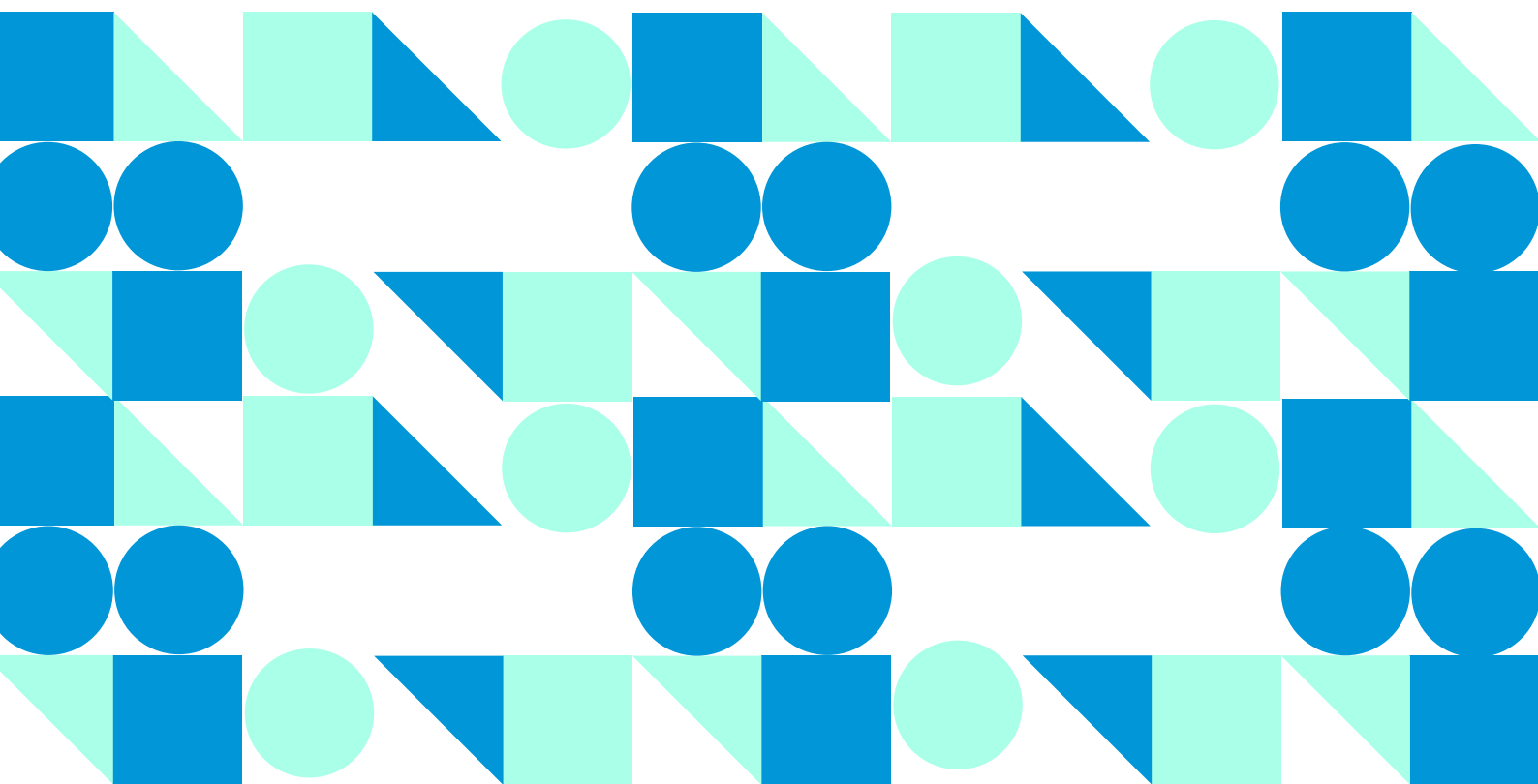




Research paper

Entrepreneurship competence in vocational education and training

Case study: Finland





Entrepreneurship competence in vocational education and training

Case study: Finland

Please cite this publication as:

Cedefop (2023). *Entrepreneurship competence in vocational education and training: case study: Finland*. Luxembourg: Publications Office. Cedefop research paper, No 97.
<http://data.europa.eu/doi/10.2801/445669>

A great deal of additional information on the European Union is available on the internet.

It can be accessed through the Europa server (<http://europa.eu>).

Luxembourg: Publications Office of the European Union, 2023

© Cedefop, 2023.

Except otherwise noted, the reuse of this document is authorised under a Creative Commons Attribution 4.0 International (CC BY 4.0) licence (<https://creativecommons.org/licenses/by/4.0/>). This means that reuse is allowed provided appropriate credit is given and any changes made are indicated. For any use or reproduction of photos or other material that is not owned by Cedefop, permission must be sought directly from the copyright holders.

PDF	ISBN 978-92-896-3612-4	EPUB	ISBN 978-92-896-3613-1
	ISSN 1831-5860		ISSN 1831-5860
	doi:10.2801/445669		doi:10.2801/59501
	TI-BC-23-008-EN-N		TI-BC-23-008-EN-E

The **European Centre for the Development of Vocational Training** (Cedefop) is the European Union's reference centre for vocational education and training, skills and qualifications. We provide information, research, analyses and evidence on vocational education and training, skills and qualifications for policy-making in the EU Member States. Cedefop was originally established in 1975 by Council Regulation (EEC) No 337/75. This decision was repealed in 2019 by Regulation (EU) 2019/128 establishing Cedefop as a Union Agency with a renewed mandate.

Europe 123, Thessaloniki (Pylea), GREECE
Postal: Cedefop service post, 570 01 Themi, GREECE
Tel. +30 2310490111, Fax +30 2310490020
Email: info@cedefop.europa.eu
www.cedefop.europa.eu

Jürgen Siebel, *Executive Director*
Nadine Nerguisian, *Chair of the Management Board*

Foreword

Modern society is changing rapidly the way we live, work, and learn. Technological developments, climate change, demography, crises (pandemic, humanitarian) require adapting to new realities. To manage these changes, we need the right skills and competences. Resilience, flexibility, adaptability, acting upon opportunities and ideas are just a few elements of entrepreneurship competence, a key competence for all.

European cooperation in vocational education and training (VET) has an important role in promoting entrepreneurship competence. In 2020, the [European skills agenda for sustainable competitiveness, social fairness and resilience](#) stressed the importance of fostering entrepreneurial and transversal skills. The [Council Recommendation on VET for sustainable competitiveness, social fairness and resilience](#) calls for adapting and expanding VET by supporting the acquisition of entrepreneurial skills together with digital and green skills. The [Osnabrück Declaration on VET as an enabler of recovery](#) and just transitions to digital and green economies sets an objective, by 2025, of promoting resilience and excellence through quality, inclusive and flexible VET that includes entrepreneurial education, empowering learners to open new businesses.

Responding to this EU priority, Cedefop carried out a study to provide VET stakeholders with new evidence on how entrepreneurship competence is embedded in VET. This report presents findings of the research carried out in Finland, underpinning the dimensions of learning ecosystems that nurture entrepreneurship competence in VET.

Entrepreneurship competence In Finland has been an integral part of VET for decades, with a strong emphasis on self-knowledge and self-confidence as the foundation for entrepreneurial mindset development that supports both business start-ups and employment. The VET system itself also enables learners to be entrepreneurial from the start, as they collaborate on setting their individual learning plans and agreeing what they need to learn, how they will learn it, where, and when. Despite this long-standing commitment to promoting entrepreneurship competence, there is often limited awareness and knowledge within the VET sector of relevant policies, such as national and regional strategies .

We hope that this country case study and the others from the series – Spain, France, Croatia, Italy, Latvia, Austria and Sweden – will help policy-makers, social partners and VET providers continue their successful cooperation to nurture entrepreneurship competence in VET and make sure all learners are equipped with it.

Jürgen Siebel,
Executive Director

Loukas Zahilas,
Head of Department for VET and
qualifications

Acknowledgements

This research paper was produced by Cedefop, Department for VET and qualifications, under the supervision of Loukas Zahilas, Head of department. The paper is part of the project *Key competences in VET and training*. Dmitrijs Kuļšs was responsible for the publication and research conducted under the project.

Cedefop wishes to acknowledge the research and services of its contracted institution, the Fondazione Giacomo Brodolini Srl SB (FGB) (contract No 2021-0089/AO/DSI/DKULSS/Entrepreneurship-competence-VET/001/21) and thank Līga Baltiņa (project leader at FGB) and the following experts for their contribution to drafting the paper: Jaana Seikkula-Leino supported by Slavica Singer, Iván Diego Rodríguez and Daniele Morselli.

The publication was peer-reviewed by Cedefop expert Philippe Tissot.

Contents

FOREWORD	1
EXECUTIVE SUMMARY	6
1. INTRODUCTION	9
1.1. Research questions and core terms	9
1.2. Methodological note.....	9
2. OVERVIEW OF THE FINNISH VET SYSTEM	12
3. ENTREPRENEURSHIP COMPETENCE	15
3.1. Understanding the competence.....	15
3.2. Historic overview	17
3.3. Explicit and implicit learning outcomes.....	18
3.4. Entrepreneurship as a key competence	20
3.3. Inclusive, digital and sustainable entrepreneurship.....	21
4. ENTREPRENEURIAL LEARNING ECOSYSTEMS	24
4.1. Policy intervention	24
4.2. From policy to practice	25
4.3. Community networks	27
4.4. Local ecosystems and resources	28
5. NURTURING ENTREPRENEURSHIP COMPETENCE IN VET	32
5.1. VET as a catalyst for promoting entrepreneurship competence....	32
5.2. Methods, tools and approaches	33
5.3. Formative and summative assessment.....	37
5.4. Intended and acquired learning outcomes	40
6. CONCLUSIONS	42
ACRONYMS	44
REFERENCES	45
ANNEX	48

Tables and boxes

Tables

1.	Research in numbers.....	10
2.	Entrepreneurship competence in national VET qualifications	19
3.	Learning outcome 1: learners promote the company's objectives in their work	38
4.	Learning outcome 2: learners generate a business idea and assess the possibilities for realising them.....	39

Boxes

1.	Understanding entrepreneurship competence: teacher and learner perspective	16
2.	Online entrepreneurship courses and degrees.....	23
3.	Online store of the education institution's cooperative activities	23
4.	EduFutura: an example of an extended local entrepreneurial learning ecosystem.....	30
5.	Gradia coaching programmes	37
6.	Entrepreneurship Café / Advisory services in entrepreneurship.....	37

Executive summary

This case study provides evidence on how entrepreneurship competence and entrepreneurship education are integrated in vocational education and training (VET) in Finland. It also shows to what extent, and how, the dimensions of entrepreneurial learning ecosystems facilitate acquiring entrepreneurship competence, and what policies, methods, tools and approaches support embedding the competence in VET. The findings are targeted to policy-makers, social partners, VET providers and researchers.

For this study, entrepreneurship competence is defined as a key competence applying to all spheres of life: from nurturing personal development to actively participating in society, (re-)entering the job market as an employee or as a self-employed person, and starting new ventures. It is understood from a wider perspective rather than as a competence for business creation only. This is aligned with the European entrepreneurship competence framework ([EntreComp](#)) (Bacigalupo et al., 2016): like that, it also defines entrepreneurship as something that can help 'turn ideas into action' and value-creation, referring to a wider sense of initiative needed for personal development, active citizenship, social inclusion and employment (Bacigalupo et al., 2016) beyond mere business creation. The concept of an entrepreneurial learning ecosystem paves the way towards embedding entrepreneurship competence in VET as an interplay between elements at policy-making, provider and learning environment levels.

Numerous steering strategies, frameworks and curricula exist to facilitate the development of entrepreneurial learning ecosystems within VET in Finland. Currently, at the highest policy level, the Finnish government programme (Finnish Government, 2019) highlights the importance of promoting a positive environment for entrepreneurship to increase business creation. National entrepreneurship policies in education specifically support VET provider management, teachers and other staff in evaluating and developing their activities; they are also indirectly supported by other related strategy documents. Guidelines for entrepreneurship education (Ministry of Education and Culture, 2017b) aim at directing, developing and implementing measures for promoting entrepreneurship and entrepreneurship education across all levels of education and training, including VET. As a result, the interpretation of the guidelines regarding entrepreneurship education holds significant importance.

Entrepreneurship competence development in VET is also steered by national legislation. The main objective of the reform of upper secondary VET triggered by the Act on VET (Finnish Government, 2017) was to increase the ability of VET to respond more swiftly to changes in the economy, and to meet skill needs in an

agile manner. This requires developing entrepreneurship competence for achieving one of the core objectives of VET Act (531/2017) (Finnish Government, 2017): ‘fostering entrepreneurial skills’. Despite the various supporting and steering documents that promote the development of entrepreneurship education ⁽¹⁾, according to the field study, awareness of them is still limited. Raising awareness of these steering documents and strengthening national-level coordination could benefit nurturing entrepreneurship competence, according to the research.

The results from the interviews with policy-makers, VET provider management, teachers and learners indicate that entrepreneurship competence is mainly perceived as an entrepreneurial mindset, which is needed for both finding a job and for business-creation. This mindset is a good starting point for all kinds of learning. The core of this competence is self-knowledge and self-confidence. Entrepreneurship competence builds on these individual capacities. This view was shared by both teaching staff and learners/graduates; a shared perception of entrepreneurship competence reflects the participatory and learner-centred approach that dominates in the Finnish VET.

This research shows that Finnish VET providers perceive themselves increasingly as part of the entrepreneurial learning ecosystems in their regions. Local or regional level networks around VET providers (regional development organisations and business networks) facilitate teaching in a real-life setting. Collaborative methods are increasingly developed by providers to take local needs into account better, and to engage small and medium-sized companies (SMEs) to these entrepreneurial learning ecosystems. The focus on on-the-job learning and demonstrations of competence has enabled companies to understand better the practical aspects of teaching in everyday life. VET providers also perceive themselves as experts in local business life. Finnish VET is also an important factor in boosting regional and local economies. However, entrepreneurship education is implemented in different ways by each VET provider, and the entrepreneurial learning ecosystems are at different stages depending on the regional context; some VET providers are more involved with other stakeholders than others. Coordination is required at national level to build stronger ties with the regional entrepreneurial learning ecosystems, and to share best practices.

The field research also revealed that entrepreneurship competence should be a transversal theme in education and training, and accessible to more learners.

⁽¹⁾ VET qualifications include entrepreneurship education but the volume is different in each of them.

VET qualifications ⁽²⁾ should include a stronger cross-cutting approach to entrepreneurship competence, also embedded in fields that are not traditionally linked to entrepreneurship. According to teachers, it remains challenging to evaluate the entrepreneurial mindset and working life skills, as assessment always depends on the context and persons involved. Yet, teachers and trainers are well qualified to implement entrepreneurship education; national qualification requirements demand that they have knowledge and experience of working life, and some of them have experience of entrepreneurship. This helps promote entrepreneurship competence as a common cause among VET providers to boost the local economies. The teaching staff pointed out that entrepreneurship education requires a specific learning environment: learner-centred education, entrepreneurial pedagogy and pedagogical competence development. Also, a range of different working-life related and digital learning environments are actively used in teaching, especially since the COVID-19 pandemic. All these elements strengthen the integration of entrepreneurship education in VET, but it requires purposeful management, entrepreneurial working culture, pedagogy and staff competences as well as the use of suitable learning environments, which appear to be predominantly developed in Finnish VET. However, focusing more on entrepreneurial working culture and internal and external communication would empower promotion of entrepreneurship competence within VET.

There are currently no clear assessment criteria for entrepreneurship competence in VET, except for the compulsory study unit Entrepreneurship and entrepreneurial activities (one competence point). Clarification of objectives, expected learning outcomes and assessment methods would provide a stronger foundation for developing entrepreneurship education within VET; as it stands, the aims and content of entrepreneurship education vary by VET context. Despite this, VET providers promote entrepreneurship competence, which has been rooted in VET for a long time.

⁽²⁾ In Finland, the term 'programme' is not used within VET. Instead, policy-makers, VET providers and learners commonly refer to 'VET qualification', understood as both the VET programme (as a learning process) and its outcome (Cedefop, 2019b).

CHAPTER 1.

Introduction

This case study aims to provide new evidence for policy-makers, social partners, VET providers and researchers, detailing how entrepreneurship competence is embedded in Finnish VET and to what extent the dimensions of entrepreneurial learning ecosystems facilitate acquiring entrepreneurship competence in Finland. It complements the existing knowledge of methods, tools and approaches that support learning, teaching, and assessing entrepreneurship competence.

The findings of the report are based on the research carried out in 2022. It is part of a series of eight national case studies (Spain, France, Croatia, Italy, Latvia, Austria, Finland and Sweden) and the final report.

1.1. Research questions and core terms

This study aims to answer the following main research questions:

- (a) to what extent, and how, do the dimensions of entrepreneurial learning ecosystems facilitate acquiring entrepreneurship competence in VET in Finland?
- (b) which policies, methods, tools and approaches best support embedding entrepreneurship competence in VET in Finland?

To explore these questions, entrepreneurship competence is conceptualised as a key competence which applies to all spheres of life: from nurturing personal development to actively participating in society, (re-)entering the job market as an employee or as a self-employed person and starting new ventures. The study seeks to explore entrepreneurship competence from this wider perspective rather than as for business creation only.

The concept of an entrepreneurial learning ecosystem paves the way towards embedding entrepreneurship competence in VET as an interplay between elements at policy-making, provider and learning environment levels.

1.2. Methodological note

The country case study explores existing policies and practice in Finland within the entrepreneurial learning ecosystem, which includes VET provision and learning environments across Finland. The case study investigated entrepreneurship competence from different perspectives; from the policy concept to its practical

implications (e.g. assessment of entrepreneurship competence in VET qualification requirements). The findings are rooted in both policy analysis and empiric evidence obtained from six selected VET providers. The case study contributes to answering the research questions at national level through:

- (a) literature review/desk research at national level;
- (b) field research at policy and stakeholder levels, including VET providers.

The findings from the desk research were reinforced and confirmed by empirical data from VET providers and other stakeholders. For each selected VET provider, field research includes:

- (a) interviews with school management (or, in the case of apprenticeships, company managers or owners, or human resources managers) and VET teachers/trainers (company trainers/mentors in apprenticeships);
- focus groups (or interviews in apprenticeships) with VET learners;
- (c) interviews with former graduates;
- (d) where possible, observations of class interactions during the delivery of entrepreneurship activities.

In the final phase of the study, a workshop about the key findings was organised for all research participants to verify that the analysis of the empirical data is aligned with their views. This served as an efficient member checking (Geertz, 1973) method to reinforce the findings and their relevance to the field.

Table 1. **Research in numbers**

Research activity	Total
Interviews with policy-makers and social partners	2
Interviews with school managers	6
Interviews with teachers	20
Interviews with company managers	1
Interviews with VET graduates	3
Focus groups with 84 learners (in total)	4
Class observations	7
Policy documents analysed	20
School documents analysed	18

Source: Authors.

The desk research was carried out in March and April 2022, and the field research was carried out between May and August 2022. The Annex comprises a list of the VET providers that took part in the study. Case-sampling was selective and aimed to gain valuable insights into how entrepreneurship competence is embedded in VET. So-called 'typical' and 'information-rich' cases (Flyvbjerg, 2006) were selected: VET providers with advanced understanding of the competence

and a diverse portfolio of activities delivered in collaboration with other stakeholders in the entrepreneurial learning ecosystem. Geographic variety in the selection of VET provider was also among the selection criteria. Snowballing sampling ⁽³⁾ was also utilised in the selection of stakeholders for the research.

⁽³⁾ *Respondent-driven sampling* (Heckathorn, 1997) also referred to as the snowball approach (Naderifar; Goli and Ghaljaie, 2017), was employed to gain information on potential hidden informants.

CHAPTER 2.

Overview of the Finnish VET system

This chapter briefly presents the main characteristics of the Finnish VET system, providing contextual information for the study findings. More detailed information about the Finnish VET system is available at [Cedefop's VET in Europe database](#) (Cedefop and Finnish National Agency for Education, 2022).

The Finnish Ministry of Education and Culture (MEC) develops VET legislation and supervises the whole sector. It also issues licences to education providers. VET providers offer three types of VET qualifications: initial, further and specialist (Ministry of Education and Culture, 2021).

VET is held in high regard, and it is developed, delivered, and assessed in close cooperation with the labour market. Qualified and competent teachers, flexible qualifications, strong employment prospects and access to continuing education and training are some of the reasons making VET an attractive choice in Finland. According to Finland's education statistics, 342 000 learners were engaged in VET in 2021 (9% more than in 2020), and 69 000 vocational qualifications were awarded (5% more than in 2020) (Statistics Finland, 2021).

More than two-thirds of all learners at upper secondary level are enrolled in VET (50% immediately after basic (primary and lower secondary) education. The share of early leavers from education and training in the age group of 18-24 was 8.2% in 2021⁽⁴⁾. The current government programme (2019-23) aims to increase the number of learners completing upper secondary education, also including VET. To achieve this, the government has allocated EUR 235 million for hiring new teachers and trainers (Cedefop, 2019a).

VET supports lifelong learning ⁽⁵⁾ and professional development of teachers and learners in the country (Ministry of Education and Culture, 2019a). It increases the vocational skills of the population, supports business creation, and addresses the needs of the job market. Basic education graduates choose their upper secondary pathway – either general or vocational – based on their own interests, abilities, and previous education and training path. As an integral part of the education system, VET prepares learners for both employment and further studies either in higher education or in VET. Adult learners also have many opportunities

⁽⁴⁾ Eurostat. [Early leavers from education and training by sex and labour status](#). EDAT_LFSE_14 [accessed 27.3.2023].

⁽⁵⁾ The main goals are that everyone develops their skills and competence during their careers, everyone has the knowledge, competence and skills required for employment and a meaningful life, and competence renews the world of work and the world of work renews competence.

for vocational retraining or upgrading their skills. As the transformation of work requires constant updating of knowledge and skills, more than half of VET learners are between 20 and 60 years of age.

Finland's education policy has for decades been strongly oriented to developing a holistic education system from primary education to higher education and there is increasingly cooperation between secondary and tertiary VET. Since 2019, VET and general education matters have been handled by one MEC department, which strengthens the cooperation between the two strands (Cedefop, 2019c). Also, the development of entrepreneurship competence has been constantly discussed at MEC.

Initial and further vocational training are organised on common principles under the same law (Finnish Government, 2017). It is built on a competence-based approach to target the young, adults, workers in need of upskilling or reskilling, and jobseekers. The 2018 reform, the most comprehensive in nearly two decades, aimed to improve the efficiency of VET and better match it to the needs of the labour market (Cedefop, 2019c). Currently, the national qualification requirements for VET define the required vocational competence, principles of assessment and how the competence is demonstrated (Cedefop, 2019d).

Each VET learner follows an individual learning plan, making learning paths versatile. Therefore, the analysis of VET types (initial, further and specialist) as separate categories does not add value for the study. The common theme in all VET paths is that they are competence-based. This means that qualification completion is independent of where and how the competence was acquired. All learners who complete basic training are eligible to enrol in VET, but each VET provider determines specific selection criteria (Cedefop, 2019d).

Even though individualisation of learning paths is important, there are some common trends among the differences. For example, further and specialist VET offers a broader range of job-related competences and often requires labour market experience. Such competences are mainly targeted to adult workers who already have some initial VET training. Graduates of further vocational training meet labour market requirements and have higher or more specialised professional skills than those enrolling to the initial VET.

The changes brought by the 2018 VET reform were mentioned during interviews with VET providers. As one VET provider principal summarised: 'What do we really think about when we talk about VET? Usually, the image is that vocational training should be an entity that is mainly offered to young people. For example, in our situation, "in the traditional sense", the share of young initial VET learners is 20%. That is why, for example, in learning groups, the age of learners varies from under 20 to 60, people come from very different backgrounds, and the needs for competence development differ significantly. With this example, we may see that we have entered a new era in Finnish VET.'

In comparison to most EU countries, more VET graduates in Finland find jobs or continue studies immediately after acquiring their qualification (European Commission, 2020).

However, the Finnish VET also faces challenges. According to Finland's national statistical institute (Statistics Finland, 2022), entering the job market has become more difficult since 2020 for recent graduates with initial vocational qualifications; only 62% of the graduates were employed in the following year after their graduation (69% of women and 55% of men). Compared to previous years, graduates from the service sector struggled to find work due to the COVID-19 pandemic. In total, the employment rate of the recent graduates with initial vocational qualifications has fallen by 8% comparing to the previous year. COVID-19 lockdowns have also speeded the shift towards distance learning, but learners' digital competence development needs might not have been sufficiently addressed during their studies (European Commission, 2020). Prior to the pandemic, only 15% of VET learners regularly utilised online learning apps related to their vocational field, and 28% occasionally, with remote studies completed in an electronic environment regularly by 12% of the VET learners (Ministry of Education and Culture, 2018).

CHAPTER 3.

Entrepreneurship competence

3.1. Understanding the competence

The Ministry of Education and Culture (MEC) has a leading role in setting the agenda for entrepreneurship education in Finland to strengthen entrepreneurship competence in cross-ministerial collaboration with stakeholders from other policy domains. Especially involved is the Ministry of Economic Affairs and Employment (MEAE) (Innovation Cluster for Entrepreneurship Education, 2017) but the Ministry of Agriculture and Forestry, the Ministry of Interior, the Ministry for Foreign Affairs, the Ministry of Justice, and the Ministry of Environment all support nurturing entrepreneurship competence.

The government relies on several steering documents establishing the top-level framework for entrepreneurship competence development, implementation, and assessment in education and training, including VET. It follows the European Union's recommendation on key competences for lifelong learning (European Commission, DG Education Youth Sport and Culture, 2019). MEC has designed a specific national strategy for entrepreneurship education, *Guidelines for entrepreneurship education* (Ministry of Education and Culture, 2017b). It provides guidance on integrating entrepreneurship competence in VET (and other education settings) using an interdisciplinary approach and defines entrepreneurship competence as an ability to observe and seize opportunities; to turn ideas into action, which generates economic, cultural, social or societal value. Such competence, including creativity, innovation skills, risk-management and objective-setting, can be learned and supported through entrepreneurship education. According to the guidelines, entrepreneurship education promotes positive attitudes towards entrepreneurial activities, increases entrepreneurial skills, fosters creating new businesses and supports research, development, and innovation activities. The document highlights the importance of testing, learning by doing, project work, business collaboration and gaining experiences on entrepreneurship in the core of the education. This also requires purposeful management, entrepreneurial working culture, pedagogy and staff competences as well as the use of suitable learning environments.

The Ministry's website provides a shorter description in English: 'Entrepreneurship and an entrepreneurial mindset are something that can be learned. Their components are creativity, innovation ability, capabilities for risk management and taking responsibility as well as an ability to plan, set goals and manage activities to achieve the goals' (Ministry of Education and Culture, 2017a).

These descriptions are well aligned with the EntreComp framework in the sense that it also defines the entrepreneurship competence rather broadly, as something that can help ‘turn ideas into action’ and value-creation, referring to a wider sense of initiative that is needed for personal development, active citizenship, social inclusion and employment beyond mere business creation (Bacigalupo et al., 2016).

Box 1. Understanding entrepreneurship competence: teacher and learner perspective

The interviews indicate that entrepreneurship competence is mainly perceived as an entrepreneurial mindset, which is needed for both finding a job and for business creation.

‘Entrepreneurship competence is about how you think, act, present your thoughts, design ideas – it is about how you live your life. Studies in our school have developed competences that I can utilise when I enter into working life, or if I would like to become an entrepreneur’ (Learner 1, VET school)

This mindset is a good starting point for all kind of learning. The core of the competence seems to be strong self-knowledge and self-confidence. Entrepreneurship competence builds on these individual capacities, upon which substance competence on entrepreneurship can rely. This view was shared by both teaching staff and learners/graduates. This shared perception of the entrepreneurship competence reflects participatory and learner-centred learning that dominates Finnish VET, which also reflects wider cultural traditions:

‘Developing entrepreneurship competence has been a significant theme for our education institution for over 50 years. This is reflected by the fact that the roots of our school come from a region that has always been the most entrepreneurial part of Finland.’ (School manager 2).

Source: Authors based on interviews.

Regional strategies for entrepreneurship education⁽⁶⁾ contain single statements about entrepreneurship competence, and how it is linked to the development priorities of the area. Trade association strategies also emphasise the importance of cooperation between local VET providers in fostering entrepreneurship competence (Pellervo, 2022; Suomen Yrittäjät, 2023; Confederation of Finnish Industries, 2023) but without specifying how entrepreneurship competence is defined.

⁽⁶⁾ South-West region (2020), Northern Ostrobothnia (2016), Central Finland region (2011), South-East Finland (2014), City of Helsinki (2014), the South Savo region (2014), the region of Päijät Häme (2013), the Satakunta region (2022) and a joint strategy for the Municipalities of Kolari, Muonio and Pello (2017).

3.2. Historic overview

There is a long tradition of learner-centred, holistic education in Finland, including VET. At the beginning of the 20th century, multidisciplinary education experiments started; they helped develop teaching and curricula towards the current idea of entrepreneurship education. In 1916, the Finnish National Board of Education (FNBE) experimented with a more transversal approach to education that integrated current social and economic needs as well as regional specificity; the curriculum emphasised the importance of experiential learning, self-leadership, responsibility, and participation in the development of the surrounding community. References to strengthening entrepreneurship competences were already being made. The 100-year-old primary school curriculum provided teachers with models and ideas of how learners could promote learning about natural sciences through gardening, utility farming, and selling garden products to strengthen self-sufficiency and vitality (e.g. Salo, 1926; Salo, 1934).

As in many other countries, changes in Finnish education policy have reflected broader societal trends and needs throughout the ages. For example, the above education experiments and curricula reflecting the entrepreneurial way of working are related to the era during which Finland sought different ways to strengthen its economy and intellectual activity after gaining independence in 1917 (e.g. Möttönen, 2019). Also, in 1918, after the civil war, national integration policy focused on bringing together different political groups as well as rural and urban areas; compulsory education was also developed to stabilise society (Suominen, 2020). There was a great need to develop joint trust, equality, communality, well-being, and wisdom for the whole nation.

The development of both education and economic policies were deeply connected and the foundations were laid for the idea of cooperatives, which were also suitable for strengthening the country's local economic policy, activities and culture move toward independency (e.g. Karhunen, 1928). Finland is still one of the countries with the most cooperatives in the world compared to its population (Pellervo, 2022).

The freedom and responsibility of individuals and communities were emphasised in the curricula as much as a century ago. Development of the entire education system and its pedagogical solutions started from its values of promoting cooperation, responsibility, and reliance (e.g. Suominen, 2020). As an example, the education and training system is still based on solid trust and the teaching staff's high professional competence and ethics. The system does not include school inspections or public ranking lists (Trade Union of Education, 2022). Entrepreneurial behaviour among teachers and learners has been a reality for over 100 years in independent Finland; this is one of the reasons why entrepreneurship education has been perceived as existing for some time. This was also echoed in

this study. During interviews, some educators even questioned what novelty entrepreneurship education has in this sense.

Official entrepreneurship education, promoting entrepreneurship competence by a transversal approach in its current form, began in Finland in 1992, when the National Board of Education appointed an advisory board for entrepreneurship. Its task was to propose and implement different models to promote entrepreneurship competence. Network cooperation in other sectors also began around that time. The negotiating committee started to develop the curriculum basics. In 1994-95, entrepreneurship was considered more systematically in the fundamentals of basic school, upper secondary, and VET curricula. At the same time, continuing education in entrepreneurship for teachers, learning materials suitable for different school formats, and a special vocational qualification for an entrepreneur were planned. Entrepreneurship education pilot projects covering VET, funded by the National Board of Education, started in several municipalities. Even then, there was a special emphasis on an entrepreneurial attitude to activities (Ministry of Education and Culture, 2009).

Entrepreneurship education, promoting entrepreneurship competence, has been officially included in Finnish VET since the beginning of the 1990s. But the entrepreneurial way of working has always been a part of the activities of VET providers, with varying pedagogical solutions that are difficult to track as there has been no obligations to report them. This also came up in the focus group discussions carried out in the field research phase of this study, in which the preliminary results were presented and jointly discussed. The topic would be an interesting subject for further research.

3.3. **Explicit and implicit learning outcomes**

Explicit learning outcomes refer to results that are 'clearly visible and demonstrated', e.g. created businesses or other practical solutions, while implicit outcomes refer more to individual learner transversal competences. VET comprises both explicit and implicit references to entrepreneurship competence.

Since the reform of upper secondary VET (Finnish Government, 2017), VET has advanced applying the competence-based approach: primary importance is on what the learner learns and is able to do. Work-based learning enables all competences to be acquired directly in an authentic environment, while the learning outcomes are aligned with the qualification requirements.

The National Board of Education decides the aims and content for the VET qualifications. These are prepared in cooperation with social partners, education providers and other stakeholders. The fact that VET is developed and delivered in cooperation with the labour market serves as a guarantee of its quality and

relevance. The expected outcomes of VET are discussed in a wider social context, especially with work-life representatives, in which the future skills requirements of working life are considered to be relevant. All vocational initial qualifications include common vocational optional parts. Often these parts comprise entrepreneurship in a subject (e.g. business planning) (Finnish National Agency for Education, 2022b).

There is a range of VET qualifications related specifically to entrepreneurship, e.g. 'entrepreneur' and 'business management' qualifications. In some mandatory parts, the competences (outcomes) are relatively precisely defined. The following examples (Finnish National Agency for Education, 2022c) illustrate how entrepreneurship competences should be achieved through vocational qualifications and in common studies (Table 2).

Table 2. **Entrepreneurship competence in national VET qualifications**

Entrepreneurship and entrepreneurial activities (as part of citizenship and working life competences)	
Competence sets	<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p>A) You act according to the company's goals</p> <ul style="list-style-type: none"> You understand the importance of business in society. You operate in a customer-oriented and economical manner. You understand the importance of your actions in the work community. </div> <div style="width: 45%;"> <p>B) You evaluate the business idea and the possibilities of its implementation</p> <ul style="list-style-type: none"> You come up with a business idea and take the customers' needs into account. You will find important services and information sources that support the establishment of a company. You will find out the networks you need to implement the business idea. You assess what financial conditions are needed so that you can implement the business idea. Assess what your readiness is to be an entrepreneur. You find out what are the risks and opportunities of the company's operations. </div> </div>

Source: Finnish National Agency for Education, 2022c.

This highlights transversal approach of VET in supporting the development of entrepreneurial mindset and entrepreneurship competence. However, acquiring entrepreneurship competence always takes place according to an individual path (learning plan), which the learner helps decide. Therefore, the volume of entrepreneurship education in VET varies significantly according to learner needs and interests.

Vocational qualifications are not linked to where and when the competence has been acquired. Individual competences can be acquired in various learning environments and ways at various times, as long as they meet the national qualification requirements. Learners need to demonstrate their competence in

practical work. As School manager 2 noted: 'Instead of teaching subjects, we teach learners today'.

Since the 2018 VET reform, VET qualifications have guided VET providers in planning and implementing learners' individualised study paths in VET to meet the qualification requirements to be demonstrated in daily working life. If we only test subject learning, for example, it is impossible to reach the qualification targets, so learner-centred and real working-life approaches are stressed more than ever.

According to the data obtained from the field research, entrepreneurship competence is perceived more as an entrepreneurial mindset and working life skills than skills that are directly linked to entrepreneurship as a business with VET providers. Learning outcomes within the degree studies are evaluated according to the national assessment requirements for VET degree qualifications. Some teachers even pointed out that they are not allowed to evaluate anything that is not specifically described in the requirements. The interviewees also found it difficult to assess, or even discuss, the learning outcomes of entrepreneurship education.

3.4. Entrepreneurship as a key competence

All VET qualifications in Finland strengthen the key competences for lifelong learning ⁽⁷⁾ (Ministry of Education and Culture, 2019a, 2019b). Entrepreneurship is one of those key competences. In vocational basic qualifications, key competences have been included especially in learning units common to all programmes. In VET learning environments, working culture and the competence of teaching staff must also support the acquisition of key competences (Ministry of Education and Culture, 2019a). Key competences were recognised in this study's interviews, highlighting learning environments, working culture, and teacher and trainer competence, even though we focused on entrepreneurship competence. Therefore, the national steering of VET qualifications provides a solid ground for the VET provider to design and implement entrepreneurship competence and other key competences in VET.

As an example, cross-disciplinary and long-term internal development came up as a shared topic in many of the VET school principal interviews: 'We have developed a programme for the pedagogical development of teachers, in which entrepreneurship competence is emphasised in a pedagogical context across the board. In addition, for example, we have just created a future skills' programme for

⁽⁷⁾ The main goals are that (a) everyone develops their skills and competence during their careers, (b) everyone has the knowledge, competence and skills required for employment and a meaningful life, (c) competence renews the world of work and the world of work renews competence.

learners, in which entrepreneurship competence and entrepreneurial mindset are a strong cross-cutting theme across different subjects' (Principal 1).

However, the interviewees also pointed out that the development of entrepreneurship competence in VET should be more systematic and should start in education lower grades, preferably in basic education. At the same time, the interviewees also revealed that often they are not aware of what happens at other levels of education.

3.5. Inclusive, digital and sustainable entrepreneurship

Developing competences in VET is steered by Finnish national legislation (Finnish Government, 2017). This provides opportunities to implement inclusive education by strengthening inclusive pedagogy, learning at the workplace, individuality, and development of learning environments. A learner-centred approach has been established so that each learner will be offered a possibility to design an individually appropriate path to finish an entire qualification or a supplementary skill set. The element of on-the-job learning has been increased and a new training contract model has been introduced. Guidance of learners in the workplace is strengthened through cooperation between teachers and companies.

However, access to education is not enough. Efforts must be made to support the participation of all learners in education: equal inclusion in the learning environment, including equal access to all pathways (Finnish Government, 2017). Guaranteeing equal study opportunities also requires that learners receive the support they need. In the operations of education and training institutions, inclusion means accepting learners' diversity. It also means diversifying pedagogy and planning special support services. To achieve this, inclusion should be formally set in the VET provider administrative and operational guidelines. An inclusive approach to education also encourages learners to select studies including different approaches to entrepreneurship.

According to this study, the inclusive approach is currently a challenge for VET teachers and VET providers. Teachers interviewed agreed that their work is increasingly influenced by the diversity of learners; more and more of them require special assistance. However, the personalisation of studies is also seen as a viable starting point for the future. An inclusive approach needs to be considered also in promoting entrepreneurship competence in Finnish VET.

Further, the digitalisation of education was a common trend in Finland long before the COVID-19 pandemic. One of the outcomes of the current VET reform is the renewed further vocational qualification in entrepreneurship, which has a

specific focus on digital competences and sustainable business development (Finnish Government, 2017).

The interviewees mentioned that digital learning environments have been widely used in teaching. To boost entrepreneurship competences, digital games and other applications are widely used. In some places, VET institutions are ahead of working life in terms of technical implementation and digitalisation. In companies, it has not necessarily been possible to renew equipment and machines, as has been done in education institutions. In this sense, graduates are well equipped to support digital transformation of companies when entering working life.

Teachers and school directors also highlighted that digitalisation is a strong part of teaching, nowadays also through social media. Social media have increased the interactivity of teaching and the opportunities for learners to participate in it. Despite reservations about the use of social media, it is unlikely to stop being used for learning purposes. The increasing range of digital tools reinforced cooperation between VET institutions and companies, such as allowing company presentations to be carried out remotely. The study also shows that digitalisation is one of the key tools in the development of entrepreneurship competence.

One teacher also brought up how different personalities and learners with different learning styles benefit from different teaching methods: 'We emphasise entrepreneurship across the board in our studies and we have also implemented digital entrepreneurship and other courses for a long time. It has been interesting to notice how both online and face-to-face education motivate learners. Both types of courses are applied for. We see that there is a demand for both types of education, digital and non-digital.' (Teacher 4) (Finnish Institute for Enterprise Management, 2022).

It was also stressed that social media is an important sales and marketing channel for entrepreneurs, another reason why its use is becoming more common in education institutions. Using online environments in connection with the promotion of entrepreneurship competence can also be seen, for example, in the activities of learner cooperatives, which have begun to implement online store-based sales and their training (Box 3). Digitalisation of education enables wider social activities and networking than before, but it also allows taking sustainable development issues into account. Sustainable entrepreneurship and sustainable development are already clearly included in Finnish VET. This was echoed in the interviews: 'Sustainable development must be included in the education of entrepreneurship competences today. I mean by this, for example, not only taking into account the environmental starting points. Today [...], business must also be commercially sustainable.' (Teacher 5) (Gradia, 2022).

Box 2. Online entrepreneurship courses and degrees

Online teaching has been used in Finland for a long time. The Finnish Institute for Enterprise Management is a national institution for providing VET adult education. They organise training courses online and in classrooms. Learners can complete their studies independently if they wish. There are many individual courses related to entrepreneurship, and even entire degrees can be completed remotely from registration until receiving the certificate. There is continuous admission and studying is free of charge.

Those who are already active as entrepreneurs, or those who are planning to start a business, will gain from their studies versatile know-how, a foundation for running a business, and confidence in managing a company. For those who are just planning to start a business, the training offers guidance in developing a business idea and drawing up a business plan.

The Finnish Institute for Enterprise Management promotes international and national collaboration between companies and individuals through networking for entrepreneurs and various projects. Roughly 4 000 learners attend their various courses every year, and they employ more than 90 industry experts.

Source: Finnish Institute for Enterprise Management, 2022.

Box 3. Online store of the education institution's cooperative activities

VET provider Gradia launched the cooperative [Verso's e-commerce](#), during the COVID-19 pandemic, when opportunities to learn marketing skills in practice fell significantly. Due to the pandemic, various sales and fair events were limited or cancelled completely.

Osuuskunta Verso is a multidisciplinary cooperation network of VET learners and professionals, which offers its members a framework for learning and practising entrepreneurship in collaboration with others.

The cooperative's members come from different fields, such as construction, crafts and arts, food, social and health, clothing, communication or business.

Source: Osuuskunta Verso, 2022.

CHAPTER 4.

Entrepreneurial learning ecosystems

This chapter describes the extent to which the main elements of the entrepreneurial learning ecosystems are in place and how they support embedding entrepreneurship competence in VET in Finland.

According to the Global Entrepreneurship Monitor (GEM) report (Bosma et al., 2021), which has evaluated national entrepreneurship ecosystems, or environments for entrepreneurship, in 50 participating economies, Finland has the most supportive environment for entrepreneurship ecosystem development after the United Arab Emirates and the Netherlands. The country also scores highly on its education conditions, with Entrepreneurial education at school performance being the highest among GEM level A economies. Therefore, there have been proceedings to improve entrepreneurial learning ecosystems in general, in which entrepreneurship education plays an important role.

Entrepreneurial learning ecosystems can be seen as systems created locally between VET providers, policy-makers and other stakeholders. They also form a national level ecosystem, as highlighted in the GEM study, though this has the same elements as the local ecosystems. The elements of entrepreneurial learning ecosystems include curricula and extra-curricular activities, research and impact, stakeholders, resources and infrastructure (Brush, 2014). In VET, to promote entrepreneurial learning ecosystems, entrepreneurship competence needs to be addressed through curricula and their implementation, networks and cooperation activities, resources and infrastructure, e.g. entrepreneurial learning environments.

4.1. Policy intervention

Entrepreneurial learning ecosystems are influenced by policies. The government programme (Finnish Government, 2019) highlights the importance of promoting a positive atmosphere towards entrepreneurship competence.

The key national policy steering entrepreneurial learning is the MEC's guidelines for entrepreneurship education (Ministry of Education and Culture, 2017b), which cover all levels of education, including VET. The guidelines consist of four key sections defining respective policy objective areas in the form of statements, and a related set of questions supporting assessment. The policy objectives are divided into the following areas:

- (a) strategic level and leadership;
- (b) training for education and teaching staff;

- (e) training that support entrepreneurship;
- (f) learning environments.

These guidelines are designed in cooperation with a wide range of stakeholders. They consider the most recent EU level policies, including the EntreComp framework. The design of the guidelines helps VET providers and other stakeholders to evaluate and develop their activities mostly by providing suggestions and support for planning the practical work. The Finnish Education Evaluation Centre (FINEEC) has monitored the use of the guidelines. Their evaluation of the implementation of the key policy areas of entrepreneurship in VET, including higher education institutions, was carried out in 2017-18 (Finnish Education Evaluation Centre, 2018). This evaluation shows that the guidelines could have been more extensively used in VET.

Entrepreneurship competence development in VET is also steered by national legislation. The main driver behind the reform of upper secondary VET (Finnish Government, 2017) was to increase the ability of VET to respond more swiftly to changes in working life and operating environment, and to meet skills needs in an agile manner. This requires entrepreneurship competence, which is listed in the Act on VET (531/2017) (Finnish Government, 2017) as one of the core objectives of VET (fostering entrepreneurial skills). Since the reform, VET education has become more competence-based and customer-oriented, so that learners are offered a possibility to design an individually appropriate path to acquire a full qualification or a supplementary skill set. The strong focus on customer-orientation – responding to the needs of businesses – is also highlighted in the Finnish quality strategy for VET 2030 (Finnish National Agency for Education, 2022a).

Entrepreneurship education is also guided by strategies and action plans at the regional level. The regional strategies and action plans for entrepreneurship education, the latter formulated in participatory processes partly financed through EU funds, are designed together with regional councils, upper secondary and higher education institutions, regional development companies, YES network (see Section 4.3. for details) and other local stakeholders. Since 2009, specific strategies for entrepreneurship education for education and training have been designed in the South-West region (2020), Northern Ostrobothnia (2016), Central Finland region (2011), South-East Finland (2014), City of Helsinki (2014), the South Savo region (2014), the region of Päijät Häme (2013), the Satakunta region (2022) and a joint strategy for the Municipalities of Kolari, Muonio and Pello (2017).

4.2. From policy to practice

The Finnish Education Evaluation Centre (FINEEC) carried out an evaluation of entrepreneurship in VET and in higher education institutions in 2017-18 (Finnish

Education Evaluation Centre, 2018) to generate knowledge and develop further activities and assess policy implementation in practice. The assessment framework was based on the 2015-19 government programme (Finnish Government, 2015; Ministry of Education and Culture, 2017a), the guidelines for entrepreneurship education (Ministry of Education and Culture, 2017b), and EntreComp framework (Bacigalupo et al., 2016). The 2018 report recommends the following:

- (a) inform VET providers about entrepreneurship studies;
- (b) reinforce versatility, multidisciplinary and multi-methodology in entrepreneurship training, develop school-business cooperation, strengthen team entrepreneurship (e.g. by student company projects) and practice real entrepreneurship;
- (c) conceptualise entrepreneurship competence;
- (d) partnerships, networks and cooperation development and their monitoring;
- (e) following and evaluation of business activities; as well as the quantitative and qualitative aims for VET providers setting for business cooperation, and the monitoring of the realisation of these goals compared to the previous evaluation carried out by FINEEC, the know-how on entrepreneurial pedagogy has developed in VET (Finnish Education Evaluation Centre, 2018).

Despite progress in certain areas, challenges remain in conceptualising competence and developing effective evaluation methods, interdisciplinary approaches, and entrepreneurial learning ecosystems. For instance, there is a need to integrate more partnerships and networks into the context to foster such development.

This study found that the overall awareness and understanding of policies promoting entrepreneurship competence, such as national and regional strategies, remains limited within VET. According to the interviewees, the implementation of these strategies is also not sufficiently monitored, and there does not seem to be any significant coordination between, for example, government and regions: 'Yes, we have several regional and other strategies. However, we could still question, how they are implemented in practice' (Stakeholder 2).

Integrating entrepreneurship education into economic policy at local level is not always optimised. In many cases, entrepreneurship education is something that promotes the vitality of the region. However, as it came out in this study, in the documents of regional network organisations supporting entrepreneurship, entrepreneurship education is often profiled as cooperation between education institutions and businesses. Such relevant actors as third sector organisations (e.g. federations, unions) and public sector partners have not always been sufficiently engaged. This may indicate a lack of a unified approach in promoting

entrepreneurship competence, which partly weakens the implementation of policies and, as a result, entrepreneurial learning ecosystems.

Regional differences and needs are considered in VET, as there are significant disparities in trade and industry and demographic structure across the nation. Therefore, education institutions have different positions e.g. regarding learner population and age distribution in different parts of the country. This also affects the way political programmes are implemented in different regions in Finnish VET (Koukku; Lappi and Paronen, 2020).

4.3. Community networks

National guidelines (Ministry of Education and Culture, 2017b) recognise entrepreneurship education as a collaborative set of joint actions to support entrepreneurship. Cooperation between different levels and fields of education as well regional stakeholders, businesses and NGOs has become particularly important in VET since the 2018 reform (Finnish Government, 2017). The guidelines highlight national and regional examples of cooperation networks as follows.

(a) **Network of entrepreneurship educators (YES)**

Development of competence and networking provided to municipalities by YES (national network for entrepreneurship education). There are 17 YES-physical centres, funded by Junior Achievement Finland, the Federation of Finnish Enterprises, and the Economic Information Office, and involving four more partners: the Federation of Family Businesses, the Trade Union of Education in Finland, the Confederation of Finnish Industries and the Confederation of Agricultural Producers.

(b) **Junior Achievement (JA)**

Finland has 10 regional offices that provide support for teaching personnel, bringing entrepreneurship education tools closer to the teacher, and providing support for business creation by the young, thus responding to the increased demand, varying regional requirements, and deterioration of the economic and employment situations.

(c) **Entrepreneurship Education Research Society (YKTS)**

YKTS is a scientific association that supports research in entrepreneurship education and national and international cooperation in entrepreneurship education. The society was founded in 2009, and is intended for entrepreneurship education researchers, teachers, entrepreneurs and other actors in the field.

The interviews with VET stakeholders highlighted that these key regional entrepreneurship education networks support entrepreneurship developers that

operate in Finland. However, they also revealed that broader knowledge of national and other regions' activities is surprisingly fragile. It seems that entrepreneurial learning ecosystems still need to be developed, especially from the starting point of strengthening partnerships and networks, and their understanding.

4.4. Local ecosystems and resources

Finland's regions, provinces, cities and networks often form regional and local entrepreneurial ecosystems.

Looking at how the local entrepreneurial ecosystems are seen by VET providers, the Brush approach (2014) was used to study entrepreneurial learning ecosystems. Brush highlights the following elements in the entrepreneurial learning ecosystem: curricula and extra-curricular activities, research and impact, stakeholders, resources and infrastructure.

Entrepreneurship competence and entrepreneurship are supported by a wide range of stakeholders, including city or municipality sectors, VET providers, other education institutions, regional economic organisations, and teachers' unions. There are no specific policy recommendations for start-up support e.g. for VET at the national level, but many organisations providing VET – mostly large upper secondary VET providers – support graduate entrepreneurship.

There are also different institutional mentoring and support services available for VET learners, provided by teachers and trainers, stakeholders, entrepreneurs, related to entrepreneur career paths as well as networking opportunities with entrepreneurship education stakeholders (e.g. events organised by Junior Achievement). Regional incubators are often located within higher education institutions, offering support services towards entrepreneur career paths in local entrepreneurial learning ecosystems.

While the government and the National Board of Education actively finance entrepreneurship projects and teacher training, availability of resources for nurturing entrepreneurship competence varies by region and provider. National support mechanisms are available for business start-ups through the MEAE service.

Entrepreneurship is integrated into the digital and physical infrastructures of VET campus ecosystems. Many digital platforms and services have been created and utilised to design, implement and assess entrepreneurship education. The field researched also showed inspiring examples of physical learning environments to educate and train for entrepreneurship (e.g. physical hubs for learners, entrepreneurs, and educators).

Considering other resources in Finnish VET, teaching methods are increasingly being developed and taking local needs into account. VET providers

consider themselves experts in the local business life, and their activities are developed together with networks. Although the education must follow national qualification standards, the autonomy on how to implement education is significant in schools and ecosystems. Responsibility is given to both schools and individual teachers for planning, implementing and evaluating education and learning.

Acquisition of competences has also moved from classrooms to workplaces. Local entrepreneurial learning ecosystems allow individuals and communities to develop their competences from their individual starting points and in collaboration with networks, businesses and other working life.

VET providers have a long tradition of networking, offering a base from which to move towards developing the entrepreneurial learning ecosystems for future collaboration. Systematic cooperation between education institutions and companies has increased in recent years. Further, the work related to on-the-job learning and the assessment of skills acquired by learners have brought companies closer to the everyday life of teaching in VET. However, there is still work to be done, and regional development organisations promoting entrepreneurship and economic sustainability are working on getting more small and medium-sized companies involved in the ecosystem.

The case study shows that entrepreneurial culture is one of the most significant factors in promoting entrepreneurial activities. Finnish VET school entrepreneurial culture is clearly visible: it enables and empowers an entrepreneurial culture among learners, supporting trial and error, experimentation and creating opportunities.

At the same time, the question arises whether the development of local entrepreneurial learning ecosystems could be more efficient. As one of those interviewed stated: 'We must also remember that entrepreneurial learning ecosystems are not similar, and they don't have the same objectives. For this reason, it is even more important to develop their coordination. It would be also helpful to develop practices [...] and take responsibility of entrepreneurial learning ecosystem development.' (Stakeholder 2).

To summarise, ecosystem thinking (holistic, systemic, recognising interrelatedness among different actors) is getting stronger at regional level as well as within entrepreneurial learning ecosystems including VET, and it seems that Finland has favourable conditions in the national VET context. There is a strong basis to develop VET further along with local entrepreneurial learning ecosystems: these involve physical, digital and pedagogical learning environments in which the design of meaningful implementation of VET qualifications, and assessment and recognition, play a crucial role. The process of implementing a constructivist pedagogical learning environment should also involve gradual development of education initiatives, including the redesigning of learning spaces (Sasson et al., 2022).

There are numerous initiatives that help better coordinate the promotion of entrepreneurship competence in VET. For example, Jyväskylä's education municipality association Gradia entrepreneurial learning ecosystem (EduFutura Jyväskylä) has been systematically built for decades. As representatives from this ecosystem stated, the building of the ecosystem concept requires purposeful management as well as time. The case of Gradia serves as an example of long-term planning (Box 4), while EduFutura's network is an example of a holistic strategy design (Figure 2).

Box 4. EduFutura: an example of an extended local entrepreneurial learning ecosystem

Education organisations are nationally and internationally significant networks of research, development and cooperation. **EduFutura** is an example of a strategically guided and managed entrepreneurial ecosystem that has been built over a long period. In Jyväskylä, EduFutura works as a competence centre for learning, research and development, and it is part of Gradia, Jyväskylä's Education Municipality Association, Jyväskylä University of Applied Sciences and the University of Jyväskylä.

It provides, for VET providers and teachers and trainers, nationally and internationally influential research, development and cooperation networks, jointly developed learning solutions, versatile opportunities for flexible study paths and cross-learning, anticipation of future skill needs, learners' opportunity for entrepreneurship, services for working life and companies: e.g. internships and on-the-job learning periods, continuing education and training exports, and project-based development activities.

Through the collaborative network of EduFutura and its entrepreneurial learning ecosystem, it develops competence and learning more in a goal-oriented, research-based manner; the contents, methods and structures at all education levels, paying attention to the needs of continuous learning. They renew the regional business structure through future-centred competence and competence-based entrepreneurship.

Its regional partners include EduCluster Finland, Jyväskylä Yritystehdas, Business Jyväskylä and the Central Finland Chamber of Commerce, entrepreneur organisations, the Regional Employment and Economic Agency, the Regional Council, and other education institutions and national actors.

The EduFutura ecosystem won the European Commission's Entrepreneurial School Award in 2019.

Source: Gradia, 2022.

Figure 1. Strategic goals 2021-24 of EduFutura network



Source: Internal material provided by EduFutura (adapted).

In summary, local entrepreneurial learning ecosystems have evolved around VET. Some regional areas developed strong local ecosystems while others are still in the development stage. However, there could be even more emphasis on strengthening entrepreneurship competences in VET curricula. Finnish entrepreneurial learning ecosystems are also being developed thanks to teachers' pedagogical competence. Educators use versatile working methods and develop learning environments that support entrepreneurship competence development.

CHAPTER 5.

Nurturing entrepreneurship competence in VET

5.1. VET as a catalyst for promoting entrepreneurship competence

The Finnish VET system encourages learners and graduates to start their own company based on their learning experience. There is even a formal VET entrepreneur qualification, available since the 1990s. In 2021, 1 065 learners acquired the entire qualification and 3 298 a partial one (Finnish National Agency for Education, 2021).

There are also many VET qualifications that allow graduates to work mainly as entrepreneurs, for example in beauty and wellness fields. This trend is growing and few VET qualifications are now not directly suitable for self-employment, such as those related to security. Finnish companies often hire graduates from VET with the so-called assignment contracts, with employees acting as (light) entrepreneurs.

The interviewees widely agreed that VET includes a lot of on-the-job learning in local companies, thus promoting entrepreneurship and working-life competence development of learners. VET learners acquire specific skills related to their professional field, which gives them an idea of working life as well as potential employers. A lot of training takes place in companies, giving VET learners an opportunity to observe or experience entrepreneurship.

A significant difference between VET and general upper secondary education in Finland is that many of the teachers in VET have worked as entrepreneurs in the field they teach or have been employed by companies before their teaching career. Many are skilled in entrepreneurship. This provides a fruitful starting point for the further development of entrepreneurship competence through formal VET, supported by the Guidelines for entrepreneurship education (Ministry of Education and Culture, 2017b) that highlight the importance of entrepreneurship competence for teaching personnel.

According to VET providers, acquisition of entrepreneurship competence is important from the economic and employment perspective. As the new models of entrepreneurship, e.g. self-employment and part-time entrepreneurship are gaining ground, VET providers need to acknowledge these models to enhance the development of entrepreneurship competence in teaching and learning.

5.2. Methods, tools and approaches

At national level, one of the key actors preparing teachers for entrepreneurship education is the YES network, with online and tailored on-site training as well as entrepreneurship education guides and other material also targeted to VET. YES centres are involved in development projects, organising events, e.g. teachers' seminars, once or twice a year in each region. The network provides teachers with entrepreneurial teaching materials, tools and methods from Junior Achievement Finland at the regional level (Innovation Cluster for Entrepreneurship Education, 2017). There are also other active non-profit associations, which provide handbooks and other entrepreneurship education material for teachers, e.g. national, regional and local advocacy for small and medium-size entrepreneurs. *Yrittäjät* (entrepreneurs) offers free material for teachers to facilitate collaboration between school organisations and businesses.

Training opportunities and entrepreneurship education material for teachers are also available through specific development projects funded by MEC, the Finnish National Agency for Education (EDUFI) and European Social Fund (ESF). One example of a development project funded by EDUFI is *Businekset verkkoon* (Businesses Online) (2019), which produced digital, accessible teaching material for entrepreneurship education suitable for all upper secondary education. Another example of the large-scale ESF-funded projects in entrepreneurship education is the YVI project (2010-14), with over ten Finnish universities and universities of applied sciences implementing either general or vocational teacher education. The project involved the design and realisation of university strategies, curricula, and programmes in teacher education, stressing entrepreneurship education, entrepreneurship, entrepreneurial venture creation, and innovative pedagogy. Even though the focus was on teacher education, research work and the creation of networks were established between business communities, start-ups, and academia.

VET learners can boost their entrepreneurship competence through different paths. While there is a mandatory entrepreneurship course for every VET learner (one competence point), there is great variation in its implementation: from traditional class-based and teacher-led teaching to more innovative experiments and learning in digital environments. Teaching methods related to entrepreneurship also vary significantly, as detailed in the interviews. Educators who are often enthusiastic about entrepreneurship are also active in trying out new ways of learning and try different ways of teaching.

A learner-centred approach dominates in VET, guiding the teaching process. Based on the collected data, this approach is well adopted by VET providers and in their cooperative networks. Team-based learning is also gaining popularity in VET and is reflected in entrepreneurship education. This also involves problem-

based learning: in practice, a challenge is presented to the learner/team, which the team begins to solve together and in alternative ways. The key here is learning by doing. Many interviewees stated that teaching should be specific and challenging enough to motivate learning.

Diverse VET learning environments support entrepreneurship competence, fostering creativity and innovation. VET teaching and learning often takes place in companies and uses digital tools (Raudasoja and Rinne, 2018). According to teachers, learning environment design within VET has been constantly changing to suit teamwork and multiple forms of learning better. However, often the teaching still follows a largely teacher-led tradition, receiving critical feedback from VET learners, especially adults. Young learners also expect a more practical approach and content that cannot be acquired by 'asking Google'. The learning environments do not only consist of physical environments either inside or outside school or linked into digital meeting rooms. It is also essential that learning environments are built to be pedagogically functional to guarantee innovation and creativity. This approach has been adapted well by VET educators.

New learning environments are often connected to networking skills, which is also important in entrepreneurship competence. The fact that there are different expectations for entrepreneurship education continues to challenge teachers in planning learning environments and using them.

Personalisation of studies and learner-oriented guidance in VET takes learners' individual needs and wishes into account. A personal competence development plan (*Henkilökohtainen osaamisen kehittämissuunnitelma*) takes VET studies to a personal level and promotes the acquisition of entrepreneurship competences through individual learner's choices and guidance.

Individualisation is also supported by legislation requiring that education providers design equality and non-discrimination plans for learners. At the institutional level, these plans have been partly included in strategies and plans that guide VET provider operations, e.g. in the case of the Finnish Institute for Enterprise Management.

While personalised VET studies are difficult to categorise and track, common trends exist. For example, further and specialist vocational training provide broader and more specialised skills and often require labour market experience. Such programmes are mainly acquired by adult workers who already have some initial vocational training. Graduates in further vocational training respond to labour market requirements and have higher or more specialised professional skills than those of the initial vocational training. As an example, holders of technical college entry qualifications have highly developed interdisciplinary professional qualifications that are job market oriented. It makes sense to further develop this complementary competence in VET because of its strong working life orientation and practical approach to education.

VET is competence-based so qualification completion does not depend on where and how the competence was acquired. All learners who complete their basic education are eligible to enrol in VET, but each provider determines the selection criteria (Cedefop, 2019d). Studying is an individual process and education institutions offer individual study models. With digitalisation, the learning ecosystem in Finland has expanded considerably; this greatly supports the personalisation of studies in VET, where learners also complete learning modules for their personal needs in different learning environments, and not necessarily in their 'home VET provider'.

VET graduates stated that entrepreneurship competence is best acquired through work-based learning and in their free time. They also wished that the school would have better prepared them for what happens after graduation: what contract types exist, how to interpret them, how to deal with crisis situations, where to get help, and how to secure well-being. Also offering work experiences during the holiday seasons to all young people, when learners do not have a formal qualification, is seen as essential to learning the legalities of working and business life.

Team-based activity is not only related to teaching: it can also be a way of working incorporated into the structure of the education institution. According to VET provider and teacher interviews, the activities are often guided by a team of entrepreneurship coordinators consisting of teaching staff. The team usually has teachers from several different study fields. It meets regularly to promote entrepreneurship, to keep it on display in the teams of their own field, and to make visible the different paths of developing entrepreneurship competences. Other teachers can take advantage of the coordinator's competences by asking advice and support.

Entrepreneurial working culture also plays an important role in VET. Teachers and learners place learner encouragement and support as central in education and learning. Younger learners are particularly insecure and need a lot of positive feedback. According to the interviewees, a more positive atmosphere would be needed in everything we do (including evaluation). Most teachers seconded this idea. When the attitude and motivation are right, other learning will eventually happen easily. Safeguarding the well-being of the individual learner and/or teacher is considered important, as it usually affects the activities and learning of the entire group. This also develops the same type of values-linked environment that can be seen, for example, in business life. However, it was also pointed out that, sometimes, it is a challenge to move on with a 'real entrepreneurship culture' in education. In one instance, teachers admitted being afraid of making mistakes and receiving complaints, thus not supporting learners taking risks.

The following example reflects the teacher's personal commitment to the cooperative and individual guidance of the student. A teacher (teacher 2, Turku

Vocational Institute) stated that: 'I act as a peer-supporting person for the learner, I value her or him and I don't profile myself as an all-knowing expert. Learning takes place together between me and the learner, and mistakes are also made. The results from the field study also indicate that the more entrepreneurial the education institution's operations are – and the more it must market itself to potential learners and partners – the more focused is its teaching on strengthening entrepreneurship competence. Internal and external communication of entrepreneurial working culture, and its activities, improves working culture development in VET.

Various business and their growth stories, also provided by former graduates and alumni, often encourage other VET learners to acquire entrepreneurship competence. The learners also emphasised the need for a culture that allows making mistakes.

One of the general implementation methods for optional entrepreneurship studies within VET is the JA year as an entrepreneur programme and activities within the education institution's cooperative businesses. The activities of education institutions also include various coaching units, the implementation of which usually involves several different actors, including from outside the institution. For example, Gradia, in cooperation with *Yritystehdas* (Business Factory), produces idea-to-business coaching and entrepreneur coaching for entrepreneurs who already have an established company (Box 5). Learners are also guided individually in questions related to their entrepreneurship interest and activities. Samiedu has introduced business cafés to support the guidance of individual learners (Box 6).

The annual TeamSkills Finland competition has taken place for 44 years and was referred to in almost all school interviews. The competition can be considered as integral part of VET as is a way for education institutions to evaluate the level of teaching and learned skills. Success in the competition is often a merit for a VET provider.

Box 5. Gradia coaching programmes

Yritystehdas (Business Factory) is an incubator and start-up community where the best early-stage business ideas are grown into successful companies in cooperation with education institutions. *Yritystehdas* is a meeting place for entrepreneurship. It is an in-house company owned by the city of Jyväskylä, the University of Jyväskylä, the Jyväskylä University of Applied Sciences and Jyväskylä's education municipality association Gradia.

Accredited coaching encourages learners in entrepreneurship. *Yritystehdas* offers training for learners, researchers and staff of Jyväskylä University of Applied Sciences, University of Jyväskylä and Gradia, Jyväskylä's education association.

In the idea-to-business training, the learner is helped to identify whether his idea has business potential and is helped to develop the business idea towards starting a company. The coaching team helps the learner to understand business, its opportunities and requirements.

By participating in the idea-to-business coaching, learners can also, if they wish, utilise the competence-based qualification process to complete the parts of Gradia's professional degree in entrepreneurship.

Source: [Yritystehdas: idea to business](#).

Box 6. Entrepreneurship Café / Advisory services in entrepreneurship

Samiedu has advisory services in entrepreneurship. Appointments of 20 minutes are freely bookable for learners, run by teachers and the business advisor of the new business centre through a comprehensive online guide to courses.

Here, the learner can ask any questions related to entrepreneurship, which the coaching team will solve together. If the question is not answered during the tutorial, the learner is directed to contact the right person or return to the matter later. The learner can book a tutoring appointment as often as he deems necessary.

During the mentoring session, not only does the learner receive multi-professional guidance, but the participating coaches also get up-to-date information about business operations and hear what topics the learners are genuinely interested in.

Samiedu is an upper secondary vocational institution located in Savonlinna. Samiedu is known as a high-quality institution and an excellent coordinator and partner in pedagogical development projects.

Samiedu is a four-time winner (2017, 2011, 2007, 2003) of the National Quality Award granted by the Finnish Ministry of Education and Culture for developing good practices in VET. Samiedu has about 2 000 learners annually, aged 16–60 years.

Source: Authors based on the interviews and [Samiedu](#).

5.3. Formative and summative assessment

EDUFI steers the national qualification requirements for VET in Finland. VET providers are responsible for the quality of the degrees, training activities and other

services, as well as for the continuous development of quality assurance. Qualification requirements also have a significant role in entrepreneurship competence development; both teaching and assessment criteria are always aligned with them. There is no systematic model for national entrepreneurship competence assessment within VET in Finland that is repeated regularly. However, national evaluations are sometimes carried out as there was a major national evaluation implemented by FINEEC, in 2018.

ICEE (Innovation Cluster for Entrepreneurship Education, 2017) policy analysis identifies entrepreneurship education as a central topic in many subject courses in VET. National qualification requirements for upper secondary VET set 'entrepreneurship and entrepreneurial activities' as part of compulsory common studies for all disciplines, whereas there are more optional studies available on entrepreneurship. The key target learning outcomes are that the learners know how to promote the company's objectives in their work, and generate a business idea and assess the possibilities of realising it.

Learner evaluation of the mandatory common studies unit of upper secondary VET, Entrepreneurship and entrepreneurial activities, is assessed summatively (Finnish National Agency for Education, 2022b).

Table 3. **Learning outcome 1: learners promote the company's objectives in their work**

Result	Learner
Satisfactory 1	<ul style="list-style-type: none"> recognising the importance of being enterprising in society describes the organisation's business model with some guidance works cost-effectively, recognising the importance of their activities as part of the work community
Satisfactory 2	<ul style="list-style-type: none"> n/a
Good 3	<ul style="list-style-type: none"> describes the importance of business in society describes the organisation's business model acts cost-effectively and in a customer-oriented manner in their tasks, recognising the importance of their activities as part of the work community
Good 4	<ul style="list-style-type: none"> n/a
Excellent 5	<ul style="list-style-type: none"> describes the importance of business in their vocational field in society and anticipates future prospects in the field describes the organisation's business model independently takes initiative in their tasks and works in a cost-effective and customer-oriented manner, recognising the impact of their work on the organisation's performance.

Source: Finnish National Agency for Education, 2022b.

Table 4. **Learning outcome 2: learners generate a business idea and assess the possibilities for realising them**

Result	Learner
Satisfactory 1	<ul style="list-style-type: none"> • generate a business idea with some guidance • find services and information sources that support setting up a business • determine the financial resources required for the business idea • describe the networks required to realise the business idea • assess their capabilities to work as entrepreneurs
Satisfactory 2	<ul style="list-style-type: none"> • n/a
Good 3	<ul style="list-style-type: none"> • generate the business idea from a customer-oriented point of view • find key services and information sources that support setting up a business • assess the financial and operational resources required by the business idea • describe the networks required to realise the business idea • assess their capabilities for working as entrepreneurs and identify the risks involved in business
Good 4	<ul style="list-style-type: none"> • n/a
Excellent 5	<ul style="list-style-type: none"> • generate a business idea in a customer-oriented manner and assess its practicality • take advantage of different channels to find services and information sources that support setting up a business • estimate the availability of the financial and operational resources required by the business idea • describe the networks required to realise the business idea and assess cooperation opportunities • assess their capabilities to work as entrepreneurs realistically, with an awareness of the risks involved in business.

Source: Finnish National Agency for Education, 2022b.

According to EDUFI, VET providers may independently design their competence assessment plans based on the national guidelines provided for VET education. The general guidelines in VET evaluation stress that competence assessment provides information about the learner's competence, ensures the achievement of the competence goals of the qualification's foundations, and develops the conditions for self-assessment. The assessment must cover all the expected learning outcomes. The assessors evaluate the learner's competence in a versatile manner by comparing it to that described in the qualifications and apply the evaluation criteria of the qualifications in an appropriate manner.

EDUFI is renewing the assessment criteria for common units in upper secondary VET, so that all citizenship and working life competences (nine competence points) will be assessed with a single framework along with other forms of formative and summative assessments of entrepreneurship education. Individual courses are evaluated by the teacher, usually based on exams, class activity and observations, especially in work-based learning.

Peer evaluation is used to some extent, especially in entrepreneurship courses where a real company is established (e.g. JA year as an entrepreneur), and the evaluation is continuous. In some places, a working life representative also participates in the assessment of these education activities. Learners also self-evaluate their work.

During the discussions around this study it became clear that education institutions generally do not have a clear assessment model or set of criteria related to actual entrepreneurship competences. In entrepreneurship education, the assessment is more focused on the substance of business skills, depending on the content of the degree part. If it is a matter of evaluating a professional subject, the target is more an entrepreneurial way of acting than acting as an entrepreneur. And, if the goal is to develop an entrepreneurial mindset, as is the situation in many cases, assessment always depends on the context and persons involved; the results also depend on the experience of the teacher.

An online self-measurement tool for entrepreneurship education for basic, upper secondary, and VET school teachers and principals has been developed by the Lappeenranta-Lahti University of Technology to support educators and education providers in the field. However, the interviewees did not mention this tool in their assessment practices, perhaps since the actual project took place some years ago.

From the interviews it can also be concluded that personal guidance as part of the assessment process, requires ever-strengthening dialogue between the teacher/coach and the learner. This kind of dialogue is perceived positively, directing future initiatives in Finland to develop the assessment of entrepreneurship education in VET: 'I can also make an assessment based on which direction the learners take the assessment discussion and what questions they ask, thus reflecting well their level of learning and the development of their thinking' (Teacher 4, Stadin AO).

5.4. Intended and acquired learning outcomes

Assessment of learning outcomes in VET is usually based on assessment criteria. These criteria for general monitoring of the implementation of VET education are generally given from the highest policy-level, and they are easy to follow in education institutions. The key starting points for teaching entrepreneurship competences in Finland are both national and international strategies, which briefly define how the concept of entrepreneurship competence is interpreted. In the compulsory VET qualifications learning module of entrepreneurship competence, goals and evaluation criteria are also included. These documents and strategies officially guide what kind of learning outcomes are expected from entrepreneurship

education, though this is implemented in different ways in different education institutions and other VET providers. Therefore, the expected learning outcome may vary substantially from those obtained.

These differences became visible in this study, especially during the observations and research interviews. Education and training in the selected VET education is based on the degree criteria and is therefore similar in content, but the chosen pedagogical approach may result in different learning outcomes. This has both advantages and disadvantages. When the education institutions themselves can define what to aim for and how to get there, there might be a stronger institutional commitment to stimulating entrepreneurship education. Also, according to the interviews, the more learner- and practice-oriented the teaching is, the more learners are motivated and able to describe what they have learned. Another finding from the interviews involving a representative group of VET leaders and educators, is that learner-centred and practice-oriented teaching were considered to have a positive effect on the intended outcomes, also regarding entrepreneurship education.

The so-called triad model (learner, teacher, representative of working life) is based on skills demonstrations' assessment, in which all parties agree whether the evaluation criteria have been fulfilled. The field research interviews did not reveal how VET teachers maintain or develop their assessment skills, and whether the assessment approach is the same for all learners from different disciplines regarding entrepreneurship competence.

The learners indicated that their self-confidence had increased during their studies. They stressed that they had learned a lot about receiving feedback and giving constructive feedback, which builds up interaction and communication competences. During discussions in the study, the learners managed to connect these things they had learned within entrepreneurship education studies, even though they might not have thought of it this way before. As a result of the entrepreneurship studies, some of the learners already considered it self-evident that they will, at least at some point, become entrepreneurs. Some however, had found entrepreneurship so demanding that they did not believe they would work as entrepreneurs after graduation.

CHAPTER 6.

Conclusions

The Finnish VET reform of 2018 reflects a holistic approach to lifelong learning. Initial, further and specialist VET are organised according to common principles under the same law (Finnish Government, 2017), employing the competence-based approach to target the young, adults, workers in need of upskilling or reskilling, and jobseekers. The aim of the most comprehensive reform in nearly two decades was to make VET more efficient and better aligned with the needs of the labour market. Individualisation of studies plays an important role. Therefore, initial, further and specialist VET qualifications do not differ, so that neither separate categories nor analyses could be formed from them.

This study's primary findings concern how entrepreneurship competence and education are integrated into VET. The results from the research interviews indicate that entrepreneurship competence is mainly perceived as an entrepreneurial mindset, which is needed for both finding a job and for business-creation. The core of the competence seems to be strong self-knowledge and promotion of self-confidence. Entrepreneurship competence builds on these individual capacities, upon which substance competence on entrepreneurship can rely. This view was shared by both teaching staff and learners/graduates.

Entrepreneurship education has drawn a lot of attention in Finland in recent decades, but the importance of entrepreneurship competence has become even more evident now that many of the Finnish VET providers have acknowledged that relevant training should be further developed. All the VET providers that took part in the field research highlighted the role of entrepreneurship competence in their institutions, but further development is yet needed to embed it as one of the cross-cutting key competences across all disciplines.

VET provider autonomy is crucial when it comes to taking regional differences into consideration in promoting entrepreneurship competence. Therefore, responding to regional skills needs requires agile solutions from education institutions. Current entrepreneurship guidelines and strategies generally do not oblige VET providers (or other actors) to organise entrepreneurship education. Therefore, strengthening national level support and funding for entrepreneurship education is crucial for joining forces and avoiding duplication of activities by different actors, requiring time-consuming effort.

There are several challenges for developing entrepreneurship competence in VET as well as many opportunities to nurture the competence.

- (a) Awareness and knowledge of policies promoting entrepreneurship competence, such as national and regional strategies, often remains limited

- within VET. Communication between government and regions (including interregional communication) may help promote awareness of the steering documents and so also empower the development of entrepreneurial learning ecosystems in the regions.
- (b) VET provision requires more support to nurture entrepreneurship competence as a cross-cutting theme. It is still too easy to stick to the idea that entrepreneurship is only included in those parts in which it is a traditional and clear option for employment after graduation.
 - (c) Developing an entrepreneurial learning ecosystem takes time and building education content and systems requires adequate management by VET providers and stakeholders. Sharing the best practices adds value for building entrepreneurial learning ecosystems that are adequately acknowledged at national and regional level and supported through guidance and resources.
 - (d) Criteria for assessing entrepreneurship competence in VET are not explicit, with the exception of cases such as the compulsory study unit Entrepreneurship and entrepreneurial activities. The promotion of assessment practices and a more explicit discussion about the goals of entrepreneurship education and the desired outcomes may empower the development of the competence. This becomes even more evident as VET is shifting towards a more individualised and learner-centred approach to teaching and learning, where learners can decide the competences they need to acquire and how to acquire them. This flexibility is both a challenge and an opportunity for designing, implementing and assessing entrepreneurship education as opposed to a simplified one-size-fits-all approach.
 - (e) Finland has well-developed entrepreneurial learning ecosystems as the starting point for future VET development.
 - (f) In VET, there is generally a shared understanding of entrepreneurship education, between education leaders, educators, stakeholders and learners, which also involves the development of an entrepreneurial mindset.
 - (g) VET teachers and trainers generally have work experience in other sectors and apply entrepreneurial pedagogy (team and project-based learning) and environments, supported by digital technology in teaching entrepreneurship competence. A focus on teacher competence development has been important for the success of Finnish entrepreneurship education.
 - (h) The widely used learner-centred and practice-oriented approaches in VET, including practising real entrepreneurship, has positive effects on the learning outcomes of entrepreneurship competence.
 - (i) Focusing on entrepreneurial working culture development and its explicit internal and external communication strengthens the continuing development of entrepreneurship education.

Acronyms

EDUFI	Finnish National Agency for Education
ESF	European Social Fund
FINEEC	Finnish Education Evaluation Centre
GEM	Global Entrepreneurship Monitor
ICEE	ICEE Innovation Cluster for Entrepreneurship Education project
JA	Junior Achievement
MEAE	Ministry of Economic Affairs and Employment
MEC	Ministry of Education and Culture
FNBE	Finnish National Board of Education
VET	vocational education and training
YES	national network for entrepreneurship education
YKTS	Entrepreneurship Education Research Society

References

[URLS accessed 12.4.2023]

- Bacigalupo, M. et al. (2016). *EntreComp: the entrepreneurship competence framework*. Luxembourg: Publications Office.
- Bosma, N. et al. (2021). *GEM: global report 2020-21: final*.
- Brush, C.G. (2014). *Exploring the concept of an entrepreneurship education ecosystem*. In: *Innovative pathways for university entrepreneurship in the 21st century*, Vol. 24. Emerald Publishing, pp. 25-29.
- Cedefop (2019a). *Finland: government emphasises VET in 2019-23 programme*. Cedefop national news on VET.
- Cedefop (2019b). *Spotlight on VET: Finland*. Luxembourg: Publications Office.
- Cedefop (2019c). *Vocational education and training in Europe: Finland*.
- Cedefop (2019d). *Vocational education and training in Finland: short description*. Luxembourg: Publications Office.
- Cedefop and Finnish National Agency for Education (2022). *Vocational education and training in Europe: Finland: system description*. From: Cedefop and ReferNet. *Vocational education and training in Europe database*.
- Confederation of Finnish Industries (2023). *The Confederation of Finnish Industries*.
- European Commission (2020). *Education and training monitor: Finland*.
- European Commission. DG Education Youth Sport and Culture (2019). *Key competences for lifelong learning*. Luxembourg: Publications Office.
- Finnish Education Evaluation Centre (2018). *Yrittämään oppii yrittämällä: Yrittäjyys ammatillisessa koulutuksessa ja korkeakouluissa -arviointi*. [Entrepreneurship is learned by trying: entrepreneurship in VET and higher education: assessment].
- Finnish Government (2015). *Finland: a land of solutions: strategic programme of Prime Minister Juha Sipilä's government*.
- Finnish Government (2017). *Act on vocational education and training (531/2017)*.
- Finnish Government (2019). *Programme of Prime Minister Sanna Marin's Government: inclusive and competent Finland: a socially, economically and ecologically sustainable society*.
- Finnish Institute for Enterprise Management (2022). *The Finnish Institute for Enterprise Management*.
- Finnish National Agency for Education (2021). *Further vocational qualification in entrepreneurship*.
- Finnish National Agency for Education (2022a). *Quality strategy for vocational education and training (VET)*.


- Finnish National Agency for Education (2022b). *Vocational training e-requirements*.
- Finnish National Agency for Education (2022c). *Yhteiskunta- ja työelämäosaaminen*. [Social and working life skills].
- Flyvbjerg, B. (2006). *Five misunderstandings about case-study research*. *Qualitative Inquiry*, Vol. 12, No 2, pp. 219-245.
- Geertz, C. (1973). *The interpretation of cultures: selected essays*. Basic Books.
- Gradia (2022). *Gradia's entrepreneurship learning model the best in Europe*.
- Heckathorn, D.D. (1997). *Respondent-driven sampling: a new approach to the study of hidden populations*. *Social Problems*, Vol. 44, No 2, pp. 174-199.
- Innovation Cluster for Entrepreneurship Education (2017). *ICEE innovation cluster on national strategies: comparative analysis of eight national strategies on entrepreneurship education*.
- Karhunen, O. (1928). *Mikael Soininen osuustoiminnan alkulähteillä* [Mikael Soininen on the origins of cooperative activity]. *Suomen Osuustoimintalehti*, No 7-8.
- Koukku, A.; Lappi, O. and Paronen, P. (2020). *Vocational education and training for the future of work: Finland*. Cedefop. ReferNet thematic perspectives series.
- Ministry of Education and Culture (2009). *Guidelines for entrepreneurship education*.
- Ministry of Education and Culture (2017a). *Entrepreneurship education*.
- Ministry of Education and Culture (2017b). *Entrepreneurship for education: guidelines*.
- Ministry of Education and Culture (2018). *Digitalisaatio Ammatillisessa Koulutuksessa*. [Digitization in vocational education].
- Ministry of Education and Culture (2019a). *Finnish VET in a nutshell: education in Finland*.
- Ministry of Education and Culture (2019b). *Vision for higher education and research in 2030*.
- Ministry of Education and Culture (2021). *The Finnish education system*.
- Möttönen, T. (2019). *Yrittäjyyskasvatuksen historialliset juuret* [Historical roots of entrepreneurship education]. In: Römer-Paakkanen, T.; Suonpää, M. and Hermiö, A. (eds). *Yrittäjyyskasvatuksen kaari: lapsuudesta tulevaisuuden työhön*. Haaga-Helia ammattikorkeakoulu, pp. 41-56.
- Naderifar, M.; Goli, H. and Ghaljaie, F. (2017). *Snowball sampling: a purposeful method of sampling in qualitative research*. *Strides in Development of Medical Education*, Vol. 14, No 3.
- Osuuskunta Verso (2022). *Osuuskunta Verso* [Cooperative Verso].
- Pellervo (2022). *Esittelyssä Kantar Agrin uusi Osuustoimintatutkimus* [Introducing Kantar Agri's new Cooperative Operations Survey].

- Raudasoja, A. and Rinne, S. (2018). [Ammatillisen koulutuksen oppimisympäristöt](#) [Learning environments of vocational education]. In: Kukkonen, H. and Raudasoja, A. (eds). *Osaaminen esiin: Ammatillisen koulutuksen reformi ja osaamisperusteisuus*. [Bringing out competence: vocational education reform and competence-basedness]. Tampere: Tampereen ammattikorkeakoulu. pp. 56-63.
- Salo, A. (1926). *Alakansakoulun opetusoppi* [Elementary school curriculum]. Helsinki: Otava.
- Salo, A. (1934). *Alakansakoulun opetusoppi II. 2.p. Kotiseutuopetus* [Elementary school curriculum II, 2nd part, home teaching]. Helsinki: Otava.
- Sasson, I. et al. (2022). [Designing new learning environments: an innovative pedagogical perspective](#). *The Curriculum Journal*, Vol. 33, No 1, pp. 61-81.
- Statistics Finland (2021). [Students in education leading to a qualification or degree numbered 1.4 million in 2021](#).
- Statistics Finland (2022). [Education](#).
- Suomen Yrittäjät (2023). [Promoting Enterprise](#).
- Suominen, A. V. (2020). [Talonpoikaista kansaa rakentamassa: vuoden 1925 maalaiskansakoulun opetussuunnitelman ideologia](#). [Building a peasant nation: the ideology of the 1925 peasant folk school curriculum]. Helsingin yliopisto.
- Trade Union of Education (2022). [Trade Union of Education in Finland \(OAJ\)](#).

Annex

Participating VET providers

Name	Region	Type of VET (fieldwork focus)
Jyväskylä Education Consortium Gradia	Central Finland	Upper secondary VET, all fields of study
Finnish Institute for Enterprise Management	National	Upper secondary school for adults
Vamia	Ostrobothnia	Upper secondary VET; Energy services, Technology services, Welfare services, Business services, Tourism services (hotel, restaurant/catering, tourism, cleaning services) and General education Services
Turku Vocational Institute	South-West Finland	Upper secondary VET; Technology, communication and transport, Social services, health and sports, Business and administration, Tourism, catering and domestic services
Stadin AO, Helsinki Vocational College and Adult Institute	Helsinki-Uusimaa region	Upper secondary VET, all fields of study
Savo Municipal Federation of Education Samiedu Vocational College	Eastern Savo	Upper secondary VET, all fields of study



Entrepreneurship competence in vocational education and training

Case study: Finland

This report describes how entrepreneurship competence is embedded in vocational education and training (VET) in Finland. It complements existing knowledge with examples of methods, tools and approaches that can help policy-makers, VET providers and other stakeholders build better entrepreneurial learning ecosystems.

The report is based on the research of the Cedefop study *Entrepreneurship competence in VET*. It is part of a series of eight national case studies (Spain, France, Croatia, Italy, Latvia, Austria, Sweden and Finland) and a final report.

5596 EN -TI-BC-23-008-EN-N - doi:10.2801/445669



Europe 123, Thessaloniki (Pylea), GREECE
Postal: Cedefop service post, 570 01 Thermi, GREECE
Tel. +30 2310490111, Fax +30 2310490020
Email: info@cedefop.europa.eu
www.cedefop.europa.eu

