the development assignment project does not require full-time commitment; it can be done along with other studies.

The project is aimed at undergraduate and master level students of the higher education institutions of Turku, and at recent graduates. For undergraduates, two years of successful studies is recommended. Also foreign degree students and exchange students are welcomed.

Students participating in the project do not get salary. Instead, they get credits. The extent of the training is 5 ETCS credits / 135 hours. The University of Turku grants the students a certificate after they have completed the training. Students should separately apply for the credit transfer of the ETCS to be included in their qualification from their own subject.

Project Aces started in 2011. At the origin the project was targeted to university students to provide them with project work. During the spring of 2012, 70 students had been trained and taken part in activities in private companies and public organisations in team of three. The goal is to provide the students with training opportunities and help them in creating



Geographical Area:

Finland

Criteria:

Sustainable

What:

Genuine projects in cooperation with clients

Implementation:

Local

Reasons for Success:

Local experiment, multidisciplinary, multinational

Links:

<http://projektiassat.fi/en/>

contact with the business community. Also it was difficult for graduates to find employment after graduation. Through project work, students gain valuable skills necessary to support their employment after graduation and support them to get employed in the region of South-West Finland, instead of moving to the capital area.

Project Aces was first funded through the Ministry of Education for three years with a budget of 300.000 euros. It is currently organised by the City of Turku and the universities and universities of applied sciences in Turku. Project Aces being very popular and well known in the region, companies are requested to pay a small fee to support the selection of the students and preparation prior to the work. This way the project is more sustainable.

Source of the materials:

<http://www.ts.fi/uutiset/paikalliset/309458/Projektiassat+rakentaa+siltaa+opintojen+ja+tyoelaman+valille>

https://issuu.com/tiitammi/docs/projektiassat_mediassa

<https://www.utu.fi/fi/yksikot/braheadevelopment/koulutus/tutkintokoulutus/Sivut/projektiassat.aspx>

Photos, pictures, logos

Project Aces kick-off



copy 6.02.18 from <http://projektiassat.fi/opiskelijalle/>

Project Aces logo
(in Finnish)



copy 6.02.2018 from <http://projektiassat.fi>

GP 3 – Intoa! Lean Business

How it works

Business Management Strategies have been evolving since the second half of 1970's. Generally, the argument is that a well-managed smaller companies, and especially knowledge intensive spin-offs, are very adept at three things: anticipating market trends, capitalizing on new technologies and using their lean structures to outpace larger companies. While their small size and state of the art perspectives enable them to go beyond certain barriers, such as traditional outlooks and internal bureaucracies, and hamper the actions of all except the most progressive larger companies, these smaller companies also have limitations. Thus, it makes sense that cooperation between the two types of businesses is desirable. However, in order to make the cooperation a reality, an understanding why the larger companies would plan or even want to cooperate with the start-ups is required. Additionally, win-win situations for both the larger companies and the smaller companies must be ensured. Fortunately, University of Turku has a new approach in implementing cooperation between universities and companies that can help with these conditions and it is called the Intoa! Lean Business -program.

The Intoa! Lean Business -program filters the conditions into the priority of better populating and strengthening the productive base of the regional and national business ecosystem. This means that larger businesses in the bio-based economy are prioritized as it is a strong industry in the South-West Finland as well as in Finland as a whole, and the corresponding faculties of the University of Turku are accordingly prioritized to be internal start-up teams. The overall aim of the program is to enforce cooperation with the companies and to strengthen entrepreneurship and entrepreneurial way of thinking of the students and researchers.

The program is operated by the development services department of the University of Turku, Innovation, Entrepreneurship and Transnational Education.

The program is part of a national, innovation and industrial renewal promotion initiative, which was initiated by the Finland's Innovation Fund – TEKES. In addition, the program is strongly backed by the Confederation of Finnish Industries. In terms of regional innovation infrastructure backing and regional political backing, the projects of the Turku Science Park are co-



Geographical Area:

Finland

Criteria:

Transformative

What:

University-Business-Cooperation through spin-offs

Implementation:

National

Reasons for Success:

Program experiment

funded by the European Regional Development Fund and the Turku Science Park itself is linked to the local business environment. The Science Park also has a role to play in the program. On top of that, the program's operator is functioning symbiotically with the Turku Science Park as they are utilizing each other's core competences.

The program starts by setting up internal start-up teams consisting of interdisciplinary students and researchers. Next, larger businesses are contacted to raise awareness about the program's opportunities. For this purpose, University of Turku cooperates with the Turku Science Park that maintains long-term contacts with businesses. After receiving interest from a larger business, a concrete business problem is generated from the business' side. The program then sets up a short-term project that lasts between 3 to 6 months, during which the business' issue is addressed comprehensively, and new perspectives based on resources and solutions of the University of Turku's research are made available. These solutions are then discussed with the business. At the end of the project period, the business can decide whether to adopt the proposed solution or not, but no matter what they decide, they will have a new understanding of real growth and innovation options. At the same time, the program's start-up team will, at the very least, have an understanding of their solution's potential for commercialization, and at best, a spin-off. It also provides them an opportunity to learn in a start-up environment from academic and business experts in that field. The vital part of this practice is that this kind of collaborative approach allows the University of Turku to propose new ideas and test them in collaboration with the Science Park while the Science Park disseminates them further once valid approaches have been produced.

At this stage, two larger businesses and one SME have been involved as customers of the Intoa! Lean Business -program. Three of the program concepts have been proposed and currently there are two on-going projects.

What has been learnt during this development phase is that there is a need to fine-tune and produce the model further, and there are some difficulties regarding the program's funding. For example, the continuity of the funding and the availability of the model without government funding have been found challenging.

Source of the materials:

<https://www.interregeurope.eu/ecoris3/news/news-article/2201/the-intoa-lean-business-program/>

<http://www.yrittajyysyliopisto.fi/intoa-lean-business-paatostilaisuus-raision-paakonttorilla/>

<https://www.utu.fi/fi/Ajankohtaista/mediatiedotteet/Sivut/turun-yliopiston-intoa-lean-business-ohjelman-uusi-projekti-kaynnistyy-raision-oyjn-kanssa%C2%A8.aspx>

<https://www.linkedin.com/pulse/uusi-intoa-lean-business-ohjelman-projekti-raision-oyjn-mikko-pohjola>

Photos, pictures, logos

Invitation to 1st
Intoa! kick-off



copy 06.02.2018 from <https://www.linkedin.com/pulse/uusi-intoa-lean-business-ohjelman-projekti-raisio-oyin-mikko-pohjola>

Mikko Pohjola from
UTU and Mika
Kukkurainen Raisio
Oy strategy director
presenting the
project



copy 06.02.2018 from <http://www.utu.fi/fi/Ajankohtaista/Uutiset/Sivut/Uusi-Intoa-lean-business-projekti-kaynnistyy-raisio-oyin-kanssa.aspx>

GP 4 - SparkUp

How it works

The new kind of business development environment SparkUp speeds up the start-up activities in the Turku Science Park area and promotes the commercialisation of the innovations created in the area. It focuses on generating new business ideas and start-up companies, supporting their operating prerequisites, growth and internationalisation.

SparkUp is a startup community where Turku Science Park Ltd, student based entrepreneurship society Boost Turku and Creative Venture Creve have brought together their know-how and services for startups and entrepreneur-minded persons in Turku region. SparkUp is facilitated by Turku Science Park Ltd. Services varies from product development, strategy, starting of marketing and sales, and strengthening of human resources.

The decision on SparkUp was made when the City of Turku, Turku Science Park Ltd, University of Turku, Åbo Akademi University, Turku University of Applied Sciences, Turku Region Development Centre, Business Service Centre Potkuri, and Turku Technology Properties Group agreed on concentrating new kind of business development activities based on innovation, communality and enthusiastic attitude into a tight start-up community in the Turku Science Park area.

The concept of SparkUp is to provide a path from idea generation to teaming up, starting a business, and growing internationally.

SparkUp is open to everyone, even for the ones who do not have yet a business idea. SparkUp offers a community space where ideas and people can get together and network easily.

Services offered at SparkUp can be divided into four stages:

- info sessions and tools for launching a start-up, focusing on teaming up and business idea development
- teaming up and finding a co-founder and business partners
- acceleration program during 10 weeks with specialists, mentors and consultants
- coaching and mentoring to go global



Geographical Area:

Finland

Criteria:

Transferability

What:

Business development environment

Implementation:

Regional

Reasons for Success:

Open to everyone, involvement of different type of actors

Links:

<https://www.sparkup.fi/en>

The three first stages are for free. The coaching stage might involve a fee.

The event arena is used for larger events and seminars and is available to everyone. Workshops and company projects are often organized at SparkUp as the premises are modern, inspiring and both students and lecturers get to mingle and network with entrepreneurs and local organisations which have their office spaces there. All services related to entrepreneurship the City offers are located in the SparkUp premises. Students, researchers, university staff can find all available support and information from this one location. In addition, accelerator programs are organized in SparkUp and Creve incubator for creative industry is located in the same building.

SparkUp is located at the heart of Turku Science Park in ElectroCity and offers almost 800 m², 9 offices for teams, a big event space, cafeteria, and 3 meeting rooms – plus a free open office space and two open meeting rooms which do not require booking (first come, first served). Doors are open from 8.30–16.30 every day and there are also many evening events.

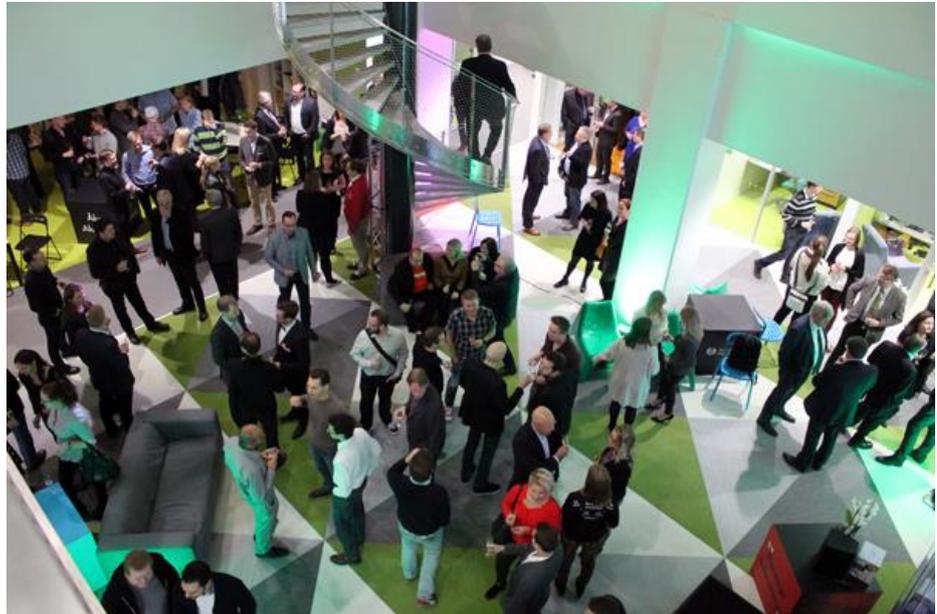
SparkUp is facilitated by Turku Science Park Ltd and financially supported by the City of Turku, the Universities in Turku, Turku Technology Properties and the European Union.

Source of the materials:

<https://www.sparkup.fi/en>

Photos, pictures, logos

SparkUp event arena



copy 20.02.2018 from <http://www.turkusciencepark.com/fi/spark-uitiset/1394/sparkup-haluaa-olla-suomen-paras-startup-yhteiso/>



copy 20.02.2018 from <https://twitter.com/sparkupturku>

GP 5 – SensiLab

How it works

SensiLAB program comprises a multi-functional development platform and multi-disciplinary innovation service for companies to improve their R&D and business processes.

SensiLab participates in international research projects and other joint ventures by promoting R&D activities and networking.

SensiLAB program pursues in boosting and intensifying product development and business processes of companies. Especially, SensiLab aims to adopt technologies originally developed for the maritime industry into new business areas. The program is directed for companies of all size. SensiLAB services and activities are free of charge.

SensiLAB has two primary activities: Development Laboratory and Innovation Service. Laboratory supports the kick-off, activation and resourcing of industrial R&D projects. It provides an extensive number of special equipment and software (available at the program's website) as well as professional technical R&D knowledge. Innovation Service promotes the companies prerequisites for success. By unravelling the potential of the technology in question, uncovering best possible financing sources, and building a strong partnership network, SensiLab is prepared not only to help companies with technical issues but also see the business process context.

Laboratory engineers are also onsite to advice for the use of the equipment and the software. The objective of the platform is to speed up the companies' implementation of ideas and R&D findings. The framework of innovation is built on full-scale utilization of technological potential and efficient refining of ideas, whereby the emerging technologies can be integrated into end products and services.

The primary participants in the SensiLAB program are Turku Science Park Ltd and the University of Turku. Implementation partners include Machine Technology Center Turku Ltd, the Technology, Environment and Business Unit at Turku University of Applied Sciences, and the Lappeenranta University of Technology unit operating in Turku.

SensiLAB has a comprehensive list of devices for 3D-printing/scanning, developing i.e. software and graphical



Geographical Area:

Finland

Criteria:

Transformative

What:

Development Platform and Innovation Service for Industrial Demands

Implementation:

Local

Reasons for Success:

Pilot experiment

Links:

<http://www.sensilab.fi/>

content as well as creating virtual environments and for heavy-duty rendering.

SensiLAB has an all-open event, Toy Thursday, on nearly every Thursday from 14-16. The theme varies every week. In addition to SensiLAB core activities and devices, access to e.g. laser welding/cutting/engraving and CNC milling provided by Machine Technology Center Ltd is available.

SensiLab started in 2012 and was funded until 2014 by the City of Turku and the Centre for Economic Development, Transport and the Environment of Southwest Finland. Initial budget was of 254.000 euros.

Source of the materials:

http://www.sensilab.fi/wp-content/uploads/2013/03/SensiLAB_refsivu_EN_050313.pdf

<https://www.fablabs.io/labs/sensilab>

Photos, pictures, logos

SensiLab logo



copy 06.02.2018 from <https://www.fablabs.io/labs/sensilab>

Gesture controlled art installation by SensiLab, 2013



copy 06.02.2018 from <https://www.fablabs.io/labs/sensilab>

Credits



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