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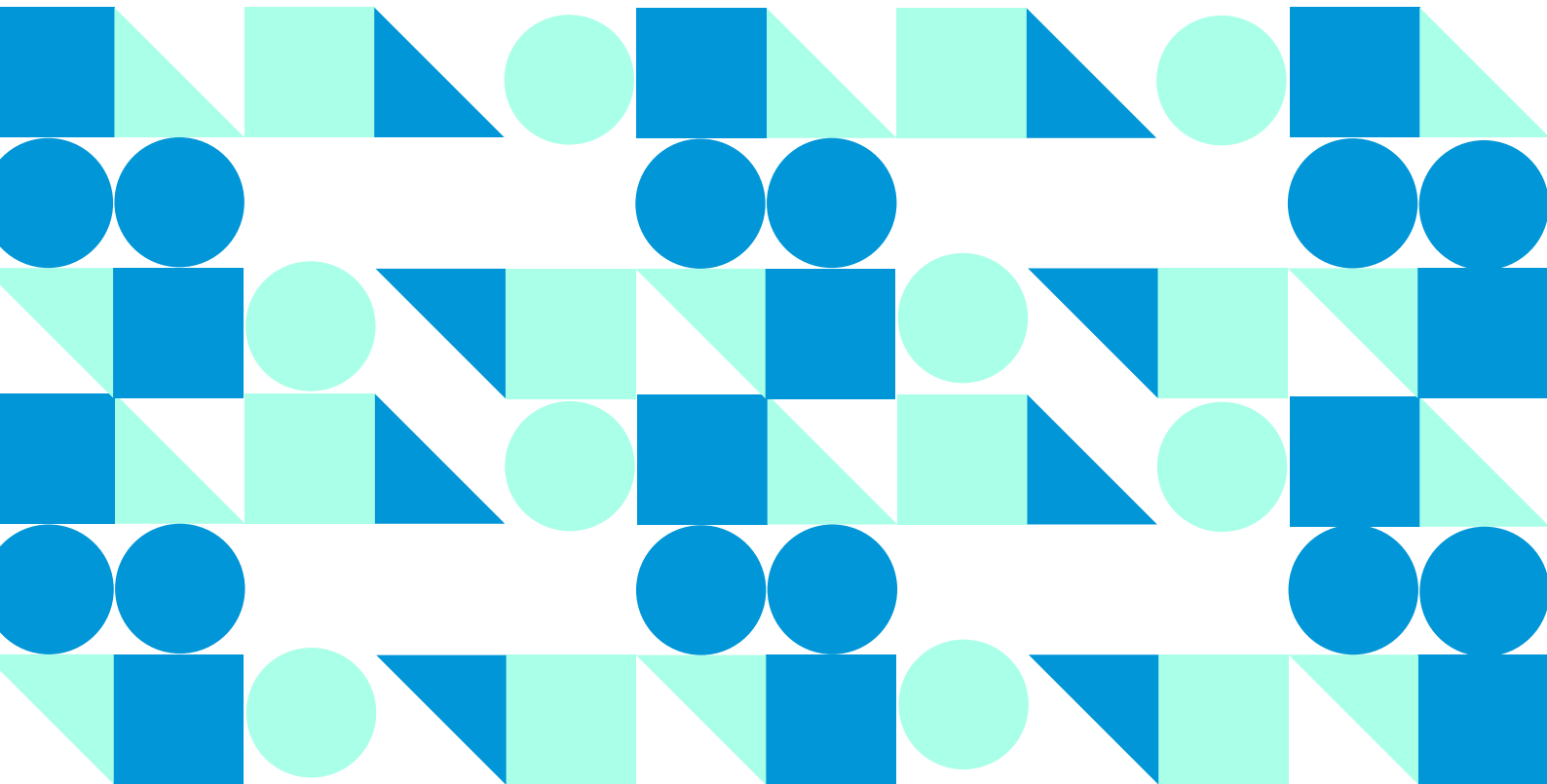
Research paper

Entrepreneurship competence in vocational education and training

Case study: France



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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 This decision was repealed in 2019 by Regulation (EU) 2019/128 establishing Cedefop as a Union Agency with a renewed mandate.

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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 on 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 launched 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 France, underpinning the dimensions of learning ecosystems that nurture entrepreneurship competence in VET.

Despite the growing importance acknowledged by policy makers in France, entrepreneurship competence has not been formally defined as a distinct learning objective in VET. It is, nevertheless, fostered through project-based learning, internships, and apprenticeships, and assessed through real work-related situations. This case study also supports the notion that mastering occupation-specific skills is intertwined with the development of entrepreneurship competence, which is consistent with trends seen in other European countries.

We hope that this country case study and the others from the series – Spain, Croatia, Italy, Latvia, Austria, Finland 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

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This case study provides evidence on how entrepreneurship competence and entrepreneurship education are integrated in French vocational education and training (VET) and to what extent entrepreneurial learning ecosystems facilitate acquiring entrepreneurship competence in VET in France. It also explores policies, methods, tools and approaches that support embedding entrepreneurship competence in VET. The study is organised in three parts: the concept of entrepreneurship competence, the entrepreneurial learning ecosystem, and the support mechanisms, methods and tools that enable the development of entrepreneurship competence in VET.

Entrepreneurship competence

While representatives from the Ministry of National Education and Youth (Ministère de l'éducation Nationale et de la Jeunesse) recognise the growing importance of entrepreneurship competence, it has not yet been formalised as a distinct learning objective with a clear definition in education and training. However, the entrepreneurship competence of VET learners is often assessed, mainly through project-based learning activities and real work-related situations.

In VET, job-specific competences typically take precedence over entrepreneurship competence. Many companies primarily seek well-trained young individuals who can perform tasks, and entrepreneurship competence is not an explicit priority. However, it is developed as a transversal competence through project-based learning, internships and apprenticeship. Such competence can be approached at three complementary levels characterised by the relationship to the world of work and employability, to the company, and to oneself in interaction with one's environment. Developing entrepreneurship competence is predominantly addressed through small-scale projects, whether simulated or real, within VET programmes. Learners are asked to find ideas and identify opportunities to turn them into projects, with varying degrees of autonomy depending on the VET provider. The projects are carried out in the framework of a multi-actor company (simulated or real), comprising teams of learners, professionals outside the school (companies, associations), and teachers supporting the team.

VET learners and graduates interviewed identified eight themes that define what they have learned about entrepreneurship competence:

(a) strengthening professional skills and self-confidence;

(b) understanding how companies and entrepreneurs operate through specialised courses;
(c) taking responsibility;
(d) team learning, including debating, developing critical thinking skills, sharing problems, knowing how to collaborate, expressing oneself, listening, and respecting others;
(e) multidisciplinary training programmes;
(f) evaluation in action;
(g) developing networks within the learning ecosystem and the entrepreneurial network ([1]);
(h) professional integration (employability).

Former VET learners indicated that they learned how to establish a business primarily after graduation, outside of VET programmes.

Entrepreneurship competence is formally assessed only in continuing VET (CVET). In initial VET (IVET), there is no curriculum in which this competence appears as an explicit learning objective, though some learning outcomes linked to it are explicitly assessed, including financial management, project management, team management and communication. These learning outcomes are more prevalent in EQF level 4 training than at EQF level 3, which focuses on learning to perform professional tasks. The more the learners master job-specific skills, the more they can develop entrepreneurship competence.

Entrepreneurial learning outcomes ([2]) in VET remain largely implicit and integrated into technical or multidisciplinary teaching. Entrepreneurship competence is derived from learner work experience at school or during work placements and apprenticeships. The acquisition of cross-curricular entrepreneurship competence is assessed in the context of project development and work-related situations. In CVET, entrepreneurial learning outcomes are listed in the national register of professional competences (France compétences, 2022a); they mostly consist of job-related competences such as creation, takeover, and management of a business. These competences are acquired

([1]) For example, learners learn how to identify and contact key people to develop their project or business (e.g. suppliers). Increasing interactions with external people allows them to better understand the importance of a learning ecosystem.

([2]) Entrepreneurship learning occurs when the learner develops skills related to creativity, project development, managing relationships with economic stakeholders (suppliers, customers, etc.), and demonstrates initiative, autonomy, teamwork and flexibility.

through role-playing, which promotes the development of an entrepreneurial mindset ([3]).

Entrepreneurial learning ecosystem

The Ministry of National Education and Youth does not use the term entrepreneurial learning ecosystem. This term is also not usually used by social partners and VET providers. Nevertheless, the ministry encourages the development of school-business relations that support the development of entrepreneurial learning ecosystems. The entrepreneurial learning ecosystem is part of a broader economic learning ecosystem aimed at fostering school-business relations, for which the ministry proposes a list of the main networks (Ministère de l'éducation Nationale et de la Jeunesse, 2022b). In practice, the governance of these ecosystems is ensured by local companies, professional unions and associations in conjunction with VET management and teachers. The Ministry of National Education and Youth facilitates the development of VET school-enterprise relations through school-business officers, engineers and company advisors. Company advisors for schools are experts proposed by professional organisations. One of their tasks is to bridge the gap between the education world and the economic environment, and to promote entrepreneurship. Political involvement in the creation of learning ecosystems is stronger at regional and local levels. With the support from the education ministry, the regional education authorities (*académies*) encourage the development of entrepreneurship competence. Ties to a local economy serve as the anchor point that determines the formation of a learning ecosystem. Each territory has a distinct local entrepreneurial ecosystem. Partnerships are adapted to the economic and social context of the region, and to the level of commitment of entrepreneurs, regional stakeholders, school leaders, and VET teachers.

Learning ecosystems mostly rest on initiatives by individuals committed to common values around VET and employment. According to several VET school leaders and teachers, a VET entrepreneurial learning ecosystem is initiated by teachers and companies ([4]) or starts from an opportunity shared with an

([3]) The 'entrepreneurial mindset' is defined by the European Commission as the 'individual's motivation and capacity, independently or within an organisation, to identify an opportunity and to pursue it to produce new value or economic success' (European Commision, 2003). VET providers interviewed mainly defined the entrepreneurial mindset as the ability of learners to show initiative in a project, demonstrate teamwork, creativity, empathy, mobilise resources, react to adversity and seize opportunities.

([4]) For example, when the trainer has worked in or with the company during his or her professional years prior to becoming a teacher.

entrepreneur during a personal, informal meeting or during an event organised in the area ([5]). Relations between the VET provider and the company involve differentiated modes of learning, which go beyond the framework of the national training programme. The education ministry promotes the implementation of actions to discover the professional world but without defining their content, the nature of the relationships, the pedagogies used, or the learning mode.

According to learners interviewed, interactions with actors during a programme give more meaning and legitimacy to the teaching content. It also motivates them more to carry out research to investigate a topic further and more generally to take the initiative. The nature of VET programmes affects the ecosystem. For example, entrepreneurs are part of the jury during the final examinations of candidates for the pastry chef qualification ([6]), to assess, among others the learners' ability to be creative, manage a budget, lead a team, and develop an intrapreneurial activity. The main task of entrepreneurs and professionals is to assess the progress of learners in mastering their business skills and related entrepreneurial activities. They also often participate in diploma-awarding juries. The benefits of training activities carried out with members of the ecosystem are also measured against the learner's ability to network with the entrepreneurial ecosystem (company managers, professionals, financiers, graduates).

Support mechanisms, methods and tools to nurture entrepreneurship competence in VET

Entrepreneurship education ([7]) supports and complements the acquisition of entrepreneurship competence by VET learners, including technical and behavioural skills. Project-based and action-based learning are the methods most frequently mentioned by interviewees. The entrepreneurial mindset and entrepreneurship competence are mainly assessed through project-based learning and work-related situations. These simulations are carried out using virtual third spaces ([8]) where learners, teachers, and entrepreneurs collaborate.

([5]) For example, a teacher knows an entrepreneur who would be interested in making a presentation to learners.

([6]) *Brevet technique de maîtrise* (Technical master certificate, EQF level 4).

([7]) Entrepreneurial education is defined as the implementation of teaching activities aimed at acquiring knowledge to discover what entrepreneurship is, to learn how to start or take over a business or to develop entrepreneurial behaviour through the entrepreneurial project (Blenker et al., 2011).

([8]) A ‘virtual third space’ is defined here as a classroom transformed into a lively meeting place, as opposed to a traditional transmissive course. For example, the education grocery shop at the Saux-Marais vocational school is hosted in the classroom.

The development of an entrepreneurial mindset, allocation of time and financial resources, strengthening pedagogies ([9]) and training teachers and trainers are the main challenges for VET providers promoting entrepreneurship competence. According to the field research interviews, entrepreneurship education is a means to improve employability and an opportunity to develop transversal skills in addition to job-specific skills.

The COVID-19 pandemic has forced learning and teaching to move online, requiring digital skills from learners and teachers. In some sectors, digitalisation is becoming a core skill (for example, the use of collaborative platforms) that facilitates the development of entrepreneurship competence.

Some teachers consider that the use of digital technologies challenges the quality of teaching and reduces learner motivation. Others reported that digital technology opens new ways of learning, for example to enable research, to manage digital data, to learn about data protection and ethics rules (including copyright), and to develop critical thinking when using social networks and the internet. By complementing vocational skills, digital skills enhance learner know-how and attitudes, particularly in terms of autonomy, initiative, and teamwork. These skills, in turn, promote the acquisition of entrepreneurship competence and learners' employability.

([9]) Based on project-based, multidisciplinary and collaborative approaches to teaching and learning.

CHAPTER 1.

Introduction

This report aims to provide new evidence for policy makers, social partners, vocational education and training (VET) providers, and researchers on how entrepreneurship competence is embedded in VET in France. 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 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).

1.1. Research questions

The study aims to answer the following main research questions:

(a) to what extent, and how, do the dimensions of entrepreneurial learning ecosystems support acquiring entrepreneurship competence in VET?

(b) which policies, methods, tools, and approaches best support embedding entrepreneurship competence in VET?

For this study, entrepreneurship competence is defined 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 a competence for business creation only.

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

1.2. Methodological note

The country case study report describes existing practices and policy within the entrepreneurial learning ecosystem, including VET in France. It investigates entrepreneurship competence from policy concept to its practical implications. The findings are rooted in both policy analysis and empirical evidence obtained from VET providers. The report contributes to comparative analysis by answering the research questions through:

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

The interviewees ([10]) included privileged observers (experts and researchers), the education ministry representatives responsible for VET policy at national level, entrepreneurs, and VET learners, graduates, school managers and teachers/trainers.

Table 1. **Research in numbers**

Research activity	Total
Interviews with teachers	21
Interviews with policymakers, VET experts and social partners	4
Interviews with VET school managers	7
Interviews with school staff	1
Interviews with pedagogical coordinator/education manager	3
Interviews with company (HR) managers	5
Interviews with VET graduates	7
Focus groups with learners	5
Class observations	5
Policy documents analysed	69
School documents analysed	21

NB: Supplemented by 104 photographs taken during the field research
Source: Authors.

The desk research in France was conducted between February and June 2022, and the field research between April and November 2022.

Annex 1 lists the VET providers involved in the study. The main selection criterion for VET providers was the pedagogical projects implemented in selected training programmes in relation to the learning ecosystem and the diversity of professional sectors they represent.

([10]) Individual or in focus group.

CHAPTER 2.

Overview of the French VET system

This chapter briefly presents the main features of the French VET system, providing contextual information for the study findings. More information about the VET system in France is available at Cedefop's VET in Europe database (Cedefop, 2022b).

VET in France is driven by the national education policy ([11]) and its decentralised services (the administration of the national education in each region and department (*département*), including 18 academic regions, 30 regional education authorities (*academies*), and 97 *services départementaux de l'Éducation nationale* (local education authorities) in cooperation with the business community and social partners. In each region, a rector of the academy implements the national education policy. He is assisted by the academic inspector who represents the rector in the departmental territory (Ministère de l'éducation Nationale et de la Jeunesse, 2023).

VET providers offer general, technological and continuing education and training, including internships and apprenticeship ([12]) as part of the lifelong learning system:

(a) pre-primary education (ISCED level 0);
(b) primary education for children aged 6-11 (ISCED level 1);
(c) lower secondary education for learners aged 12-15 (ISCED level 2);
(d) upper secondary education for learners aged 16-18 (ISCED level 3);
(e) post-secondary non-tertiary (ISCED level 4) and higher education ([13]) (ISCED levels 5 to 8) (Cedefop, 2022b).

VET programmes (ISCED 354, 353) lead to the certificate of vocational aptitude (CAP, EQF level 3) in 2 years or the vocational Baccalaureate in 3 years (EQF level 4). These VET qualifications include mandatory work placement and offer direct access to employment (Cedefop, 2022a, 2022b). They also offer the possibility to continue in VET after the Baccalaureate via, for example, a BTS

([11]) VET is under the responsibility of three ministries: education, higher education (IVET) and labour (CVET).

([12]) Internships and apprenticeships are two ways for learners to gain work experience in a company. An internship usually lasts 1 to 4 months. An apprenticeship is a specific contract between the learner, the company and the VET school, often lasting 12 to 24 months.

([13]) There are also higher VET programmes in France.

certificate *Brevet de technician supérieur* (higher technician certificate, EQF level 5) or a *licence professionnelle* (professional bachelor, EQF level 6).

Entrepreneurship competence is nationally recognised within the context of business creation and takeover training skills delivered by CVET (France compétences, 2022a).

CHAPTER 3.

Entrepreneurship competence

3.1. Understanding the competence

Entrepreneurship competence is not limited to starting, taking over or running a business; it is broadly defined as a key competence for personal and professional development (European Commission, 2006).

Entrepreneurship education nurtures interactions between schools and external stakeholders (Belitski et al., 2017; Brush, 2014; Toutain; Mueller and Bornard, 2019), particularly involving those from the local community (Sommarström; Oikkonen and Pihkala, 2020). The presence of an entrepreneurial learning ecosystem stimulates the acquisition of entrepreneurship competence. From a wider perspective, the development of entrepreneurship competence is facilitated when learners, teachers and external stakeholders collaborate (Rizza and Varum, 2011); this competence directly or indirectly improves employability.

Entrepreneurship competence is not a formal objective in the national curricula before upper-secondary education (Starck, 2017). Although this competence is not explicitly included in the competence repositories (*référentiel de competence*) of VET programmes, it is indirectly present in some programmes (Ministère du travail de l'emploi et de l'insertion, 2022b). In this context, we make three general observations:

(a) the concept of entrepreneurship competence is not well-defined;
(b) the dissemination of an entrepreneurial culture seems to be prioritised;
(c) entrepreneurship competence and entrepreneurial mindset are closely linked to vocational competences: the more professional competences that learners master, the more they will be able to take the initiative, to act autonomously, to lead teams and, more generally, to undertake entrepreneurial or intrapreneurial activities.

Most VET programmes in the national education system do not prepare future generations for entrepreneurship. For instance, an inspector general of education notes that no BTS qualification includes entrepreneurship competence in its competence repository (*référentiel de compétence*) (EQF level 5).

Researchers and experts interviewed observe that, despite the existence of frameworks such as the Entrepreneurship Competence Framework, also known as EntreComp (Bacigalupo et al., 2016), entrepreneurship competence has been inadequately researched, modelled, and explained in high-ranking scientific

journals. Consequently, entrepreneurship competence (and associated knowledge) lacks a common reference point amid the extreme heterogeneity of entrepreneurial perceptions and contexts. This diversity necessitates questioning the conventional categories of competences, moving beyond generic approaches related to know-how and skills. For example, what knowledge should be identified concerning risk-taking, and which competences should be targeted for the implementation of this knowledge? Which ones are essential?

At VET provider level, the definition of entrepreneurship competence encompasses a wide range of meanings. However, none of the interviewees referred to the EntreComp framework, nor does this reference framework appear in policy documents related to vocational training in France ([14]). The diverse definitions provided by the interviewees can be categorised according to three levels of objectives.

(a) Macro level: the global relationship to the world of work and employability. Entrepreneurship competence offers the possibility of disseminating a different culture of learning, work, and employability. These competences are closely associated with a project-based approach.

(b) Meso level: the concrete relationship to the company, more focused on the functioning of the company and less on the acquisition of an individual entrepreneurial culture. Entrepreneurship competence is defined as promoting a functional approach to business. The aim is to train young people to adapt to all types of companies (small or large with diverse internal organisations), respond swiftly to their needs, and facilitate rapid professional integration.

(c) Micro level: the relationship to oneself in interaction with one's surroundings. Entrepreneurship competence is linked to the development of the individual, i.e. soft skills (punctuality, adherence to the established work framework, proactivity, maintaining a positive attitude), knowing how to work with others, communication, engagement, autonomy, initiative-taking (seizing opportunities), teamwork, respect for others, responsibility, curiosity, critical thinking, argumentation, questioning, active listening, reflection on complex situations, imagination and creativity, providing direction and vision, decision-making in a professional environment, learning to learn, and mastering one's life.

([14]) Entrepreneurship competence appears mainly through the disciplinary courses (management, communication, marketing and sales), multidisciplinary courses (such as the *chef d'œuvre* in CAP, EQF level 3) or professional trade courses (such as the *BTM Pâtissier* diploma, EQF level 4).

According to the field research, before acquiring entrepreneurship competence, VET learners need to master technical skills:

(a) related to the management (administrative, financial, human resources, commercial) of an enterprise;

(b) that are job-specific.

The level of command of technical skills of learners determines their ability to develop entrepreneurship competence. The better learners master technical, job-specific skills, the more they will be able to organise their own learning (self-directed learning ([15]) and build an entrepreneurial mindset. In this study, several teachers, learners and graduates from different VET providers declared that the ability of learners to manage their learning path leads to the development of entrepreneurship competence. This entrepreneurial mindset can be translated into 'knowing where I am going' ([16]).

The entrepreneurial mindset presupposes a good level of technical, job-related skills, on which learners build their professional legitimacy and develop entrepreneurial behavioural competences. For example, one entrepreneur and several trainers emphasised that advanced mastery of pastry techniques paves the way to the development of initiative, confidence, autonomy, and risk-taking, which in turn fosters the growth of entrepreneurship competence. A representative of the education ministry highlighted that entrepreneurial culture (and associated skills such as transversal skills) is part of vocational training in economics and management: 'we need technical skills associated with more general skills. Entrepreneurship is one of them.' He adds: 'We develop tools [in the economics-management disciplines] for learners in BTS ([17]) which are entrepreneurial tools (e.g. management charts). Among bakers, there is a technical entrepreneurial culture (to become team leaders, for example). They have the skills to become entrepreneurs.'

The mastery of technical, job-specific skills and the acquisition of an entrepreneurial mindset are reinforced by the commitment and passion of learners for their job. Commitment and passion are at the heart of the motivation and deployment of entrepreneurship competence (understood as the application of knowledge in each situation). This vision of entrepreneurship competence is

([15]) Self-directed learning is a process whereby an individual freely chooses his or her goals and self-regulates his or her learning strategies. Scientific studies have shown that entrepreneurs have a strong disposition to self-direct their learning (Guglielmino and Klatt, 1994; Verzat et al., 2016).

([16]) ‘I have gained enough experience to know where I want to go’ (graduate, apprenticeship training centre).

([17]) *Brevet de Technicien Supérieur* (Higher Technician’s Certificate), EQF level 5.

mainly shared by apprenticeship and CVET providers interviewed. IVET providers associate entrepreneurship competence more with the pedagogy than in CVET, and with classwork carried out by learners from the start of their studies, both in CAP (EQF level 3) and in Baccalaureate (EQF level 4).

Box 1. **Entrepreneurship competence 'close to high-level sport' ([18]) (CFA Bordeaux).**

The BTM Patisserie (VET for apprentices, level 4) is a qualification at Baccalaureate level (EQF level 4). To obtain it, learners must design and produce a set of pastries based on a theme assigned by the teachers (for example, the theme of Venice). They have 3 weeks to design their project. The exam, based on a real-life situation, lasts 2 days. Observed by entrepreneurs and recognised professionals, learners must prepare the pastries in a bakery laboratory with the help of an apprentice. Some of the pastries are tasted and evaluated. Another part is displayed in the form of a buffet, the quality and originality of the presentation of which are also assessed.

Learners are assessed on their mastery of business, transversal, and managerial competences. They must demonstrate that they have mastered the manufacturing and management processes of a laboratory: they must bring evidence of their professional expertise and entrepreneurship competence to act autonomously, manage a team, and run a pastry laboratory. The acquisition of their competences (especially transversal/ entrepreneurship competence) is validated by entrepreneurs, master trainers and experts from the world of pastry. One of the trainers (a world pastry champion) who trains learners for this exam emphasises that entrepreneurship competence is like high-level sport (training, ability to resist psychologically, 'the more you touch the ball, the more you get there'). It requires autonomy, adaptation, and self-confidence.

Source: Authors based on interviews.

3.2. Opportunity, value and venture creation

Opportunity, value and venture creation are addressed differently according to VET provider and programme. There is no general pedagogical scheme structuring these approaches to entrepreneurship competence in VET at national level.

Business creation is rarely addressed before the Baccalaureate level. According to some trainers, setting up or taking over a business is linked to the learner's experience and level of qualification (i.e. mastery of professional skills).

([18]) This comparison is from an interviewee, world pastry champion.

A graduate of a five-year VET programme who is planning to start her own business emphasised that 'it's an additional step to say I'm going to start my own business'. In other words, although she had a desire to start her own business, training for entrepreneurship was not addressed in the VET programme.

Undertaking a business venture mainly appears in some courses at Baccalaureate or post-Baccalaureate level. According to trainers, setting up a business is not a final objective, but rather a different way of working from being an employee, such as in a butcher's shop, a restaurant, or a bakery-pastry shop. Teaching business creation, therefore, makes sense to learners when they first have a sufficient level of mastery of technical skills. According to VET graduates, learning how to set up a business is mainly done outside the VET provider after graduation. Two former apprentices in the food sector emphasised the difficulties they had with this completely autonomous, out-of-school learning. Except for CVET, the VET providers interviewed had no relationship with external entrepreneurship support organisations, such as incubators.

Entrepreneurial activities are primarily embedded in VET in technical and general topics through small-scale projects, whether fictional or real, developed at the premises of the VET provider. Teachers suggest ideas and spot opportunities through discussions to help learners initiate projects, with varying degrees of autonomy depending on the VET provider and its context. These activities focus on management and collective steering of a company. They form a collective learning experience with a three-fold objective.

First, they allow the development of behaviours and attitudes related to professionalisation and employability. For example, learners in the same class will have to organise themselves (distribution of tasks, respect for deadlines, etc.) to run their grocery shop and sell their products.

Second, entrepreneurial activities offer learners the opportunity to develop relationships with entrepreneurs and business leaders in the local environment near the training location. These companies are often SMEs.

Since entrepreneurial activity requires working with others in a collaborative or cooperative manner (inside and outside the classroom), it promotes social values (respect for others, dialogue, listening, adaptation of learners to different worlds and expectations, empathy), which, for most of the teachers and entrepreneurs interviewed, are decisive in the development of life skills.

Third, entrepreneurial activity can promote the green transition. This is the case, for example, with IVET CAP ([19]) learners (EQF level 3) who work with an entrepreneur in the design and sale of baskets made from old trout fishing nets.

([19]) *Certificat d'aptitude professionnelle,* CAP (Certificate of professional competence).

3.3. Explicit and implicit learning outcomes

3.3.1. Explicit learning outcomes

Entrepreneurship competence is subject to formal, continuous, and final assessment only in CVET (EQF level 6). It is delivered by CCI France (the national VET provider) and listed in the National Register of Professional Skills (RNCP) as competence No. 34353 (France compétences, 2022a, 2022b). The skills repository primarily includes entrepreneurial skills ([20]) related to the creation or takeover of a business ([21]). It is labelled by *France Compétences* for 3 years (France Compétence, 2019).

Entrepreneurship competence does not appear as an explicit learning objective in IVET curricula, whether focusing on business creation or a broader definition. Exceptions include curricula related to trade and sales.

([20]) These entrepreneurial skills are taught in three phases:
phase 1: basic knowledge;
phase 2: strategy, management, HR, finance, trade;
phase 3: business strategy.

([21]) Business takeovers are currently a major economic issue (each year the number of craft, commercial and industrial businesses to be taken over increases). The training of learners is not the same as that for setting up or managing a business, because taking over a business means working from an existing business.

Box 2. **Masterpiece programme, a catalyst for developing entrepreneurship competence**

The Masterpiece (*chef-d'œuvre*) programme (Cerpeg, 2022b) is part of the national curriculum in VET at EQF levels 3 and 4 (Ministère de l'éducation Nationale et de la Jeunesse, 2022d). It allows learners to express their talents in relation to their future profession, and to show and value their competences.

The outcome of the masterpiece programme can be a text, newspaper, website, movie, cultural or sports event, exhibition, trade fair and a virtual company.

It is a compulsory part of the VET curriculum, including apprenticeship and is based on multidisciplinary activity that mobilises transversal competences (Galli and Paddeu, 2021):

- knowing how to present a project and the project approach;
- being able to produce a critical approach to the project and the project process;
- presenting the added value of the project;
- knowing how to adapt to your interlocutors and to the situation.

The Masterpiece programme lasts for 2 years; learners are assessed continuously and at the end of the second year, via oral examination. A skills booklet accompanies the learners during these 2 years and includes technical ([22]) and behavioural skills ([23]).

A team of teachers of one IVET provider has created a skills booklet called *The Green Goblin* dedicated to activity reports, multidisciplinary and individual work for the continuous assessment of learners in their masterpiece project approach. Given the nature of the activity, which aims to develop autonomy, initiative, and project management, learners are assessed extensively during the activity.

Some of the learners interviewed emphasised that 'you don't even realise when you are being assessed because that is what you usually do'. Several teachers interviewed stated that the assessment of skills is at the heart of the Masterpiece programme. One of them emphasised that 'life skills are clearly entrepreneurship.'

Source: Authors based on interviews.

The entrepreneurial mindset of the Masterpiece programme is also evident in the messages from the academic inspectorate. For example, one teacher points out that 'Entrepreneurship competence is not explicit'. Some of the academic inspectors interviewed also claim that 'entrepreneurship competence is implicit in the masterpiece'.

To obtain certain qualifications, such as the BTM Patisserie (EQF level 4), entrepreneurship competence is assessed through skills related to teamwork and management. The relevant skill blocks include, for example, leading and organising a team, managing production, producing products, and

([22]) For example, in education for the grocery business, taking orders, receiving goods, managing stocks, stocking shelves, welcoming customers.

([23]) Autonomy, initiative, taking responsibility.

innovating/creating. The learners interviewed emphasise that learning objectives explicitly including entrepreneurship competence are more present in the BTM training (EQF level 4) than in the CAP (EQF level 3), which is more focused on learning how to perform professional tasks. According to them, the more learners master their job skills, the more they will be able to develop entrepreneurship competence. In BTM training, learners master basic job skills. In addition to technical skills, the courses and practical exercises (for example, in pastry manufacturing laboratories) aim to develop skills in business management ([24]), communication, marketing, and management (particularly team management).

3.3.2. Implicit learning outcomes

Despite the examples described above, learning outcomes of entrepreneurship competence in VET largely remain implicit and integrated into technical or multidisciplinary teaching. They are not labelled as such, other than exceptions such as in higher education courses.

An interviewee working in the education ministry and dealing with economics-management discipline refers to the notion of 'entrepreneurial culture' in VET: ‘In vocational training, we already have this dimension of management [...] we develop tools that are entrepreneurial tools’. He adds: ‘the company needs a good professional right away but one who can evolve with it. We need technical skills to be combined with more general skills; entrepreneurship is one of them’. A director of an IVET school emphasised that entrepreneurship competence is ‘intrinsic to the vocational skills that are the priority in the education ministry reference frameworks’. The pedagogical coordinator of an apprentice training provider added that ‘entrepreneurship competence is naturally implicit [...] and emerges from practical situations. It is the link between practical and theoretical teaching. Entrepreneurship competence emanates from business skills’.

A trainer who works with BTS learners (EQF level 5) in IVET in the building and public works sector pointed out that learners work on the development of a project for 2 years. In this project ([25]), they develop the technical ([26]) and managerial skills to be able to lead projects and teams in the future. Entrepreneurship competence emerges through the mastery of human resources, financial management, project management, communication/external relations, and team management skills: learners are prepared to start an

([24]) Including the business plan.

([25]) Which is part of the programme and a condition for obtaining VET qualifications in the building and public works sector.

([26]) This is a BTS (*Brevet de technicien supérieur*) in building insulation.

intrapreneurial career ([27]). A school inspector added that entrepreneurship competence is scattered but not exhibited.

Entrepreneurship competence, whether assessed or not, is generally derived from learners' work experience at school or during their work placements and apprenticeships. The acquisition of cross-curricular entrepreneurship competence is assessed by the results obtained. One trainer stated that 'the more learners master what they do, the more they gain confidence and autonomy, can choose processes, etc.'

According to the research, IVET teachers generally consider entrepreneurship competence a priority for the sustainable professional integration of their learners through active participation, taking initiative, managing (micro) projects, developing their autonomy and public speech.

Some teachers even include behavioural competence (which they call entrepreneurship competence) in their assessment system (in addition to assessments required in the curriculum) in the form of continuous assessment: 'When I have a requirement, I will try to link it to entrepreneurship competence'. This is the case, for example, of a teacher who works with learners in running a grocery store ([28]) in the class. He explains that he has added entrepreneurship competence in the form of continuous assessment, in addition to the assessments required in the programme, to value the learners' self-organisation in their learning.

While entrepreneurship competence is not explicitly part of the assessment, company tutors can value it by assessing, for example, the behaviour of learners in IVET and with apprenticeship training providers using criteria such as taking initiative, autonomy, proactivity, teamwork, adapting to situations, and respecting schedules and colleagues. Evaluating these implicit objectives for learning entrepreneurial skills based on know-how remains problematic. A CVET trainer (EQF level 6) emphasised that the development of entrepreneurship competence (not determined in the skills reference framework) is measured by the 'ability to do it again tomorrow and to implement it where you want, when you want'. Other trainers observe the evolution of the learner's ability to listen to the environment,

([27]) 'Intrapreneurship is the process by which an individual (or group of individuals), in association with an existing organisation, creates a new organisation or generates renewal or innovation within that organisation' (Sharma and Chrisman, 1999).

([28]) The head of school and teachers of the Sauxmarais school have created a real grocery store to enable CAP (EQF level 3) learners to develop entrepreneurship competence through action. The grocery store is organised physically in the classroom. Learners are developing professional skills and cross-cutting competences through real life situations (serving customers, organising the process) that require creativity, autonomy, responsibility and teamwork.

to behave in a company and in a team, to communicate orally, and gradually gain self-confidence. To measure this evolution, some teachers ask learners to present to the other participants, at each session of the course, their business project, its evolution, as well as the people they have met in the professional environment (company managers, suppliers, customers, etc.). This way, the teacher assesses, in addition to the programme's evaluation system, the learner's proficiency level, the acquisition of entrepreneurship competence (both technical and behavioural), and the development of the professional network.

3.4. Entrepreneurship as a key competence

In VET, entrepreneurship does not appear as a key competence as it does in higher education; there, for example, the EntreComp model is used by the Ministry of Higher Education, Research and Innovation (*Ministère de l'Enseignement supérieur, de la Recherche et de l'Innovation, MESRI*). There is no European or national framework that makes entrepreneurship explicit as a key competence in VET in France.

Entrepreneurship is verbally recognised by representatives of the education ministry as increasingly important (Ministère de l'éducation Nationale de la Jeunesse et des Sports, 2022b, 2022c; Ministère du travail de l'emploi et de l'insertion, 2022a, 2022b). But, as one national education inspector noted, ‘there are no official documents asking for the development of an entrepreneurial mindset of young people. The texts are evolving in content but not in terminology.’ More often implicit than explicit, entrepreneurship is considered a transversal competence.

To illustrate this point, the recent creation of the Masterpiece programme in 2019 is based on the learner's commitment to a project approach, promotes the development of skills that are complementary to vocational skills, and targets entrepreneurship as a key competence without this being official (Ministère de l'éducation Nationale de la Jeunesse et des Sports, 2022c; Ministère de l'éducation Nationale et de la Jeunesse, 2022a). Other trainers and business leaders interviewed emphasised that entrepreneurship is a key competence that is observed in situations via internships and apprenticeships.

However, a change is under way, particularly in apprenticeships. A pedagogical coordinator mentioned the recent launch of a review of the curricula, which will lead to a change that could allow for better recognition of entrepreneurship competence.

Several teachers and ministry representatives also noted that the presentation of entrepreneurship competence as a key competence poses a

cultural problem within the education world: many teachers, as well as school leaders, do not want to introduce entrepreneurship competence officially into the national curriculum because of its ideological economic connotations. Apart from CVET trainers, the teachers and headmasters interviewed made little or no use of the term entrepreneurship competence while advocating their development in VET. Several of them pointed to debates, and sometimes internal conflicts, between teachers in the same school about the introduction of entrepreneurship in training. Teachers who are against (they are numerous according to the interviewees) support the idea of a secular school, independent of any political and economic ideology, focused on training of the individual and not on promoting capitalism and liberalism; according to them, this induces perceptions of economic predation and social inequality.

However, the interviewees pointed out that the French education world is changing. New teachers are increasingly in favour of developing entrepreneurship competence in VET.

CHAPTER 4.

Entrepreneurial learning ecosystem

This section presents the ways in which learning ecosystems emerge and operate to affect the development of entrepreneurship competence in VET in France. It is organised around three interrelated levels as defined in the Brush model (Brush, 2014):

(a) political level;
(b) VET providers, including companies;
(c) learning environment.

4.1. Policy level

National policy supports youth entrepreneurship through the One young person, one solution (1 jeune, 1 solution) programme, which is part of the national recovery plan, and increases funding for companies to develop apprenticeships (Cedefop, 2022b; Ministère de l'éducation Nationale de la Jeunesse et des Sports, 2022a; Ministère de l'emploi du travail et de l'insertion, 2021; Ministère de l'enseignement supérieur de la recherche et de l'innovation, 2022; Ministère du travail de l'emploi et de l'insertion, 2022b). This support is external to VET and aims to facilitate networking for young people who wish to enter an entrepreneurial environment.

Box 3. **One young person, one solution programme, the national support for youth entrepreneurship**

The One young person, one solution (*1 jeune, 1 solution*) programme was launched in 2020 by the French government. The aim of this plan is to offer a solution to each young person seeking professional activity.

With more than EUR 9 billion invested, this programme mobilises a range of measures (recruitment assistance, training, support, financial aid for young people in difficulty) to address all situations. The goal is to leave no-one behind. For entrepreneurship, this programme proposes connecting young people who have a project with professional organisations that provide support for business creation, as well as tools such as business plans and online market studies via the national platform (Gouvernement, 2022).

Contacts of the main support networks are offered to young people, regardless of their region of residence. The network is made up of national and local private organisations that provide business support services for young people who are planning to start their own business. The aim is to enable them to connect with the local business community and develop their project without being left alone.

Source: Authors based on interviews.

While there is no national VET education policy that officially calls for the development of learning ecosystems to foster entrepreneurship competence, the education ministry encourages the development of school-enterprise cooperation (Ministère de l'éducation Nationale et de la Jeunesse, 2022b) in primary, secondary education, and IVET. The Directorate General for School Education offers the services of school-business officers (company advisors), and engineers and business advisors for the school ([29]). The company advisors for schools are experts proposed by professional organisations. One of their tasks is to bring the education world closer to the economic environment with a view to promoting entrepreneurship (Direction Générale de l'enseignement scolaire, 2022).

The involvement of policymakers in the creation of learning ecosystems is more apparent in the regions and their departments. Supported by the education

([29]) Engineers for schools are engineers and managers seconded from their companies and placed at the service of academies to develop school-business relations. Company advisors for schools are professionals (employers, employees or craftsmen) proposed as experts by their professional organisation and appointed by the education authority. Their role is to advise education teams, inspectorates and the rectors' delegates. They help bring the education system closer to the economic environment: information on jobs, development of vocational diplomas, development of work-linked training, participation in examination boards, promotion of entrepreneurship, and improvement of professional integration. They intervene on their own and/or by mobilising the professionals in their network.

ministry, the academies ([30]) promote the development of entrepreneurship competence: 'The inspectors encourage us to develop entrepreneurship skills: that's what they tell us!' (IVET trainer). In addition, the regions mainly finance the infrastructure (buildings) and pedagogical equipment ([31]) of the VET providers. They also have a decision-making role (together with the professional unions and the rectorate) in the opening or closing of a VET programme in the area ([32]).

In apprenticeships, chambers and professional organisations play a significant role in the development of learning ecosystems. Their involvement in the development of entrepreneurship competence is closely linked to the needs of companies in the sector. Beyond validating the mastery of job skills, professionals are often highly motivated to get involved in training that promotes the development of entrepreneurship competence, such as training young people to lead teams and start intrapreneurial activities, or take over a company ([33]).

Box 4. **Looking for entrepreneurial pastry chefs**

The pastry sector is constantly changing. According to a trade union leader interviewed, young people are afraid to take over a business with a strong identity. These businesses, which often represent a lifetime of hard work, therefore disappear, leaving few financial resources for the managers.

Promoting the takeover of these businesses and the associated entrepreneurship competence is essential. Innovation is permanent in this sector. It is necessary to adapt to cultural changes: there are fewer rituals such as religious festivals and more daily consumption, tastes are changing (pastries are less sweet than 40 years ago) as well as techniques (for example, refrigerated display cases with hydrometric settings, LED lighting, etc.).

These developments open new perspectives in the development of pastry (different textures, different tastes). Entrepreneurship competence is central to training learners in the vocational training course in innovation and adaptation to technical and market developments.

Source: Authors based on interviews.

([30]) Regional academies implement national education policy, assisted by academic inspectors.

([31]) The department and the city also participate, directly or indirectly, in the financing of professional training.

([32]) The region decides on the training map in each vocational school, depending on the needs of local companies.

([33]) In some sectors (especially industry and crafts), taking over a business is a major challenge for the years to come. According to the head of a professional organisation, training young people to take over a business is urgently needed.

4.2. VET providers

The local context plays a crucial role in entrepreneurial learning. This section demonstrates how the relationships between VET providers, local authorities and companies influence the development of entrepreneurship competence.

4.2.1. Vision, culture & values

The locality serves as an anchor point that determines the formation of a learning ecosystem and, as a result, the development of an entrepreneurial learning ecosystem in France. Several teachers, trainers, pedagogical coordinators, and school leaders emphasised the importance of connecting with the business world.

Many relationships with VET stakeholders are mentioned by interviewees, such as small local companies ([34]), associations ([35]), professional unions, and local authorities. The coordinator of the education grocery shop in the class stated that the grocery shop's partners are suppliers of local products. A school manager said that small and medium-size enterprises (SMEs) are her clients ([36]). A master trainer in pastry-making recalls the key role played by entrepreneurs in the assessment and validation of learning outcomes.

These relationships, some of which are long-term, manifest themselves in different forms:

(a) training: companies are approached by school heads, company relations managers ([37]) or education coordinators and teachers to participate in the training programme through classroom interventions (testimonials, jury members), company interactions ([38]), economic partnerships in a project (e.g. suppliers in the education grocery shop), or during a meeting/event organised by VET providers (e.g. sponsorship days) aimed at the professional integration of learners (internship, apprenticeship, or recruitment);

(b) events: teachers and their learners attend external events organised in the area by a third party (trade fairs) or by the companies themselves;

(c) internships and apprenticeships promote interaction between learners, teachers, and company employees. The quality of the collaboration is based on the regularity of teacher visits to the company and the duration of the

([34]) These small enterprises may be franchises (e.g. in the retail sector) or subsidiaries of large companies (e.g. in the automotive sector).

([35]) For example, an association that raises awareness of recycling.

([36]) They buy products made by learners.

([37]) Where this function exists in the training centre.

([38]) A training manager indicated that some modules take place in the company (for example in a Fab Lab to work on innovation).

relationship with the company manager. One master trainer emphasised that, when the relationship is strong, 'the learner perceives the proximity of the support. It is a motivating factor for him'.

According to some school leaders and teachers, the VET entrepreneurial learning ecosystem is formed from relationships initiated by teachers. These relationships often stem from a professional relationship between the teacher and the company ([39]) or start from an opportunity shared with the entrepreneur, which may appear during a personal and informal meeting or at an event organised in the area. It is often voluntary and built on the project that the teacher carries out with their learners. This project plays a unifying role, representing a shared space that allows teachers, companies, and learners to engage in a common, collaborative action. This shared space sometimes offers media visibility, which opens the ecosystem to new potential partnerships. Undertaking a joint activity also enables companies, teachers, and learners to get to know each other better, which can, for example, lead to an internship or apprenticeship.

More generally, the mobilisation of companies ranges from a minimalist approach (hosting trainees) to involvement in training, including apprenticeship, events and internships. The research shows that entrepreneurship competence is generally not an explicit priority for many companies, which primarily seek trained young people who can perform tasks. However, in IVET, a manager in a construction company expressed his desire to recruit entrepreneurial young people capable of managing projects and teams, not just those who carry out tasks. This company, which specialises in the external insulation of buildings, is experiencing strong growth due to changes in thermal regulations for buildings in France (a national programme to save energy and combat climate change).

The shared entrepreneurial culture and values are thus reinforced between VET teachers and companies by adopting and adjusting to each other's cultural environments (e.g. during monitoring visits to companies which provide training) and by existing historical ties between VET providers with entrepreneurs. One teacher stressed the importance of mobilising VET graduates who have established or taken over a company to 'give learners the desire to be enterprising'. A pedagogical coordinator adds that 'the more intense the relations with the outside world, the more the entrepreneurial mindset develops'.

4.2.2. VET programmes

Beyond work placements and apprenticeships, the qualitative development of relationships between VET providers and companies involves learning modes,

([39]) For example, when the trainer has worked in or with the company during his or her professional years prior to becoming a teacher.

which extend beyond the framework of the programme. For example, one trainer emphasised that, in the context of the education grocery shop, the involvement of a company as a supplier led the learners to initiate a real business relationship: 'The biscuit factory sends its product reference sheet. Learners select the range of products they wish to sell. The supplier brings the products to the grocery shop. The learners can check the delivery and the company works out with them where to place the products in the shop. This way the collaboration goes beyond the sales stage'.

Some VET programmes further differentiate their relationship with the local ecosystem. In one private IVET provider, the school also functions as a subcontracting company that meets a specific need of local SMEs. A school manager explains that 'orders are at the heart of the apprenticeship scheme. The companies are mainly local companies. There are about 15 regular customers. The client companies are invited to visit the school so that the people [from the company] become aware that it [the school] functions as a subcontracting company ([40])'. The training programme presented by the Production school is recognised by the labour and education ministries, enabling the validation of CAP and professional Baccalaureate (EQF levels 3 and 4) diplomas ([41]). At the territorial level, the school is developing a very close partnership with the professional union ([42]), the region and the companies in the area. Its other partners include the department, the rectorate, the local apprentice training provider, and local associations.

4.2.3. Support for careers and start-ups

In addition to a lack of the concept of entrepreneurial competence in national VET programmes (except for CVET), support and guidance for entrepreneurs and business creation are also absent from VET provider offers.

If a VET learner wishes to benefit from assistance in setting up or taking over a business, s/he can contact support organisations themselves (Ministère de l'enseignement supérieur de la recherche et de l'innovation, 2022). The government, as part of its national One young person, one solution programme (Gouvernement, 2022), has set up an information page to facilitate contact with these organisations. However, the graduates interviewed emphasised that they

([40]) In this case, local companies subcontract with the IVET (which is both a school and a company).

([41]) However, it remains on the fringes of the general organisation of the vocational training programme in public bodies.

([42]) The trade union is part of its governance set-up.

had primarily received help in setting up their business through their local personal networks (family, friends, teachers, and other graduates).

4.2.4. Community and stakeholder engagement

Networks play a fundamental role in developing entrepreneurship. VET providers have their own address book of companies, which are often sectoral partners ([43]). For example, a training officer at an IVET institution in the building construction sector mentions 780 potential partner companies; however not all of them play an active role in apprenticeships nor in the development of entrepreneurship competence.

In addition to these existing networks, there are also those that are created and developed within the learning community (the class) according to need and in different ways.

(a) The exchange between teachers and learners around knowledge networks triggers new connections with external stakeholders in the school. A training manager in a CVET provider said that ‘relationships with ecosystem members are developed on the basis of learners' demands and problems’. The initial problem (e.g. finding customers or an internship for a learner) is a trigger for seeking external partnerships and extending the network more generally.

(b) The involvement of graduates contributes to the development of the network in the learning community. Professional relationships and mutual support define the relationships between learners and graduates. This mix of professional and personal relationships strengthens the connections and has a positive effect on the sustainability of the network.

(c) The involvement of teachers in the development of external networks is often voluntary because, although encouraged by the rectorates and the education ministry, participation in the training of ecosystem members is not mandatory. For example, a teacher shares his experience with a group of learners working on an apple juice marketing project: the teacher takes the learners on a Saturday to the company so that they can make the apple juice with their own hands. The learners then make the labels, communicate, organise the sale, and distribute.

(d) The proximity of the network increases its effect on learning success. This proximity is defined by the geographic location and the quality of the relationship between the company and the learner. For example, one VET graduate said that this proximity allows ‘to have healthy relationships, to have partners who speak well of you and push you forward’. This proximity

([43]) For example, in the building construction, food or automotive sectors.

also appears when learners work in collaboration with learners from other programmes or when they mobilise internal services within the school (e.g. the communication department).

(e) Supporting network stability and durability also appears to be a key element. A training manager in business creation/takeover in a CVET provider emphasises 'the importance of seeking stable and trusting relationships in the company'. An alumnus interviewed stated that 'the network becomes a business card'.

4.3. Learning environment

This section details how the learning environment contributes to the development of entrepreneurship competence. The learning environments encompass teaching and learning, curricula, and assessment and recognition.

4.3.1. Teaching and learning

The influence of the ecosystem on entrepreneurial learning can be observed as:

(a) increasing the legitimacy of the content and the interest demonstrated by the learners. For instance, one teacher highlighted that the involvement of a professional from the entrepreneurial ecosystem bolsters expertise (and thus the content of the teaching) and offers an alternative perspective. A graduate interviewed on the topic went further, asserting that the contribution of the network to learning and its role in the training surpasses the importance of the knowledge itself;

(b) increased motivation among learners to conduct research and take the initiative. A teacher at an IVET provider commented, ‘the more the learner engages with companies and entrepreneurs, the more confident they become, and the more they develop the ability to reach out.’ According to several IVET trainers interviewed, these two elements (confidence and outward-looking ability) are regarded as a foundation for cultivating entrepreneurship competence.

4.3.2. Curricula

The influence of the ecosystem on learning varies across programmes. For instance, a master trainer emphasises the significance of having high-level external professionals involved in validating curricula. Their presence among the active jury members enriches the content, the training, and the value of the qualification obtained. However, one teacher also noted that certain programmes are more inclined than others to involve external stakeholders within the school: ‘business training is culturally outward-looking, while administration management

is inward-looking (openness to the outside world is not a given for some teachers)'.

Among the reasons provided for differences between curricula, teachers engaged in business education are more likely to have prior work experience in the field. Some trainers interviewed explained that they could not imagine teaching without establishing connections with stakeholders outside the school. Several added that they utilise their previous professional networks to foster relationships with the ecosystem. Conversely, according to the same interviewees, management-administration training tends to have a more traditional teaching culture, organised by specialised subjects and employing a transmissive pedagogy. The teachers in these programmes are sometimes older and have less prior professional experience. However, this information, sourced from the interviewees, would need to be substantiated by conducting surveys on the profiles of teachers involved in disseminating entrepreneurship competence in VET.

4.3.3. Assessment

Competence repository connects the national policy level with VET schools and companies, implicitly assessing entrepreneurship competence based on the assessment of transversal competences and skills. The evaluation and certification of training activities carried out with members of the ecosystem primarily occurs through:

(a) training that assesses learners' progress in tasks related to entrepreneurial activities or validates the award of a certificate. These tasks predominantly involve the management of business activities (continuous assessment). For the award of a certificate, they may be associated with the assessment of creativity, project management, and team management in a real-life situation, using evaluation tools such as questionnaires completed by jury members. This could be relevant in the example of the BTM in pastry-making;
(b) within the company, via internships and apprenticeships. The assessment of soft skills is more closely related to the assessment of entrepreneurship competence, as defined by most respondents.

According to the trainers and graduates of the CVET provider interviewed, the impact of training activities carried out with members of the ecosystem is also gauged by the learner's ability to develop their network within the entrepreneurial ecosystem (company managers, professionals, financiers, and graduates).

CHAPTER 5.

Nurturing entrepreneurship competence in VET

5.1. Approaches, methods and tools

This section describes the methodological choices and pedagogical approaches that facilitate the development of entrepreneurship competence in VET. This typically employs action- and project-based learning, and is evident in assessments that simulate real-life work experiences.

5.1.1. The pedagogical approach

The research indicates that an entrepreneurial mindset and associated entrepreneurship competence are connected to project-based learning, which enables a blend of theoretical and technical skills. According to several teachers interviewed, project-based learning fosters a learning context conducive to the emergence of entrepreneurship competence (acquisition of technical and behavioural skills) for varied reasons.

(a) It situates learners in a positive learning environment, particularly when they participate in the decision-making process concerning project management.
(b) It cultivates ambition, bolsters motivation and confidence.
(c) It assigns responsibility in terms of work organisation (anticipation, scheduling, task execution, rigour in completion, presenting work to external professionals).
(d) It encourages learner autonomy. Several IVET and apprenticeship trainers emphasise that the greater the mastery of tasks, the more freedom of choice in processes and equipment for carrying out the learning project, and the more room for reflection. The development of entrepreneurship (behavioural) competence is thus influenced by the learners' degree of proficiency in their tasks and activities.

(e) It promotes teamwork ([44]), peer learning ([45]) and the development of networks both within and outside the school.
(f) It enables adaptation to unexpected situations.

Several teachers from different VET providers stressed that this pedagogical approach places the learner at the heart of the training ([46]). The teachers' support for learners is crucial to the success of their learning.

5.1.2. Learning by doing

According to a teacher, 'VET provides tangible opportunities for developing entrepreneurial skills' by challenging stereotypes ([47]). One IVET teacher, who emphasised the importance of work experience, stated: 'the sooner we adopt an action-oriented, creative, and constructive approach, the better. With that, you become prepared for teaching entrepreneurship.' Another IVET teacher adds that the VET provider improves learners' ability to take initiative and maintain autonomy in small groups. This initiative is evident in voicing opinions and independently creating, executing, and completing a project, which are crucial components for professional integration. The activities undertaken by the learner with the company add value to their work, particularly when the company is local. Professionalisation thus reshapes the relationship with work and nurtures the development of an entrepreneurial mindset. An entrepreneurial alumnus from an apprenticeship training centre complements this view by highlighting that in VET, 'you learn to learn.' A manager of an apprenticeship training provider added that apprenticeship encourages the creation and takeover of businesses by providing ample opportunities for development.

([44]) A master trainer in the industrial sector explains that 'the sequencing of operations makes the tasks dependent on each other, and therefore the correct completion of the work for each person. This generates discussions between learners if one of the tasks has not been done correctly'.

([45]) A trainer from CVET emphasised that 'each person works on his or her own company via the lessons, but at the same time we will question the other's company, through the other [...]. We work on our own situation and the others serve as case studies'. One trainer said 'they ask me a question but I don't even have time to answer; they answer each other'.

([46]) An IVET teacher cites, for example, a learner with a passion for music who will be encouraged to develop a project around his passion.

([47]) A CVET teacher pointed out that the image of the company and its manager is often perceived negatively in French schools and does not facilitate the interest of the learners in the business world. Learning by doing thus enables the learners to look at the business world differently and to overcome these stereotypes.

5.1.3. Project-based learning method

Project-based and action-based learning are the methods most frequently cited by interviewees. A teacher at an IVET provider emphasised that 'the desire to undertake ([48]) begins through a project approach.' This method enables the connection between theory and practice and serves multiple, often complementary, objectives ([49]):

(a) anchoring knowledge: situational learning allows the application of skills acquired in courses and work experiences (particularly the training courses);
(b) problem-based learning: learning from problems and mistakes ([50]);
(c) collaborative, peer, and tutorial learning: learners interviewed in a focus group at an IVET provider emphasised that this method enables them to support each other, collaborate on a project, and engage in diverse activities ([51]);
(d) learning situated in a dedicated space within the school ([52]);
(e) contextualised learning, which creates a sense of learning without consciously realising it;
(f) cross-curricular learning: for example, integrating targeted skills in mathematics and sales, and monitoring progress: 'the disciplines are refocused on the job and around the project. This makes sense in the minds of our learners,' says a training manager at a VET provider;
(g) project management: team meetings, reverse planning, task allocation to organise the team, and preparation of weekly reports;
(h) experiential learning: action and situation-based learning, provided feedback is given.

5.1.4. Teaching methods

The teaching methods most associated with project-based learning and simulation in IVET, CVET, and in-company contexts include the following:

([48]) Desire to be enterprising.

([49]) Multidisciplinarity is often seen by interviewees as an essential ingredient in project-based learning. In some programmes, such as the Masterpiece, multidisciplinarity and the project-based approach are explicitly written into the policy documents.

([50]) One teacher points out that some problems experienced in entrepreneurial situations can be transformed into course objectives (e.g. launching a communication campaign after the COVID-19 pandemic).

([51]) For example, the practice of marketing activities with a rotation of roles (cashier, fresh produce, fruit and vegetables, customer advice, receiving produce).

([52]) For example, an education grocery shop, a clothing shop, a machine shop, a body shop, a logistics centre, a baking laboratory.

(a) questioning to encourage the learner to reflect, analyse situations, and make decisions based on their own learning experiences;
(b) information seeking ([53]);
(c) testimonials from entrepreneurs, business leaders, and their participation on juries;
(d) debates;
(e) company case studies;
(f) education games;
(g) practical digital tools (such as cash registers or order management software) and collaborative platforms and social networks for internal and external communication;
(h) tools for connecting teachers and learners, as well as between teachers themselves (such as portfolios);
(i) study trips (company visits, participation in fairs, competitions, etc.);
internships and work experiences ([54]).

5.1.5. Evaluation

According to interviewees ([55]), an entrepreneurial mindset and entrepreneurship competence are assessed through simulation or real-life activities. Learners are generally evaluated using observation processes and assessment grids, which are sometimes linked to the competences covered in the training programme., Teachers occasionally add criteria to the assessment grids. For instance, IVET teachers incorporated entrepreneurship competence to value the outcome of each learner's activities in the education grocery shop beyond the expected competences in sales. Other private IVET trainers emphasised that the expected results in their school (concerning technical and transversal skills) exceed the requirements of the national diploma to increase the employability of the young people trained in the region's industrial companies.

The assessment methods are both individual and collective, and often involve professionals from outside the course. Some teachers also use self-assessment ([56]), which, according to former learners interviewed, is highly appreciated as a means of identifying strengths and weaknesses.

([53]) For example, one teacher points out that learners develop the project by contacting stakeholders (e.g. suppliers). They find their suppliers themselves.

([54]) According to the learners interviewed, ‘the placement gives meaning and allows the acquisition of knowledge to be verified’.

([55]) There is no formal requirement to assess.

([56]) For example, the self-test sheets.

These simulations commonly provide a space where learners, teachers, and entrepreneurs collaborate. For example, for the final exam, a pastry learner submits a thematic project (e.g. the city of Venice) from which they will envision a result incorporating technical skills, process mastery, and technical and behavioural skills related to project management. The learner will create their pastries in a laboratory under the supervision of entrepreneurs, professionals in the trade, and trainers. They will then present their work in the form of a buffet, which will be evaluated. For 2 days, teachers, entrepreneurs, professionals, and learners will participate in different roles in an identical situation.

5.1.6. Teacher profiles

There are two categories of IVET provider teachers: technical and general. Pedagogical projects increasingly encourage greater collaboration between them to develop learners' cross-curricular skills (particularly entrepreneurship competence). According to one teacher, collaboration encourages questioning and reinforces more nuanced, critical, and complex learning about the world of business and entrepreneurship. This is the case, for example, with class-enterprise or the Masterpiece programme, which involve a cross-curricular approach. General teachers initially did not have a strong connection with the business world due to their professional background, which contrasts with technical teachers who have worked in the business world for several years before teaching. These differences still exist, but they are diminishing. More and more, new generalist teachers are coming from the professional world. This change in teacher profile is transforming the relationship between learners and learning: ‘the exchanges with teachers who have already worked in the business world are completely different... Here we are directly asked to be rigorous... that's life’ (entrepreneur graduate). Thus, strengthening relations with the business world, which is present in training, juries, or internships, facilitates the implementation of projects anchored in reality, the development of natural relationships between learners, teachers, and companies ([57]) and more generally, promotes the growth of an entrepreneurial business culture. A director of a VET provider for apprentices mentions the notion of the necessary ‘co-adaptation’ of teachers and professionals in the learner's learning process.

In apprenticeship training and CVET providers, many teachers have prior professional experience ([58]). As a result, they possess a network that they mobilise in their training courses and to help learners connect with the business

([57]) For example, one teacher points out that ‘learners are used to working with professionals through the internship or the life of the grocery shop’.

([58]) Which sometimes continues in parallel with their teaching activity.

world. One of the teachers' missions in CVET providers is to enable learners to develop their own professional networks in the context of their actual business creation or takeover projects. An entrepreneurial graduate states that ‘we learn a lot from professionals who have a past and who teach us from their past. We learn much better that way’.

5.2. Expected and acquired learning outcomes

In most VET providers, except CVET, entrepreneurship competence is primarily considered cross-cutting, mainly involving behavioural skills (Section 3.1). These skills are typically subject to formative evaluation, sometimes supplemented by summative evaluation. For instance, a headmaster of an IVET provider and several teachers from different VET providers describe the Masterpiece as a teaching programme that combines both types of assessment. Over 2 years, CAP (EQF level 3) learners develop cross-cutting skills and are assessed through situational assessment ([59]). One teacher suggests that learners should be assessed at least twice continuously during a school year. However, they are often assessed more than twice on the same task to measure progress ([60]). At the end of the 2 years, each learner presents their project orally; this is subject to a summative evaluation. These two types of assessment are present in the skills reference framework for the Masterpiece training programme (Cerpeg, 2022b; Ministère de l'éducation Nationale et de la Jeunesse, 2022d). In another IVET context, entrepreneurship competence is assessed by observing learners in the machine shop instead of the classroom.

Formative evaluation appears through observation in work situations ([61]), assessment grids filled in by teachers or external members (especially in juries), and exchanges between learners and the trainer (feedback). It also features in follow-up booklets (like portfolios) and teachers’ assessments at the end of the learning cycle ([62]).

Teachers, learners, and graduates define learning outcomes regarding entrepreneurship competence around eight themes.

([59]) For example, teachers observe them in action when they are working in the education grocery shop that receives customers.

([60]) Four criteria are used: very inadequate, inadequate, satisfactory, very satisfactory.

([61]) That is, ‘To assess the ability to take good actions in one's environment’ (trainer from a vocational training centre).

([62]) For example, through a report card in which the results of the formative evaluation appear in a way that is complementary to the results evaluated in the job descriptions, which are more of a summative evaluation.

(a) Strengthening professional skills and self-confidence. One former learner explained that by learning to express himself, establish relationships, and argue through entrepreneurial situations, he was able to develop and appreciate customer relations ([63]). Another learner ([64]) stated, 'We are more comfortable and relaxed with customers because we are accustomed to working in a grocery shop.'
(b) Discovering how companies and entrepreneurs work through specialised courses (e.g. HR, communication, accounting, team management, legal or commercial relations).
(c) Taking responsibility. One group of learners stated that being given the opportunity to set up and manage an activity, including assuming various roles and responsibilities, was highly beneficial to their learning. As one learner put it, 'The education grocery shop is like being our own boss!' ([65]);
(d) Team learning, including learning and debating, developing critical thinking skills, sharing problems, networking, expressing oneself, listening, and respecting others.
(e) Multidisciplinarity in training programmes like the Masterpiece, allowing learners to receive evaluations from several teachers for the same activity.
(f) Evaluation in action, where learners do not even realise they are being assessed because it is part of their usual activities.
(g) Developing networks in the learning ecosystem and entrepreneurial network (company visits, exchanges between learners and with entrepreneurs, juries, etc.).
(h) Professional integration, where learners and graduates emphasise the importance of internships as an essential springboard for practising entrepreneurship competence.

Many learners and graduates stress the importance of internships as a vital component for developing and practising entrepreneurship competence. These internships, which complement the training inputs, serve as a launchpad for learners to experience real-world business environments. One group of IVET learners highlighted that even the process of searching for internships and reaching out to company heads or employees requires an entrepreneurial mindset. In another focus group, a learner explained that beyond the core business activities, internships also provide opportunities to observe and learn

([63]) A skill that he now uses in his professional activities.

([64]) CAP 2 (level 3), initial vocational training.

([65]) CAP learners (level 3) from an initial vocational training centre.

from the staff and company managers, further enriching their understanding of entrepreneurship.

5.3. Main challenges and opportunities

In reviewing the current state of entrepreneurship competence in the French VET system, several challenges and opportunities have been identified. Systemic challenges include:

(a) lack of entrepreneurial culture ([66]);
(b) insufficient resources, such as time and funding;
(c) greater need for metacognitive learning ([67]);
(d) development of multidisciplinary curricula;
(e) improved relations with the entrepreneurial ecosystem surrounding the VET schools in their localities.

Opportunities for improvement have been recognised by multiple stakeholders, who emphasised the potential of project-based learning and retraining of teachers to improve the professional profile of VET graduates in general.

5.3.1. Main challenges

5.3.1.1. *Entrepreneurial culture*

The introduction of entrepreneurship in VET may present a cultural issue linked to insufficient training of teachers. Except for the CVET programmes under review, where the teachers are working professionals who update their skills by attending courses outside of VET, most teachers have not received any training in entrepreneurship. Many rely on their previous professional experience as entrepreneurs or employees, or on the support provided by the business environment to teach entrepreneurship skills. The official IVET teacher training catalogue (Cerpeg, 2022a) does not offer entrepreneurship training, leaving it to the teachers to seek it out.

Currently, some initiatives address this gap. For example, *M@gistère*, a national education online training platform for teachers, has been providing continuing education for primary and secondary school teachers since 2013 and

([66]) For example, lack of teacher training in entrepreneurship and overloaded curricula for both learners and teachers.

([67]) Enabling the learner to acquire methods for learning (learning to learn) and to define his/her own learning strategies.

has been offering training in entrepreneurial skills since 2019 (Ministère de l'éducation Nationale et de la Jeunesse, 2022c). BPI France, a national organisation targeting young people aged 18 and over, entrepreneurship professionals, and mentors, also provides training to raise awareness of entrepreneurship among secondary school learners using creativity techniques (Bpifrance, 2022). The 2022-23 national training plan includes five teacher training courses (total of 249 courses) involving entrepreneurship competence, such as Building cooperation in project management, Asserting leadership in project management, Mobilising and federating your team, Training school-company representatives, and Teacher-company interviews: understanding companies (Ministère de l'éducation nationale and Eduscol, 2021).

However, other challenges still need to be addressed. For instance, there is a significant difference in the level of knowledge and interest among teachers ([68]) regarding entrepreneurship. Some teachers also perceive the world of enterprise negatively, which can discourage students from pursuing entrepreneurship.

5.3.1.2. *Lack of time and financial resources*

The lack of time is a significant hurdle to developing entrepreneurial learning in VET. According to all surveyed VET providers, training managers and teachers involved in project-based learning ([69]) report that they do not have sufficient time to support learners. Many commit their personal time beyond working hours to develop and maintain networks with the entrepreneurial ecosystem, support learners in project development, and create pedagogical tools to reinforce learning through role-playing and assessment systems. One teacher mentioned that ‘I take my time with companies out of my personal time [...] We are asked to do projects, but we don't have any dedicated time.’

The development of entrepreneurship competence, which involves constant interaction with the internal and external VET ecosystems ([70]), depends on the involvement of a teacher or a small team within the training. Learners also face time constraints due to heavy curricula, where learning objectives that do not include entrepreneurial skills are prioritised for graduation.

In addition to regulatory and organisational restrictions, creating more training courses in collaboration with the entrepreneurial ecosystem requires additional spending. A trainer from a CVET provider stated that entrepreneurship courses lack ‘practice and projects with a dedicated budget’. Another observed

([68]) This interviewee includes entrepreneurship competence in the thematic category of professionalisation and the business world.

([69]) Which aim at the acquisition of entrepreneurial skills.

([70]) Which, as a reminder, are on the fringes of the job descriptions.

that current funding relies on quantitative figures and short-term objectives, adding that ‘the more learners we have, the less time we have to train them.’ In such instances, an increase in the number of learners per class reduces the quality of learner support, simulations and engagement, and entrepreneurship cross-curricular competence receives less attention from teachers.

5.3.1.3. *Teaching methods and curricula*

Several teachers suggest the development of metacognitive learning (learning to learn). One recommends learning to establish one's own networks. But these transversal skills can sometimes be perceived as challenging for learners to identify and comprehend. A teacher from an IVET provider notes that these behaviours may remain abstract for learners. A trainer from a CVET provider adds that ‘the relationship and human contact between the manager and employees are not adequately represented in the skills reference framework.’

Several headteachers, training managers, and educators highlight the issue of dense curricula and the job skills targeted in the reference frameworks, which do not realistically permit the development of entrepreneurship training. Curricula primarily focus on job skills identified by the professional world to address the operational needs of businesses. As one teacher points out, ‘the demand from companies and entrepreneurs is not significant in terms of developing entrepreneurship competence.’ This sentiment was also echoed by other respondents, particularly concerning highly operational vocational courses such as the CAP (EQF level 3).

Another teacher also raised the issue of dissonance between the structure of the school environment and entrepreneurship competence (authoritarianism versus freedom).

5.3.1.4. *Multidisciplinarity*

Though promoted by the Ministry of National Education and Youth through training schemes like the Masterpiece programme (Ministère de l'éducation Nationale et de la Jeunesse, 2022d), multidisciplinarity remains challenging to implement, according to several teachers interviewed. The main barriers are the organisational constraints of the school and teaching practices that rely on a siloed structure (by specialisation).

5.3.1.5. *Enterprise relationship*

Several teachers and an academic officer in a VET school mentioned the issue of companies prioritising their workforce needs excessively, to the detriment of training.

This trend is becoming more pronounced in the current context of labour shortages and does not encourage school-business collaboration aimed at developing entrepreneurship competence.

5.3.2. Opportunities

5.3.2.1. *Entrepreneurship to accompany professional integration*

According to a representative from the education ministry, entrepreneurship presents an opportunity to develop transversal skills in addition to job-related ones: 'The company needs competent professionals who are immediately operational, but who can also develop their skills over time. We need technical skills combined with more general ones. Entrepreneurship is one of them.' A headteacher and an educator at an IVET provider suggest greater immersion through work placements to enable learners observe the production, management and administrative post similarities (working hours, machinery, etc.) between the company and the school, as well as 'strengthening the learning of managing daily problems' (former learner entrepreneur at an apprentice training provider).

VET graduates usually tend to establish or take over businesses ([71]). These entrepreneurial graduates often stay connected to their training centres through the relationships they maintain with one or more teachers. Several educators and training managers emphasised the importance of their role in influencing learners to become aware of and learn about entrepreneurship. Strengthening the networks of former learner entrepreneurs who can engage with current learners would contribute to the discovery of the entrepreneurial mindset and the development of their commitment to this path.

5.3.2.2. *Entrepreneurship competence inside and outside the programme*

Project-based teaching, multidisciplinarity, and opening training to the entrepreneurial ecosystem require continuous adaptation from teachers, training managers, and headteachers to tackle the constraints of the curricula (e.g. the maximum number of teaching hours per week or coordination between the time spent on internships or work-study programmes and classroom time). These constraints raise questions about the place of project-based pedagogy and entrepreneurial learning: should they be within or outside the learning

([71]) Apart from CVET (vocational training mainly aimed at employees looking for entrepreneurial opportunities) and, according to the trainers interviewed, outside sectors such as those related to food (butchers, pastry cooks) or hairdressing, there are very few learners who create or take over a business. To our knowledge, there are no national statistics on this subject.

programme? There may be various answers, depending on the context and type of vocational training. Among these, a training manager with an IVET provider and a school manager with an apprentice training provider suggest, for example, the creation of a project incubator within the VET provider: 'a single or multi-partner project, mixing ages and qualifications, dedicated to business creation projects or not, which unites teachers and allows connections to be established with the external entrepreneurial world, such as the CCI.'

5.3.2.3. *Educating teachers about entrepreneurship*

Teachers stressed the need to be trained to be able to teach entrepreneurship competence. Several areas of training needs were mentioned, including digital technologies, project-based teaching (along with related tools), life skills, culture, and entrepreneurial mindset. Two teachers from an IVET provider stressed the need for further professionalisation by increasing the number of external interventions by entrepreneurs.

5.4. Digitalisation and the pandemic

The pandemic has reinforced digitalisation both as a means of learning and as a learning object ([72]). According to one academic leader interviewed, COVID-19 has increased collaborative work and made teachers more familiar with remote working tools. However, the accelerated deployment of digital technologies in VET has led to contrasting reactions from headteachers and educators.

5.4.1. Is project-based education in trouble?

Entrepreneurship competence is primarily developed in project-based pedagogy. However, this approach still relies on putting knowledge into action and fostering human exchanges. According to most of the teachers interviewed, regardless of the VET provider, the isolation caused by the pandemic has had detrimental effects on learning entrepreneurship competence and transversal skills. For example, the manager of an IVET provider explained that 'COVID halted the development of project-based teaching expected in the education grocery shop.' He also added that the COVID-19 crisis has caused significant difficulties in enabling the most vulnerable learners to build social relationships.

([72]) In some professional sectors, digitalisation is becoming a skill associated with business skills. This is based on the use of tools and can facilitate the development of transversal skills, particularly entrepreneurship competence.

To avoid this risk, a CVET trainer mentioned that the learners themselves did not want to follow a distance learning course and organised themselves to set up a secure classroom ([73]).

A highly critical teacher from an apprenticeship training provider states that 'digital technology is not useful for the development of job skills (or entrepreneurship competence associated with transversal skills). Distance learning undermines the quality of training and is a problem for jobs that require action in general.'

Some teachers also argue that the pandemic has disrupted relationships with the external business world, particularly informal interactions and exchanges that contribute to a learner's training and go beyond simple economic transactions (e.g. in a supplier-customer relationship).

Some teachers believe that the use of digital technology affects the quality of teaching, particularly in the development of entrepreneurship competence. For others, the digital technology deployed during the pandemic opened new perspectives. For instance, a person responsible for school-business relations at an IVET provider said that 'digital technologies are essential for facilitating the distribution of teaching material and assignments, recovering them, and working in project mode.' Another teacher at an IVET provider added that 'digital use is crucial, especially for project management (throughout the process).' However, the attention span of learners can be significantly reduced. The challenge is to find the right balance in the use of digital technology.

5.4.2. Emerging new learning methods

The head of an IVET provider highlights that the pandemic crisis has encouraged new ways of learning (which are sometimes linked to the development of entrepreneurship competence). For example, digital tools are now used to 'enable research across all disciplines, to create reports, to manage and organise digital data, to learn about ethics (copyright, etc.), and to develop critical thinking about the ways social networks and the internet are used.' Another trainer added that 'digital tools can be employed to enable learners to conduct research and work on oral presentations or group presentations. In this sense, digital tools facilitate the acquisition of skills such as taking initiative and autonomy through oral presentations, for example' ([74]). A manager of an IVET provider added that 'digital tools can enhance the development of self-confidence, as learners can

([73]) Which considers measures to protect teachers and learners against the COVID-19 virus.

([74]) The trainer interviewed emphasised here that the use of digital tools (without specifying them) has a positive effect on the motivation of some learners who start to do research (images, texts, videos, etc.) to prepare their oral presentation.

master the digital tool more effectively and self-assess their skills and develop them.' A digital tool can support mediation between the learner and the teacher, as well as among learners. It can make learners more active and help them become an agent of their own learning.

However, these new approaches have also accentuated the difficulties some learners face in mastering digital tools for research. One IVET teacher explained that learners are familiar with using social networks but do not know how to use digital tools for learning ([75]). Additionally, inequalities in equipment regarding digital devices or home internet access increase difficulties for some learners. Another IVET teacher emphasised the demotivation and difficulties linked to distance learning: 'the use of smartphones [and other devices] does not encourage intellectual development, nor human exchange.' This loss of motivation leads to a reduction in learner engagement, which is detrimental to learning, especially when projects are used to develop entrepreneurial skills ([76]).

5.4.3. Teacher training: a forced rise in digital skills?

The COVID-19 pandemic has compelled VET providers and teachers to acquire new skills in using digital tools, some of which have been retained. A teacher from an IVET provider reports that a weekly digital communication produced for the vocational school's internal clients continues to be useful. These tools have facilitated stronger interactions between learners, teachers, and members of the immediate ecosystem, particularly in the business field ([77]).

The crisis has also led to pedagogical innovations, such as the Click and collect project developed by CAP learners to maintain the activity of the education grocery shop.

According to a teacher with an IVET provider, COVID-19 has made possible:

(a) changes in the materials used to prepare lessons and deliver them to learners;
(b) adaptation to the pace of each learner to support personalisation and autonomy;
(c) ongoing individual and group communication with learners through social networks.

([75]) He cited the example of the Microsoft PowerPoint tool. Other teachers mentioned learners' difficulties in using emails. More commonly, digital platforms such as ODOO, run by teachers, are used to develop projects in this area.

([76]) A teacher from a training centre for apprentices stated that 'learners who have not taken their exams during the COVID period are ill-prepared for work (motivation to take exams, get a diploma, etc.), generating disengagement'.

([77]) For example, for activities such as order management and customer relations (use of social networks and e-mail).

However, some teachers have abandoned certain digital practices upon the return to a ‘normal’ situation.

Only certain key tools, such as those for conducting distance meetings and exchanges between trainers, tutors, and learners, have remained in use. These tools facilitate the integration of all learners, particularly those who cannot physically attend the training site ([78]).

Digital tools are deployed in various ways to develop entrepreneurship competence. The individual and collective digital practices of teachers vary considerably, depending on their training context and personal digital literacy. To facilitate their use in teaching, the education ministry offers methods and tools (Ministère de l'éducation nationale and Eduscol, 2021). A teacher from an IVET provider explains that the digital platform of the National Resource Centre for VET in Economics and Management (Cerpeg, 2022a) streamlines lesson creation and facilitates the discovery of tools, such as ODOO ([79]) aimed at developing entrepreneurship competence ([80]).

The French government also encourages teachers to develop their digital skills, which are essential for both digital and entrepreneurship competences. Among the proposed actions, the Ministry of National Education and Youth offers numerous digital training courses (Canopé, 2022).

The pace at which VET providers adopt digital tools depends on the resources (financial, material and human) of the provider ([81]); there are regional disparities due mainly to financial support available, with some VET learners receiving digital equipment funded by the region. When combined with teachers' varying levels of digital proficiency and deep social inequalities among learners, the digital divide intensifies (Giraudon et al., 2020). Nevertheless, an academic manager argues that although technology is essential to project development, the problem lies not in the equipment but in the training of teachers to use these tools effectively.

Several teachers and school heads acknowledge the essential role of digital technology in developing cross-cutting skills and vocational training. By complementing vocational skills, digital skills enhance learners' know-how and attitudes, particularly autonomy, initiative, and teamwork, thereby promoting their

([78]) A teacher from a CVET provider cites, for example, the case of a pregnant participant who could no longer attend the course and who, thanks to video-conferencing and collaborative digital tools, was able to complete her entrepreneurship training.

([79]) ODOO is a digital platform designed to facilitate collaborative activities focused on managing and operating a business.

([80]) For example, by working with learners on virtual companies.

([81]) Linked, for example, to their various financial, material and human resources.

professional integration. An IVET teacher notes that employers increasingly expect digital skills from their staff: ‘In the years to come, digital skills will be highly valued.’

Box 5. **Click and collect to maintain real economic activity for the education grocery shop**

The Lycée Sauxmarais established an education grocery shop in 2014, which primarily sells locally sourced food products, books, and crafts. Every Friday, both internal and external customers visit the school to purchase these items. However, during the COVID-19 pandemic lockdown in 2019, the activity of the shop, which is run by CAP learners (EQF level 3), had to be halted.

Teachers and learners interviewed considered this a significant issue, as the absence of customers made the activity less engaging and motivating. To address this challenge, the teachers and learners collaborated on a click-and-collect distance selling project. This project was collectively developed in the classroom using the national Masterpiece programme.

Source: Authors based on interviews.

Box 6. **National Resource Centre for VET in Economics and Management to help develop entrepreneurship competence**

The National Resource Centre for VET Training (CERPEG) provides pedagogical tools and training, among other resources, that can be employed for working on collaborative projects with learners.

One IVET trainer discovered ODOO through CERPEG. ODOO is a digital platform designed to facilitate collaborative activities focused on managing and operating a business. Through this platform, learners were able to improve their entrepreneurship competence by independently creating business scenarios.

Source: Authors based on interviews.

CHAPTER 6.
Conclusion

This exploratory and qualitative study was carried out with six VET providers in three French regions. Each of the providers has its own history and identity linked to their local environment. The analysis that emerged from the interviews, note-taking, and observations produced results intended to provide food for thought. However, they cannot be generalised.

VET is currently undergoing major changes in France. The apprenticeship reform (2019) combined with the pandemic and the national recovery plan (2020), the economic and humanitarian crises are all changing VET. Apprenticeships, which benefit from significant financial support from the State for employing companies, are increasing. Labour shortages in many professional sectors are accentuating school-enterprise partnerships. In this context, many teachers, school heads, and entrepreneurs interviewed emphasise the importance of transversal competences to improve employability. Several did not hesitate to point out that it was easier for them to pursue the acquisition of job-related competences in the company than transversal and behavioural competences. However, according to these respondents, entrepreneurship competence is, or should be, central to the cross-cutting competences and soft skills targeted.

The development of entrepreneurship competence is deeply linked to two key elements:

(a) the commitment of school heads and teachers to a project-based pedagogy that puts learners in a position to act;
(b) the development of sustainable relationships with the local entrepreneurial ecosystem.

Despite the interest of the government and entrepreneurs, headteachers and many teachers interviewed (irrespective of VET provider), entrepreneurship competence does not appear formally in the curriculum. Its deployment in VET relies mainly on the individual and collective commitment of education staff who, in many cases, use their personal time and must deal with resource issues in an often very busy curriculum. Several teachers point out the great difficulties in implementing cross-curricular teaching that involves two teachers from different disciplines in a project. Similarly, the time allocated to developing project-based teaching is often too short to transform a teaching system that is still mainly organised in silos. Apart from internships and apprenticeships, developing

relations with the learning ecosystem remains difficult due to a lack of time and resources.

Despite these difficulties, reinforcing entrepreneurship competence among learners is of interest to both education and professional stakeholders. Several of them believe that learners need first to have a good command of job-specific skills to develop entrepreneurship competence: the more learners master their vocational competences, the more they will be able to develop entrepreneurship competence. Also, the higher the level of qualification, the more entrepreneurial skills are required for intrapreneurial and entrepreneurial activities.

In this context of major economic, social, and environmental change, the need to recruit young people able to take charge of projects within companies is crucial. VET providers are bound by curriculum constraints and by the needs of companies. The remaining challenge is to strike a balance between maintaining quality training and responding swiftly to the recruitment needs of the labour market. The teaching of entrepreneurship competence has a role to play, as it can contribute to strengthening the quality of education by mobilising more project-based pedagogy that links vocational, transversal and entrepreneurship competences. This would also meet expectations related to labour market needs and employability.

Acronyms

BTM	Technical master certificate (*Brevet Technique de Maîtrise*)
BTS	Higher technician certificate (*Brevet de Technicien Supérieur*)
CAP	Certificate of professional competence (Certificat d'Aptitudes Professionnelles)
CCI	Chamber of commerce and industry
CFA	Apprenticeship training provider (*Centre de Formation des Apprentis)*
CVET	continuing vocational education and training
EQF	European qualifications framework
ISCED	International Standard Classification of Education
IVET	initial vocational education and training
VET	vocational education and training

References

[URLS accessed 8.5.2023]

Bacigalupo, M. et al. (2016). *EntreComp: The entrepreneurship competence framework.* Luxembourg: Publication Office. JRC science for policy report.

Belitski, M. et al. (2017). Expanding entrepreneurship education ecosystems. *Journal of Management Development,* Vol. 36, No 2, pp. 163-177 .

Blenker, P. et al. (2011). The questions we care about: paradigms and progression in entrepreneurship education. *Industry and Higher Education,* Vol. 25, No 6, pp. 417-427.

Bpifrance (2022). Offres de formation gratuites.

Brush, C.G. (2014). Exploring the concept of an entrepreneurship education ecosystem. In Brush, C.G.: *Innovative Pathways for University Entrepreneurship in the 21st Century*. Emerald Publishing, pp. 25-29.

Canopé (2022). *Le réseau de formation des enseignants: Réseau Canopé.*

Cedefop (2022a). *Spotlight on VET France.* Luxembourg: Publications Office.

Cedefop (2022b). *Vocational education and training in France: short description.* Luxembourg: Publications Office.

Cerpeg (2022a). Centre national des ressources pour la formation professionnelle en économie et gestion.

Cerpeg (2022b). Chef d'oeuvre.

Direction Générale de l'enseignement scolaire (2022). La direction générale de l'enseignement scolaire [Dgesco]. Paris: Ministère de l'Education Nationale et de la Jeunesse.

European Commission (2003). *Green paper: entrepreneurship in Europe.* COM/2003/0027 final.

European Commission (2006). *Recommendation of the European Parliament and of the Council of 18 December 2006 on key competences for lifelong learning.*

France Compétence (2019). Note relative aux blocs de compétences.

France compétences (2022a). RNCP34353: Chef d'entreprise, développeur de PME.

France compétences (2022b). RS2757: Développer un projet entrepreneurial réussi.

Galli, C. and Paddeu, J. (2021). Quelle certification des compétences transversales en France? Céreq bref, 411.

Giraudon, G. et al. (2020). Éducation et numérique, défis et enjeux. Inria.

Gouvernement (2022). 1 jeune 1 solution: découvrez les solutions qui s'offrent à vous pour créer votre entreprise.

Guglielmino, P.J. and Klatt, L.A. (1994). Self-directed learning readiness as a characteristic of the entrepreneur. In: *New ideas about self-directed learning*, pp. 161-173.

Ministère de l'éducation Nationale de la Jeunesse et des Sports (2022a). *Grenelle de l'éducation: une revalorisation des personnels en 2021.*

Ministère de l'éducation Nationale de la Jeunesse et des Sports (2022b). Le parcours Avenir.

Ministère de l'éducation Nationale de la Jeunesse et des Sports (2022c). Les enseignements pratiques interdisciplinaires (EPI).

Ministère de l'éducation Nationale de la Jeunesse (2021). Le plan national de formation.

Ministère de l'éducation Nationale et de la Jeunesse (2022a). La réalisation du chef-d'œuvre.

Ministère de l'éducation Nationale et de la Jeunesse (2022b). Les acteurs de la relation école-entreprise.

Ministère de l'éducation Nationale et de la Jeunesse (2022c). Qu'es-ce que la compétence à entreprendre?

Ministère de l'éducation Nationale et de la Jeunesse (2022d). Vade-Mecum: la réalisation du chef d'*œuvre.*

Ministère de l'éducation Nationale et de la Jeunesse (2023). Les régions académiques, académies et services départementaux de l'Éducation nationale.

Ministère de l'emploi du travail et de l'insertion (2021). Formation professionnelle: guide pratique de la réforme.

Ministère de l'enseignement supérieur de la recherche et de l'innovation (2022). Construire et développer son projet entrepreneurial. Pépite France.

Ministère du travail de l'emploi et de l'insertion (2022a). Formation, apprentissage, accès à l'entreprenariat pour les jeunes.

Ministère du travail de l'emploi et de l'insertion (2022b). Plan 1 jeune 1 solution: France Relance: plan jeunes.

Rizza, C. and Varum, C.A. (2011). *Directions in entrepreneurship education in Europe*.

Sharma, P. and Chrisman, J.J. (1999). *Toward a reconciliation of the definitional issues in the field of corporate entrepreneurship.* *Entrepreneurship Theory and Practice,* Vol. 23, No 3, pp. 11-28.

Sommarström, K.; Oikkonen, E. and Pihkala, T. (2020). Entrepreneurship education–paradoxes in school–company interaction. *Education and Training,* Vol. 62, No 7/8, pp.-933-945.

Starck, S. (2017). Formation à l'entrepreneuriat dans le secondaire français : quelles réalités politiques, du supranational au local? *Formation emploi. Revue française de sciences sociales*, No 140, pp. 127-145.

Toutain, O.; Mueller, S. and Bornard, F. (2019). Decoding entrepreneurship education ecosystems (EEE): a cross-European study in primary, secondary schools and vocational training. HEC Montréal. *Management International,* Vol. 23, No 5, pp. 47-65.

Verzat, C. et al. (2016). Apprendre par soi-même l'entrepreneuriat via un MOOC. *Revue française de gestion,* Vol. 42, No 257, pp. 33-52.

Annex 1. Participating VET providers

Name	Region	Type of VET (fieldwork focus)	Courses inspected	Entrepreneur-ship programmes
Lycée professionnel Saux-Marais	Normandie	IVET delivering vocational and technical education	Management, administration, finance (EQF level 3 and 4).	The Masterpiece programme in Business administration / company class
Ecole de Production de Besançon	Bourgogne Franche Comté	IVET delivering vocational and technical education	Plant operator for production	The Masterpiece programme in industry/plant operator for production
CFA	Nouvelle Aquitaine	VET providing apprenticeship training (Patisserie/pastry apprentices)	BTM (Technical master certificate) year 2 (final exam, practice, EQF level 4)	Project work – final presentation
Chamber of commerce and industry	Nouvelle Aquitaine	CVET	Leadership school training programme (EQF level 6)	Business Direction
Lycée Saint Bégnine	Bourgogne Franche Comté	IVET	Management and business administration (Baccalaureate, EQF level 4)	The Masterpiece programme in trade and sale
Lycée des Marcs d'Or	Bourgogne Franche Comté	IVET	BTS building envelope design (EQF level 5)	Project work

Annex 2. VET-related expressions in the French education and training system

French expression	Translation				
	Level	VET type	Accreditation	Type of education establishment	Definition
Certificat d'aptitudes professionnelles (CAP)	3	Apprenticeship schemes + IVET (secondary)	National	Private and public VET providers	Apprenticeship schemes (first-level apprenticeships)
Baccalaureate professional (Bac Pro)	4	IVET	National	Private and public VET providers	National secondary VET curricula
Brevet Technique de Maîtrise (BTM)	4	Apprenticeship schemes + IVET (secondary)	National	Private providers (consular chamber of trades)	National secondary VET curricula
Higher technician certificate (BTS)	5	IVET	National	Private and public VET providers	Post-secondary VET curricula
School for Managers (EDM)	6	CVET	National	Private providers (consular chamber of commerce)	Continuing education provider

Entrepreneurship competence in vocational education and training

Case study: France

This report describes how entrepreneurship competence is embedded in vocational education and training (VET) in France. 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 Cedefop's study Entrepreneurship competence in VET. It is part of a series of eight national case studies (Spain, France, Croatia, Italy, Latvia, Austria, Finland and Sweden) and a final report.

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