

# Embedding entrepreneurship competence in vocational education and training in Europe

28 September 2023  
Online conference

#KeyCompetences  
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## Entrepreneurship competence in VET: insights from Cedefop research

Main findings from eight European case studies

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# ENTREPRENEURSHIP COMPETENCE

In May 2021, Cedefop launched a study to support policy-makers, social partners, VET providers and other stakeholders with new evidence on how entrepreneurship competence is embedded in VET



# ENTREPRENEURSHIP COMPETENCE

## Main research questions:

To what extent, and how, do the dimensions of VET entrepreneurial learning ecosystems facilitate acquiring entrepreneurship competence in Europe?

Which policies, methods, tools and approaches best support embedding entrepreneurship competence in VET?



# Methodology and first results discussed during the 2022 workshop

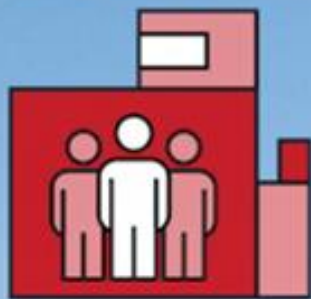


# OUR DESK AND FIELD RESEARCH



**36**

Policy-makers,  
VET experts &  
social partners  
(interviews)



**71**

VET provider  
managers,  
including companies  
(interviews)



**167**

Teachers  
and trainers  
(interviews)



**64**

VET graduates  
(interviews)



**43**

Learners  
(focus groups)



**727**

Policy and VET  
provider documents

## VET PROVIDERS VISITED

### AUSTRIA

- Geberit
- Zumtobel Lighting GmbH
- Business Academz Mazgasse, Wien 13 (HAK)
- Higher College for Engineering Wolfsberg (HTL Wolfsberg)
- Fashion School Hallein (Modeschule Hallein)
- Institute for Economic Promotion of the

### CROATIA

- Secondary school of tourism and hospitality Osijek
- Commercial School Instituto profesionala Buje
- Varaždin School of Economics
- Technical School Ruđer Bošković
- Harburg-Freudenberger Belišće ltd
- Hotel Waldinger Osijek

### FINLAND

- Jyväskylä Education Consortium Gradia
- Finnish Institute for Enterprise Management
- Vamia
- Turku Vocational Institute
- Stadin AO, Helsinki Vocational College and Adult Institute
- Savo Municipal Federation of Education Samiedu Vocational College

### FRANCE

- Lycée professionnel Saux-Marais
- Ecole de Production de Besançon
- CFA
- Chamber of commerce and industry
- Lycée Saint Bégnine
- Lycée des Marcs d'Or

### ITALY

- IAL FVG
- I.C. Primiero
- I.I.S. Lancia
- I.I.S.T.A.S. Spallanzani
- I.S.I.S. Facchinetti
- IST.T. Costa

### LATVIA

- Riga State Vocational Technical School
- Ogre Vocational Technical School
- Ventspils Vocational Technical School
- Liepāja State Vocational Technical School
- Rimi
- Liepājas Papīrs

### SPAIN

- CIFP La Costera
- CIFP Nicolás Larburu
- CIFP Río Tormes
- CIFP Comunicación, Imagen y Sonido (CISLAN)
- IES Francisco Tomás y Valiente
- Institut Escola del Treball

### SWEDEN

- Luleå kommun Gymnasium
- Praktiska gymnasiet i Luleå
- Changemaker Educations
- Malmö lärlingscenter
- Peab-skolan
- Lärlingsakademin

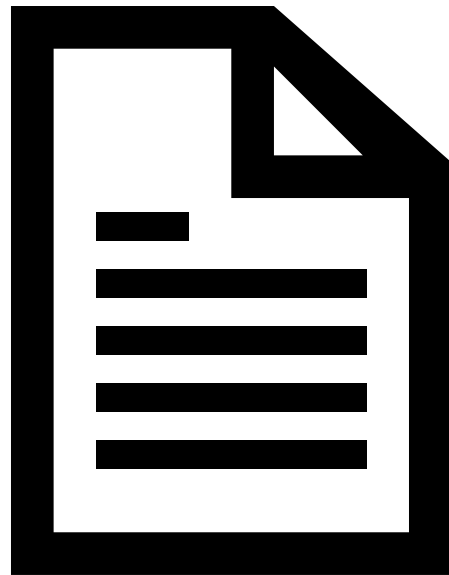


# 8 CASE STUDIES AND A SYNTHESIS REPORT PUBLISHED



# The many meanings

The concept of entrepreneurship competence varies among and within countries

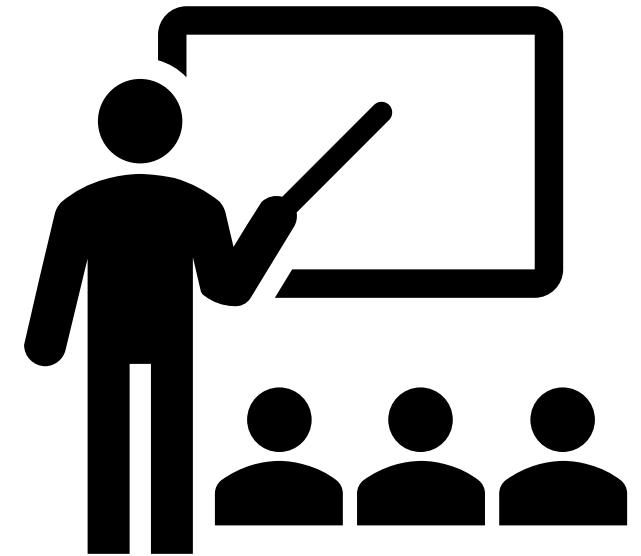


policy



In practice both broad and narrow definitions

**coexist**

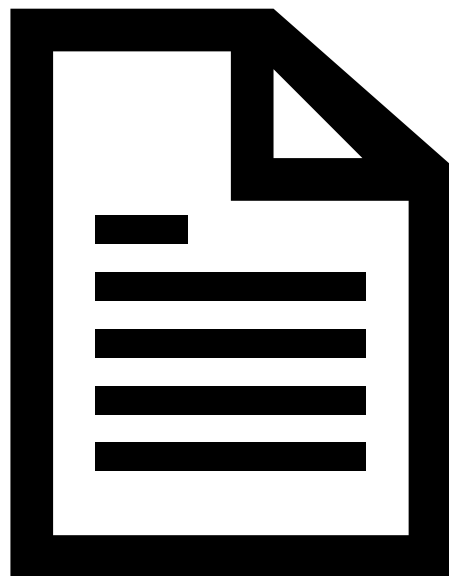


VET providers





# The many meanings: policy level



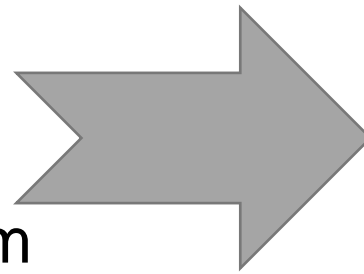
- Definitions often derive from the EntreComp and EU key competences frameworks, associated with opportunity, value, and business creation
- Usually not VET-specific
- Digital and sustainable entrepreneurship less explicit but gaining momentum



# EU-inspired definitions at national level

## Entrepreneurship

**competence** refers to the capacity to act upon opportunities and ideas, and to transform them into values for others. It is founded upon creativity, critical thinking and problem solving, taking initiative and perseverance and the ability to work collaboratively to plan and manage projects that are of cultural, social, or financial value (EU Key competences framework)



## FINLAND

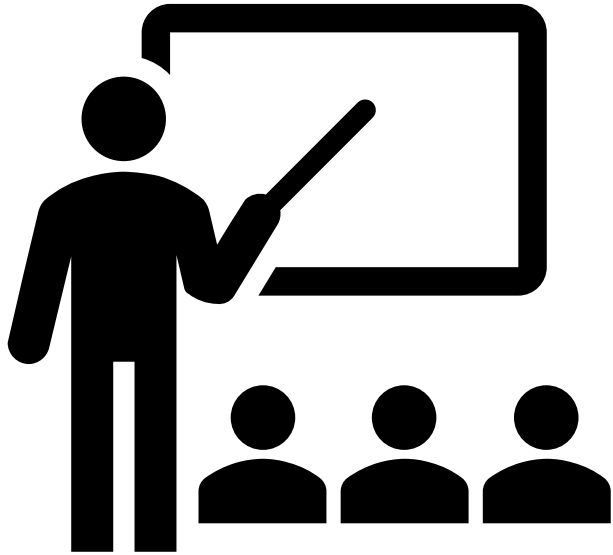
An ability to observe and seize opportunities; to transform ideas into action, which generates economic, cultural, social, or societal value.

## AUSTRIA

Enabling the individual to take the initiative and think and act independently as an entrepreneur, employee and as a consumer, to act actively and responsibly and thus help shape the economy and society.



# The many meanings: VET provider level

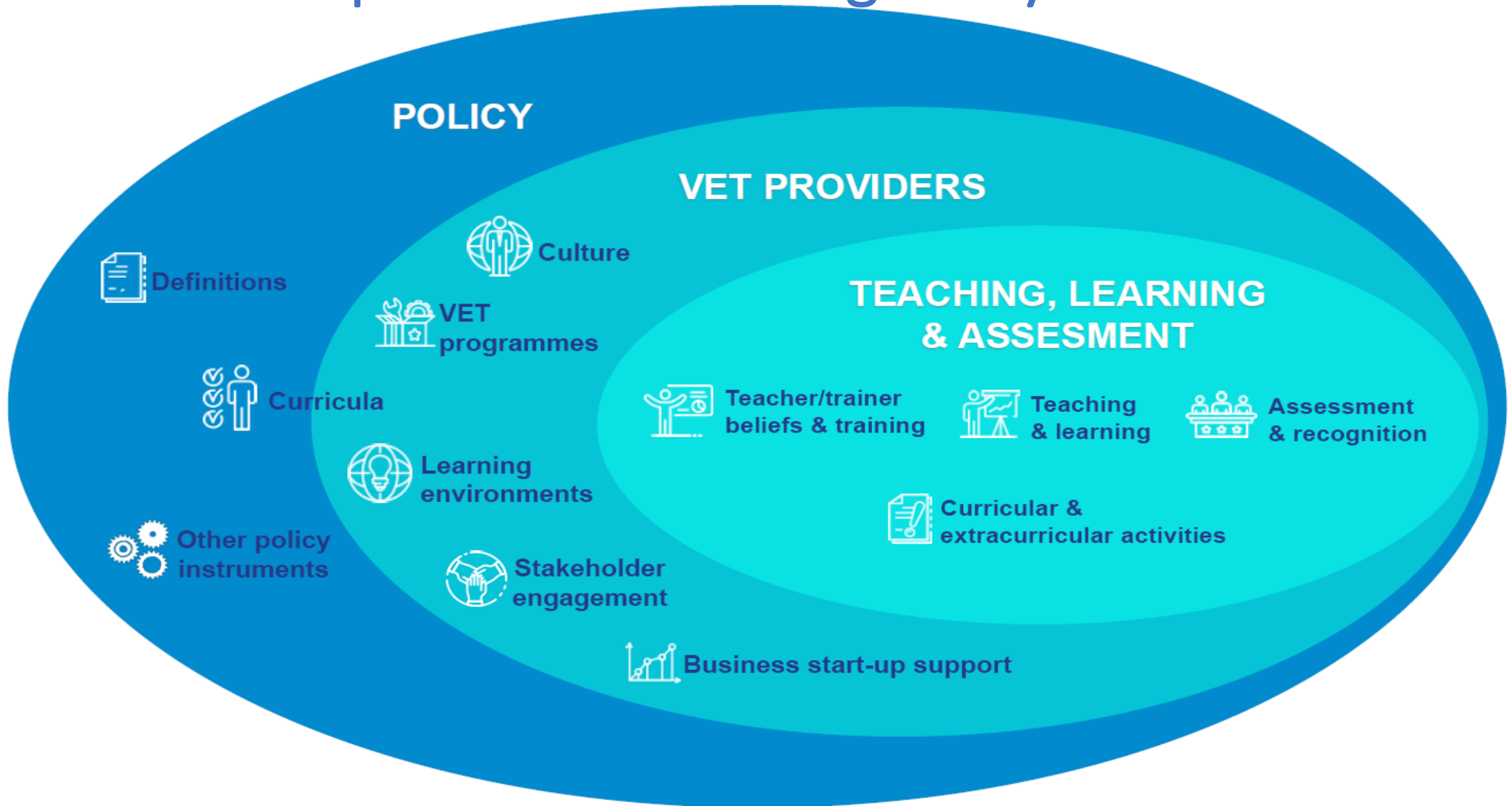


- More business-related than transversal
- The way the competence is approached depends on the VET programme: occupation-specific, professional requirement, transversal
- A part of the skillset, enhancing employability

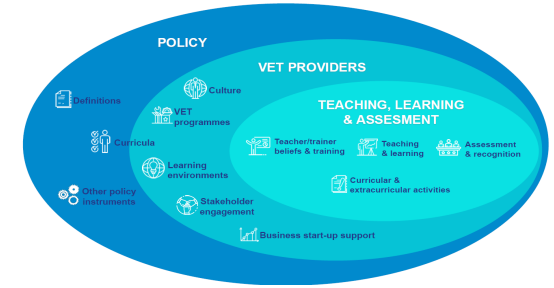
VET teachers often have mixed feelings about the nature and definition of entrepreneurship



# VET entrepreneurial learning ecosystem



# Policy instruments



EU

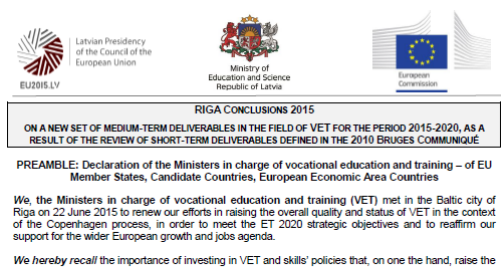
- Competence frameworks
- Recommendations
- Support programmes

National  
Regional

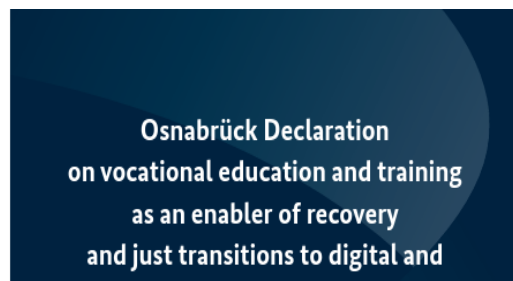
- Legislation
- Curriculum frameworks
- Strategies and support programmes

# EU competence frameworks and policy

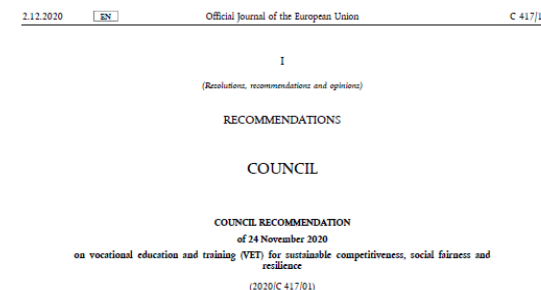
For over 25 years, the EU has been extensively promoting entrepreneurship education



Set the development of **entrepreneurship competence** as a medium-term priority for VET among other key competences



Promotes resilience and excellence through quality, inclusive and flexible VET that includes **entrepreneurial education**



Calls for adapting and expanding VET by supporting the acquisition of **entrepreneurial skills** together with digital and green skills

# National/regional legislation, strategies and support programmes

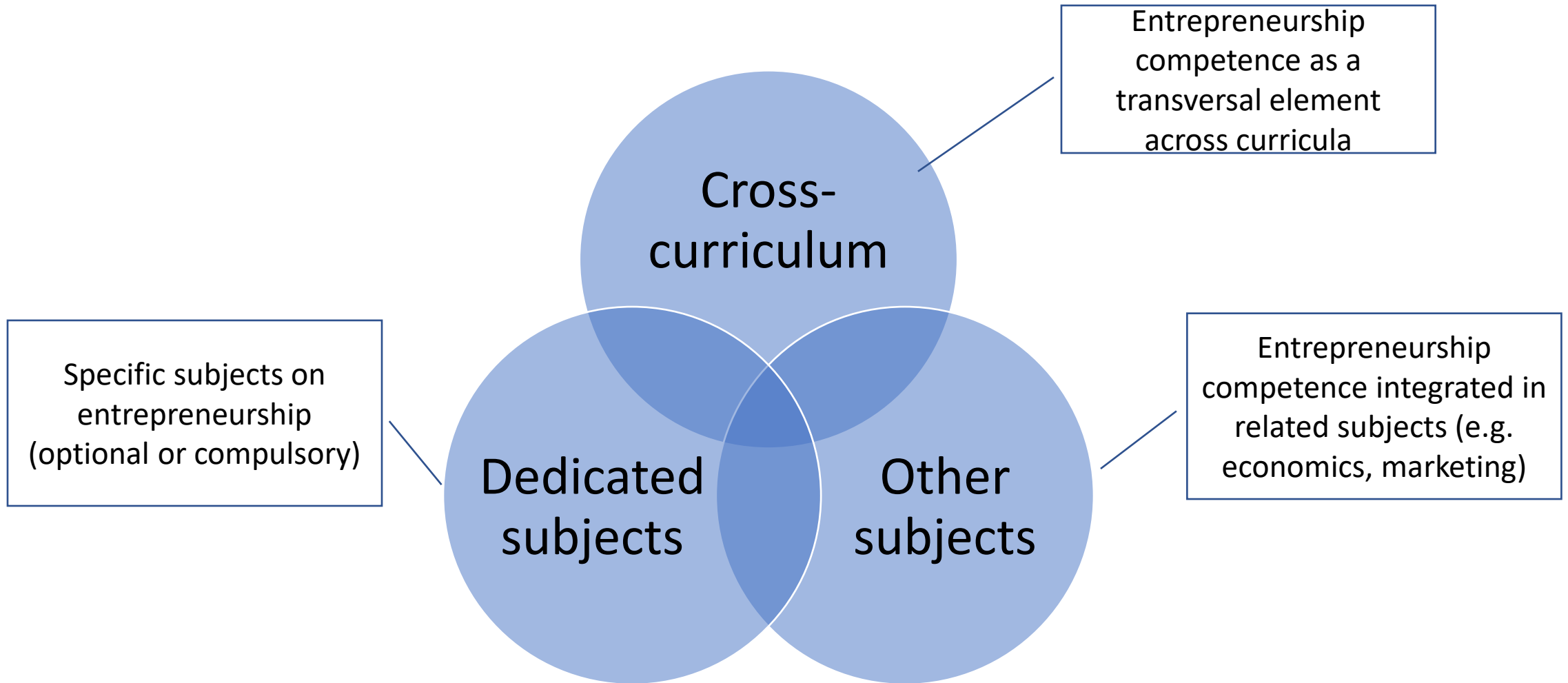
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Entrepreneurship features as a core objective and priority in **VET acts**

**VET strategies and action plans** define objectives and measures for curriculum development, teacher training and support, assessment, governance, and quality assurance that promote entrepreneurship competence in VET

Specific **entrepreneurship education strategies** and action plans drive entrepreneurship across all education levels, including VET

# Curriculum frameworks





# Dedicated subjects on entrepreneurship

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The creation of 1 or more dedicated subjects is a common policy response (5 out of 8 countries)

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In some countries, compulsory in all VET programmes

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Learning outcomes often focus on opportunity identification and business creation

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# Learning outcomes in dedicated subjects (Sweden)

**Entrepreneurship, 100 credits (compulsory in four VET programmes and optional in other) (Skolverket, 2023a)**

- understanding of what entrepreneurship means for individuals, organisations, companies and society;
- ability to transform ideas into practical and goal-oriented activities to launch a project or simulated business;
- ability to implement a project or run a simulated business;
- ability to complete and evaluate a project or simulated business;
- knowledge of how ideas and products are protected by law and other regulations;
- ability to apply business economics methods.

**Entrepreneurship and business management, 100 credits (optional in 4 VET programmes where 'Entrepreneurship' is compulsory)**

- knowledge of the different types of companies and their operating conditions in the form of laws and other regulations and other conditions affecting the companies' operations;
- knowledge of how to start and run companies and how the different functions within a company work together to implement a business idea;
- knowledge of business concepts, methods, theories and models and ability to apply them;
- ability to manage processes and to translate ideas and theoretical knowledge into practical and goal-oriented activities.
- ability to evaluate work processes and results.



# Mixed approach (Latvia)

- ‘Creative activity and entrepreneurship skills’ is one of the six transversal skills in the national secondary education standard
- Since 2020, the VET curricula incorporates two compulsory modules ‘Initiative and entrepreneurship’ (Level 1 and Level 2)
- Entrepreneurship competence is also acquired explicitly or implicitly through other professional modules (e.g. Beauty VET programme offers an optional module on ‘small business management’)



# Challenges of translating policies into practice

- Not straightforward: the policies adopted are diverse, making generalisations difficult
- Top-down models don't always capture the complexity of policymaking in multi-level systems; countries are selecting measures that align with their objectives
- Local/regional developments sometimes precede the related national and European policy
- Keeping track of policy changes (especially high-level policies) is a challenge for VET principals, teachers and trainers
- Assessing the impact of policies is a challenge



# Two examples of impact policy assessment

SWEDEN	FINLAND
<p data-bbox="191 428 1223 585"><b>We educate for the future now. Input to a new strategy for entrepreneurship in school (IVA, 2022)</b></p> <ul data-bbox="191 714 1223 1270" style="list-style-type: none"><li>• absence of governance and financing guidelines</li><li>• lack of clear definitions and guiding principles</li><li>• undeveloped procedures for measurement, evaluation, quality assurance, and follow-up</li><li>• teacher training colleges lacked equal education in entrepreneurship</li><li>• no implementation plan, leaving leadership, teachers, and principals to figure out how to foster entrepreneurship in schools.</li></ul>	<p data-bbox="1286 428 2293 642"><b>Entrepreneurship is learned by trying: entrepreneurship in VET and higher education: assessment (Finland, Education Evaluation Centre, 2018)</b></p> <ul data-bbox="1286 714 2344 1099" style="list-style-type: none"><li>• highlighted the development of entrepreneurial pedagogy but also identified multiple shortcomings. Articulation of the competence posed difficulties for educators</li><li>• room for improvement in developing evaluation methods, interdisciplinary approaches, and entrepreneurial ecosystems.</li></ul>



# POLICY

## VET PROVIDERS

# VET provider dimension



Culture



VET programmes

## TEACHING, LEARNING & ASSESMENT



Teacher/trainer beliefs & training



Teaching & learning



Curricular & extracurricular activities



Learning environments



Stakeholder engagement



Business start-up support

The VET provider dimension is at the core of the model due to its 'critical role in developing entrepreneurial attitudes, aspirations, and activity' (Regele and Neck, 2012, p.25).

Thinking and actions supporting the development of entrepreneurship competence in an organised, systematic, and coherent way at VET provider level.



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## Culture

- Steering and support of management teams is crucial
- Appointment of dedicated teams/ambassadors
- Stocktaking of activities and identification of gaps
- Learning environments matter
- Inclusion of entrepreneurship in key strategic documents
- Internal and external communication of entrepreneurship education actions



# Culture

## Characteristics of entrepreneurial VET provider in Finland

The Finnish Education Evaluation Centre in its evaluation of entrepreneurship in VET characterised the main practices of an entrepreneurial VET provider:

- disseminates entrepreneurship studies;
- stresses versatility, multidisciplinary and multi-methodology in entrepreneurship studies;
- encourages school-business cooperation;
- strengthens team entrepreneurship and practices real entrepreneurship;
- verbalises entrepreneurship skills, attitudes and knowledge;
- develops and monitors partnerships, networks and cooperation;
- follows-up and evaluates business activities and sets quantitative and qualitative aims for business cooperation, and monitors their implementation.

*Source:* Finland. Education Evaluation Centre, 2018.







# Stakeholder engagement

- VET providers create opportunities for entrepreneurial learning in collaboration with partners in their local area
- Not all school-business collaborations in VET equally contribute
- Engagement heavily relies on personal and professional networks of teachers
- It adds relevance and increases VET learner motivation, thus contributing to the development of entrepreneurship competence

# Stakeholder engagement

## Supporting VET school and enterprise relations in France

The Ministry of National Education encourages the development of school-enterprise relations (*relation école-entreprise*) in VET. The Directorate General for School Education (DGESCO) facilitates the development of school-enterprise relations through offering services of school-business officers, engineers, and business advisors for the school. The business advisors are professionals proposed by professional organisations. One of their tasks is to bring the education world closer to the economic environment with a view to promoting entrepreneurship.

*Source:* France. The Ministry of National Education Youth and Sports, 2022.





# Learning environments

- Designed to support methodological change and improve technical and entrepreneurship competences
- National policies promote the creation of innovation labs, makerspaces or laboratories specifically designed to develop the competence
- Challenges: how best to plan and implement teaching activities that maximise these spaces' resources and pedagogical potential
- The creation of these spaces as a crucial milestone in their journey towards fostering the competence



# Learning environments

## AUSTRIA

The national Entrepreneurship education strategy foresees that, by 2025, all education institutions will have incorporated entrepreneurship education, featuring **flexible spaces and open learning arrangements for entrepreneurial and civic initiatives** (Austria. Federal Ministry for Digital and Economic Affairs (BMDW), 2020).

## SPAIN

Two of the five strategic actions outlined in the VET Plan for Economic and Social Growth and Employability (Spain. Ministry of Education and Vocational Training, 2020) entail the establishment of **‘entrepreneurship labs’** and the conversion of classrooms into **‘applied technology labs.’** These changes aim to support digitalisation, innovation, and entrepreneurship within the Spanish VET system





## Business start-up support

- VET providers are strategically positioned to identify entrepreneurial talent and nurture ideas but they seldomly offer business start-up support
- The expertise of external entities (e.g. Chambers of commerce, local incubators) is crucial for some VET providers
- In-house incubators cater to VET learners, alumni providing a physical space and tailored support to realise their business ideas
- VET teachers lack adequate training
- A desirable development in some countries and a well-established practice in others → a potential for cross-country learning

# Business start-up support

## Entrepreneurship café: an advisory service in entrepreneurship at Samiedu in Finland

Samiedu, a highly regarded upper secondary VET provider in Savonlinna, Finland, has won the National quality award four times (in 2003, 2007, 2011 and 2017) for its exemplary practices in VET. Among its 2 000 learners of all ages, it offers a unique Entrepreneurship café.

This advisory service, facilitated by teachers and a business advisor, offers learners a combination of comprehensive guidance and online training on entrepreneurship. Learners can freely book 20-minute guidance sessions to discuss any entrepreneurship-related questions. Coaches work collectively to provide answers or redirect queries to the appropriate person.

These sessions offer learners multifaceted guidance while coaches learn about trending business topics and operations.

Source: [Case study Finland](#) (Cedefop, 2023c).



# A long journey...



The steering and support of management teams are crucial

More focused stakeholder engagement

Learning environments supporting the methodological change

In-house business start-up support is reality for some but not all VET providers



Moving from isolated initiatives towards more holistic and structured approaches takes time



VET providers are progressing at different pace



Policies and schemes supporting and recognising VET provider efforts

## Major milestones in entrepreneurship

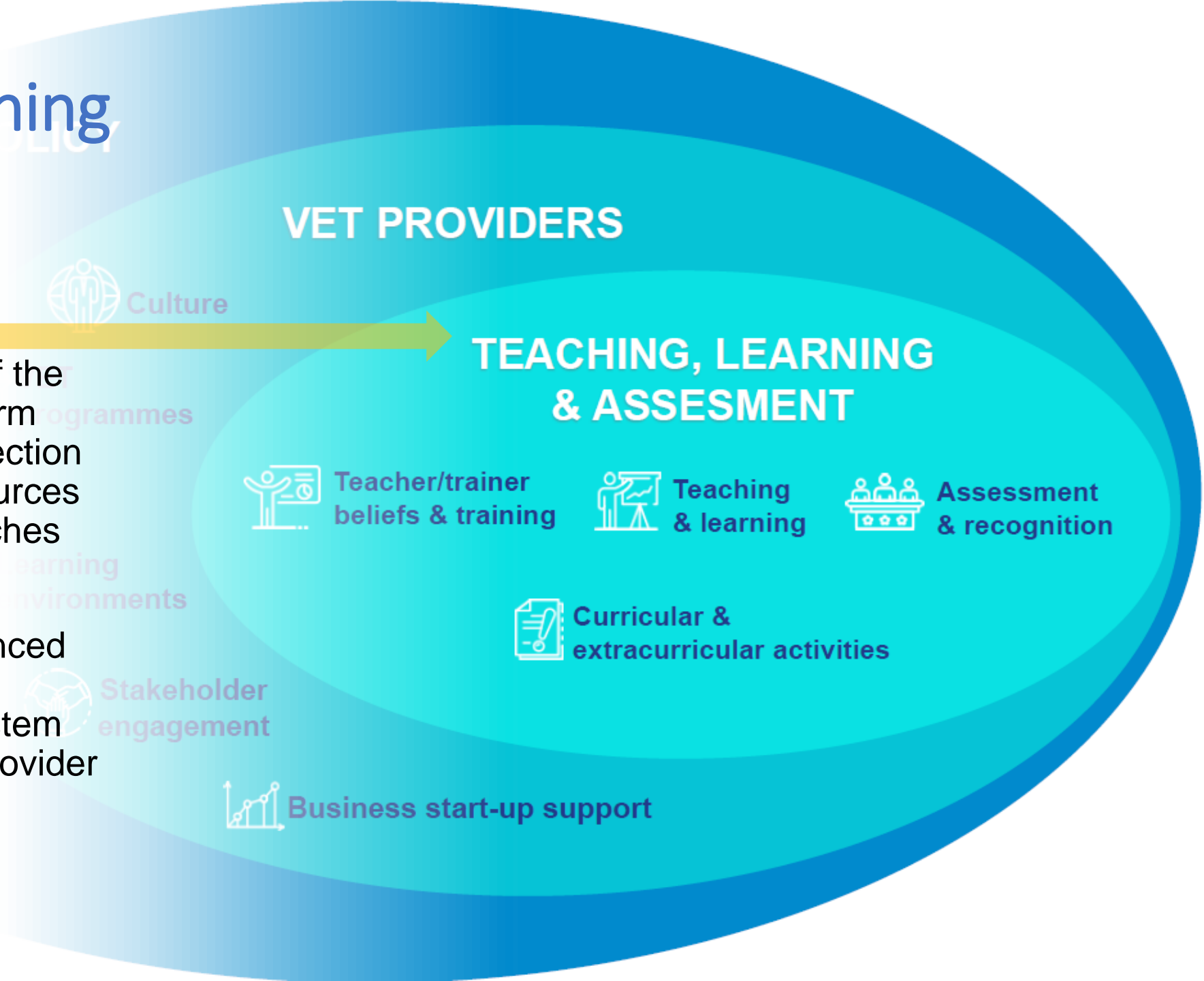
Year	Description
2015-16	The incorporation of Jesús Fernández de Vera, is considered the key milestone in the deployment of the entrepreneurship agenda in IES Francisco Tomás y Valiente
2017-18	The new educational project foresees the creation of an Entrepreneurship Classroom, financed through a regional call for proposals. The first project in the Entrepreneurship Classroom is launched, to enable the development of entrepreneurial skills and facilitate pedagogical innovation.
2018-19	Organisation of the Entrepreneurship Fair had a very positive effect on teachers and learners as it allowed them to see the real value of their work and share experiences with another five VET providers in the Madrid region.
2019-20	Launch of the GarageLab project, a highly transformative initiative that seeks to motivate and empower Basic VET learners through collaborative work on digital fabrication projects for real users. Fundación Orange [Orange Foundation] finances the classroom equipment with 3D printers and other devices and trains teachers in SCRUM and Design Thinking methodologies.
2020-21	Inauguration of the MakerSpace and the Business Incubator. Both spaces were completed in May 2021. While teachers and learners have started using these spaces for specific activities, an ambitious programme is being designed to make the most of these learning environments.
Challenges ahead	Manage and make proper use of the incubator as a resource shared by VET learners from all sector branches and to help learner-led start-ups succeed. Have a transforming effect on the local community and consolidate as a flagship VET provider in the field of entrepreneurship. <i>VET provider: IES Francisco Tomás y Valiente, Spain</i>



# Teaching, learning & assessment dimension

Teacher interpretations of the 'intended' curriculum inform decisions around the selection of content, teaching resources and pedagogical approaches

These choices are influenced by elements of two other dimensions of the ecosystem model: policy and VET provider level measures.







## Teacher & trainer beliefs and training

- Mixed feelings about entrepreneurship
- Industry experience and motivation is critical
- Lack of time, overloaded curricula and excessive workload limit efforts to promote entrepreneurship competence
- Literacy, numeracy, socio-emotional, and technical skills should precede the development of entrepreneurship competence
- Unaware of previous efforts at primary/secondary level
- Lack of confidence, training and support to handle this topic
- Rarely covered in initial teacher training and variable offer as CPD

# Teacher & trainer beliefs and training

## Train-the-teachers programme VirtuOS

As part of the VirtuOS <sup>(11)</sup> project, a group of professors from the Faculty of Economics at the J.J. Strossmayer University in Osijek, developed a teacher training programme Developing entrepreneurial skills among teachers.

The programme aims to help vocational school teachers to understand entrepreneurship competence, based on the EntreComp framework <sup>(12)</sup> and to encourage and support teachers in embedding entrepreneurship competence development into their curriculum without changing the content of the subject. The programme consists of 30 hours (6 days x 5 hours), with each day focusing on different aspects of entrepreneurship (teaching about entrepreneurship, teaching through entrepreneurship, and teaching for entrepreneurship: these three perspectives are used in the literature as a cover label for all approaches in learning entrepreneurship competence) (Gibb, 1999; Hytti & O’Gorman, 2004).

In 2022, 50 teachers and workplace mentors from four project partner schools in eastern Croatia and from two enterprises participated in two training sessions. Feedback from teachers has been extremely positive and encourages the programme to become a part of teacher training.

*Source:* Authors.



# Methods, tools and approaches

Learner-centred approaches prevail. VET grants learners a high degree of autonomy to tackle real-world, complex problems

Project-based learning is a favoured methodology to develop entrepreneurship competence in VET

Lack of time and silo-based curricula as major constraints for the deployment of interdisciplinary projects

Work-experience and apprenticeships key but entrepreneurship competence is seldom targeted or assessed explicitly

Mini-companies and virtual firms still loom large in entrepreneurship education in VET

The development of entrepreneurship competence is complemented with a range of extracurricular activities and events (e.g. hackathons, competitions, fairs)





## Methods, tools and approaches

Student cooperatives as an alternative to the traditional mini-company approach

- AT (Schülergenossenschaften Programme)
- CR (school cooperatives),
- FI (multidisciplinary pedagogical cooperatives)
- IT (social cooperative programme)
- ES (Ikasenpresa)

# Assessment & recognition

- Competence-based assessment is challenging for teachers
- VET providers are taking steps to assess entrepreneurship competence systematically but it plays second fiddle to technical competences
- Involving learners in the (self- and peer-) assessment process; and providing pertinent feedback
- Focus on a limited set of skills like teamwork, communication, and creativity, along with participation and engagement.
- Use of a variety of activities (e.g. performance tasks, simulations, interviews, presentations) and tools (rubrics, scoring grids, portfolios, learning logs)
- Learners noted positive impacts on skills and attitudes valuable for their personal and professional lives



# Assessment & recognition

## Assessment of project work in CVET programme Circular economy for food, in Italy

I.I.S.T.A.S. Spallanzani, an Italian VET provider delivers an 800-hour CVET course (in partnership with the regional VET provider IAL Emilia Romagna) on valuing local food and wine, based on circular economy and the UN 17 sustainable development goals (SDGs). Coached by a former graduate, the learners brainstorm, select the best project-work ideas, and elaborate and write an abstract in groups; the result is progressively enriched, and in the process, the learners apply many things they have learned during the 'traditional' lessons. This group project work is the main topic discussed during the final exam and is considered as preparation for the business plan of which learners will potentially seek implementation after graduation.

The project work was assessed: formatively, with blind peer assessment of the idea to be developed, and feedback from a graduate who chose never to impose an opinion (when the coach felt something was missing, the learners had just to justify the choice they had made); and summatively, during the graduation exam, by an external commission nominated by the region. The products assessed were diverse: a report; oral presentation; and a concept food event, where the learners had to turn their food concept into a menu.

Source: [Case study Italy](#) (Cedefop, 2022a).

# Assessment & recognition

## Follow-up protocol for complementary skills, Institut Escola del Treball

Institut Escola del Treball has developed its own protocol for the assessment and monitoring of transversal competences with three main components.

- (a) Dictionary of competences that includes transversal skills and complementary technical skills. Each competence is accompanied by a brief description that acts as a common reference for the entire teaching team.
- (b) Tracking kit. The kit consists of a template that allows weekly recording of the observations made about competences, as defined in the dictionary.
- (c) Learner competence assessment report. At the end of the VET programme, the teaching team agrees on the level of acquisition for each competence and drafts an individualised report to each learner with a brief description of the competences in which they excel. This document is added to the learner e-digital portfolio.

Learners see having this competence assessment report validated by the VET provider in their individual e-portfolio as a plus in the recruitment process as it allows employers to have a more complete view of their professional worth.

*Source:* Based on VET provider documentation.



# Assessment & recognition

## Recurring learning outcomes related to entrepreneurship competence developed by VET learners based on their self-assessment

- Teamwork and conflict management;
- Communication and presentation;
- Project management;
- Reflect on relevance and connections of the acquired knowledge;
- Self-reflection on experience, autonomy, responsibility, maturity, self-confidence.

*Source:* Authors.

In apprenticeships, employers and learners tend to associate work-based learning with technical/occupation-specific skills. Employability skills acquired understanding company operations and effective cooperation and communication with colleagues





1. The conceptual paradox: is the term 'entrepreneurship' supporting or hindering the development of the competence?

Moderator: **Jaana Seikkula-Leino**, *research team, University of Turku, Finland*

2. The curricular paradox: dedicated modules/subjects or cross-curricular approach?

Moderator: **Mats Westerberg**, *research team, Luleå University of Technology, Sweden*

3. The implementation paradox: broad goals versus narrow actions

Moderator: **Olivier Toutain**, *research team, Burgundy School of Business, France*

4. The employability paradox: does entrepreneurship competence improve the employment prospects?

Moderator: **Christina Enichlmair**, *research team, Austrian Institute for SME Research*

5. The policy paradox: do those who act on policies participate in designing them?

Moderator: **Slavica Singer**, *research team leader, J.J. Strossmayer University of Osijek, Croatia*

# FIVE PARADOXES

**These paradoxes  
will be the focus  
of our discussions  
during the interactive  
parallel sessions**

## Next session in breakout rooms

**We will resume in plenary at 13:00 CET (after lunch break)**

Thank you

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