To assess or not to assess an entrepreneurship competence in vocational education and training? Results from a case study of Italy

Daniele Morselli
Faculty of Education, Libera Università di Bolzano, Bolzano, Italy

Received 17 June 2023
Revised 26 October 2023
Accepted 26 January 2024

Abstract

Purpose – This article focuses on the assessment of entrepreneurship competence by selected vocational teachers in Italy. The exploratory research question addresses the extent to which entrepreneurship assessments are competence based, and the research seeks to identify fully fledged assessment programmes with both a formative and summative component, and the use of assessment rubrics. It also explores the extent to which entrepreneurship competence is referred to in school documentation and later assessed, and the tools and strategies used for such assessment.

Design/methodology/approach – This case study is part of a larger European research project promoted by Cedefop; in Italy it focused on six selected vocational IVET and CVET programmes and apprenticeship schemes. It used a wide range of instruments to ensure triangulation and multiple perspectives: analysed policy documents and undertook online interviews with experts and policy makers. At VET providers' premises it deployed: analysis of school documents; observations of learning environments; interviews and focus groups with (in schools) teachers, directors and vice directors, learners and alumni (in companies) instructors, company tutors and employers, apprentices and alumni.

Findings – Assessment tasks were rarely embedded within fully fledged assessment programmes involving both formative and summative tasks, and assessment rubric for grading. Most of the time, entrepreneurship programmes lacked self-assessment, peer assessment and structured feedback and did not involve learners in the assessment process. Some instructors coached the students, but undertook no clear formative assessment. These findings suggest institutions have a testing culture with regard to assessment, at the level of both policy and practice. In most cases, entrepreneurship competence was not directly assessed, and learning outcomes were only loosely related to entrepreneurship.

Research limitations/implications – One limitation concerned the selection of the VET providers: these were chosen not on a casual basis, but because they ran programmes that were relevant to the development of entrepreneurship competence.

Practical implications – At the policy level, there is a need for new guidelines on competence development and assessment in VET, guidelines that are more aligned with educational research on competence development. To ensure the development of entrepreneurship competence, educators need in-service training and a community of practice.

Originality/value – So far, the literature has concentrated on entrepreneurship education at the tertiary level. Little is known about how VET instructors assess entrepreneurship competence. This study updates the picture of policy and practice in Italy, illustrating how entrepreneurship competence is developed in selected IVET and CVET programmes and apprenticeships.

Keywords Vocational education, Formative assessment, Entrepreneurship competence, Summative assessment, Competence based education

Paper type Case study

The author thanks Sarah Rimmington for proofreading and Andrea Marcelli for data collection. This research was carried out under CEDEFOP service contract NO 2021-0089/AO/DSI/DKULSS/ENTREPRENEURSHIP-COMPETENCE-VET/001/21.

Education + Training
Vol. 66 No. 10, 2024
pp. 29-41
Emerald Publishing Limited
0040-0912
DOI 10.1108/ET-06-2023-0242

1. Introduction

In recent decades, competence-based education has generated interest worldwide for its potential to improve the alignment of vocational programs with the needs of the labour market (Alessandrini, 2017) and, in so doing, make future graduates ready for higher level performance (Mudler, 2019). At the same time, vocational education programs have started to cultivate key competences for lifelong learning (Sturing *et al.*, 2011). Such competences are useful in many contexts and should be mastered by every citizen to enhance employment prospects, personal fulfilment, inclusion and active citizenship (European Commission, 2019). One such key competence is entrepreneurship, which is about turning ideas into action. The challenge of assessing this key competence has been already tackled in this journal, but mostly with regard to tertiary education: Pittaway and Edwards (2012), for example, reviewed assessment practices on entrepreneurship courses at US and UK tertiary institutions.

More recently, Bolzani and Luppi (2021) focused on the assessment of entrepreneurship competence amongst bachelor's and master's level students participating in an extracurricular initiative (a business model challenge); they used pre- and post-test surveys, hence student self-assessment. Similarly, Antonelli *et al.* (2024) evaluated the development of entrepreneurship competence among university students through pre and post surveys, but also through a control group. These last two articles thus only made use of self-assessment strategies, which are an important constituent in the assessment of competence development (Pellerey, 2004; van der Vleuten *et al.*, 2017), but are certainly not the only strategies available. In this journal, only Morselli and Ajello (2016) considered the assessment of entrepreneurship competence in VET learners through a varied program of authentic tasks closely relating to vocation, as well as a self-assessment task. Furthermore, given the paucity of research in this area (Morselli, 2019), and the importance of assessment in education (Biggs *et al.*, 2022) [1] and competence-based education (van der Vleuten *et al.*, 2017), the present article focuses on the assessment of entrepreneurship competence by selected vocational teachers in Italy.

This research is part of a larger project being promoted by Cedefop, the European Centre for the Development of Vocational Training. In Italy, it focused on six selected vocational institutes delivering interesting entrepreneurship education programs in the context of IVET (Initial Vocational Education and Training, at the upper secondary level, called *istituti tecnici e professionali*), CVET (continuous VET at the post-upper secondary level, named *istituti di formazione tecnica superiore*) and apprenticeships. While details of the Italian study (Cedefop, 2022) and in the eight countries covered by the synthesis report (Cedefop, 2023) are available on the Cedefop site, a further research question remains: *To what extent are entrepreneurship assessment practices competence-based?* This paper starts by outlining competence-based education in VET and then moves on to summative and formative assessment before considering how the Italian policy framework promotes the development of entrepreneurship competence. The final sections explain the methodological background, then present six case studies of vocational institutions delivering programs that nurture entrepreneurship competence.

2. Literature review

Across the world, competence-based education has been key to the design of vocational curricula in the context of educational reforms (Sturing *et al.*, 2011); in Italy, for example, this approach underpinned the initial VET reforms of 2010 [2] (*istituti tecnici)* and 2017 [3] (*istituti professionali)*. Alessandrini (2017, p. 2) defines competence as "the human ability to deploy knowledge, skills and attitudes not only to achieve higher levels of performance, but also to embed the values and knowledge that are central to for individual development". The Delphi study by Sturing *et al.* (2011) identified ten criteria for competence-based education in VET,

one of which advocates the assessment of competence before, during and after the learning process. This implies a threefold role: assessment establishes a baseline on which to build, steers learning (formative assessment) and enables a judgment to be made of how well students have learned (summative assessment).

The authors represent the ten criteria for competence-based education through rubrics that include five levels of descriptors, ranging from *not competence based* to *completely competence based* (p. 205). When instructors design teaching modules, it is important that they align teaching and learning activities with intended learning outcomes and assessment practices (Mulder, 2019), so that they can promote deep learning processes and intrinsic motivation in learners (Biggs *et al.*, 2022). Almost two decades ago, a position paper by Birenbaum *et al.* (2006) argued that the then current education systems across Europe were failing both teachers and learners where assessment was concerned. Assessment practices were focused on summative rather than formative assessment, they were limited in scope, and led to teaching for assessment instead of teaching for learning.

Formative assessment (also known as assessment *of* learning) is undertaken during a teaching module, the goal being to steer learning: both students and teacher need to know how learning is going and make changes when needed (Biggs *et al.*, 2022). By way of contrast, summative assessment (also called assessment *for* learning) is undertaken at the end of the teaching module, its purpose being to appraise how well students have learned what they were supposed to learn. Summative assessment thus shapes students' perspectives on what it is useful to learn, since for students the curriculum is what is assessed. Ideal summative tasks in competence-based education are authentic activities that require learners to apply the same problem-solving competences as they would in a work situation (Deutscher and Winther, 2019). While summative and formative assessment differ with regard to timing and scope, both are essential and complementary parts of education, and neither should be sidelined (Lau, 2016).

Birembaum *et al.* (2006) call for a learning-integrated assessment system; how this system should work in competence-based education is explained by Baartman *et al.* (2007), who refer to two cultures: a testing culture and an assessment culture. The former leans on behaviourism and casts teaching as the transmission of information, thus aiming to quantify degrees of mastery through standardised methods such as multiple-choice tests and scoring grids. Consequently, it focuses on summative assessment, and on basic knowledge and skills that are easier to measure than higher-order cognitive processes. The assessment culture, conversely, grew out of growing criticism of the testing culture: it is based on constructivism, which characterises the learner as an active knowledge-maker. It concentrates on formative assessment using authentic tasks, to gain a holistic view of the learner. Rather than using one single task, assessment in competence-based education should be undertaken by means of assessment programmes (Baartman *et al.*, 2007) that include multiple formative and summative tasks.

Assessors should therefore bear in mind that competence can take diverse forms and has both observable and non-observable components (Castoldi, 2016). Consequently, assessment of competence calls for multiple points of view to appraise the diverse nuances and components. Pellerey (2004), for example, proposed a trifocal perspective comprising: (1) a subjective component, which appraises the personal meanings subjects attribute to their competence development; (2) an intersubjective perspective, which considers the various people involved in the situation where the competence is expressed and (3) an objective component, which gathers observable evidence of competence development. Most importantly, where competence development is concerned it is key to involve the learner proactively in the assessment process (Castoldi, 2016; van der Vleuten *et al.*, 2017). Formative assessment is clearly the best moment to do this, enabling assessment to become a teaching and learning activity (assessment *as* learning; van der Vleuten *et al.*, 2017).

Self-assessment and peer assessment are two possible formative strategies, and they are also key for the development of self-directed learning (Panadero *et al.*, 2019); they are thus another of the criteria for competence-based education identified by Sturing *et al.* (2011). Self-directed learning, moreover, is an essential goal of entrepreneurship education (Neck and Corbett, 2018; Jones *et al.*, 2019). However, the most effective strategy for making assessment formative is feedback (van der Vleuten *et al.*, 2017): this is information given to learners that seeks to change their thinking and behaviour, with the aim of improving learning. If it is to achieve this, feedback must be scaffolded by means of instructions and tools: the best feedback enables the learner to understand what their goal is, where they are with regard to that goal and the steps they need to take in order to achieve it (Hattie and Clarke, 2018). The final instrument for formative assessment is rubric (van der Vleuten *et al.*, 2017). Transparent rubric with clear objectives and learning criteria can be used formatively to support feedback, self-assessment and peer assessment, and designing rubric with learners can be a useful teaching and learning activity. Although there are many potential forms and structures, the best model is a table that aligns criteria with levels of performance. In this context, performance is a narrative description of what learners can do with the resources at their disposal (Castoldi, 2016).

Assessment rubric can also be deployed for summative assessment and grading, that is to transform the level of performance into the final mark (Biggs *et al.*, 2022). It can be shared in advance with learners, allowing instructors to communicate the goals and standards that will be assessed coherently and clearly (van der Vleuten *et al.*, 2017), and influencing students' perspective of what it is worth learning (Biggs *et al.*, 2022). Furthermore, comprising as they do descriptions of performance across a limited number of levels, they are an ideal way to emphasise quality over quantity, paving the way for a holistic judgment that is aligned with the assessment of competence development (Comoglio, 2012). Conversely, scoring grids would be less suitable for determining a final mark for competence development, as grids emphasise the quantitative dimension of learning. Trying to assign a number to something that is hard to capture could lead to behaviours that are not conductive to learning, such as the pursuit of high marks or only trying to achieve minimum marks (van der Vleuten *et al.*, 2017).

Since 2006, a *sense of initiative and entrepreneurship* has been one of the eight European key competences for lifelong learning (European Commission, 2006). More recently, it has been simply named *entrepreneurship competence* (European Commission, 2019); these definitions have also been taken up in Italy. In 2018 the Ministry of Education launched a two-initiative strategy for cultivating this key competence. The first initiative is the syllabus for entrepreneurship education in secondary education including IVET (MIUR, 2018a). While this syllabus embeds the European definition of entrepreneurship as key competence that is useful in many contexts, several of the activities it includes are geared towards a "narrow" view of entrepreneurship as business creation. Moreover, the syllabus contains only suggestions for teaching and learning activities and provides no guidance on how to assess them. Field research has proved that teachers and school directors are not aware of the syllabus (Cedefop, 2022), in marked contrast to their familiarity with the guidelines for work experience (PCTO, *Percorsi per le Competenze Trasversali e l'Orientamento* [Pathways for Transversal Skills and Guidance], MIUR, 2018b), which often enable the development of entrepreneurship competence. These guidelines connect to entrepreneurship competence in various ways: (1) they list 14 skills and attitudes that are central to entrepreneurship competence and can be useful in many contexts (pp. 14–15); (2) they provide teaching and learning activities that will help cultivate entrepreneurship competence, such as a practice enterprise, a mini enterprise model and service learning (pp. 43–45) and (3) they (re-)publish the entrepreneurship education syllabus as an attachment (pp. 46–58).

Most importantly, the PCTO guidelines (MIUR, 2018b) make suggestions for the assessment of competence work experience, thus partially aligning with the abovementioned

literature on competence-based education. The guidelines are: (1) to assess both process and product; (2) to include learners in establishing learning objectives; (3) to involve all those who teach on the course in the assessment process, not simply the work tutors; (4) to use authentic tasks; (5) to make use of observations to appraise students' attitudes as a fundamental aspect of competence; (6) to ensure learners engage in self-reflection. With regard to self-reflection, Annex G (pp. 66–68) includes a form where learners self-assess the competences they have developed on the basis of a Likert scale. An open answer format also gives students the opportunity to identify the strengths and weaknesses of the PCTO path they have followed.

These guidelines, however, also disregard various aspects of competence assessment. First, they do not mention formative and summative assessment, addressing assessment only generically. Second, while the document is 68 pages in length, it overlooks the importance of self-assessment and the active involvement of learners in the assessment process. Neither does it mention peer-assessment and structured feedback, which research (Comoglio, 2012; Castoldi, 2016; van der Vleuten *et al.*, 2017; Panadero *et al.*, 2019) reveals is key to steering learning in competence-based education. Third, the document is unclear on the use of assessment rubrics and considered them on the same level as scoring grids. Assessment of competence development, on the other hand, privileges the deployment of assessment rubrics over scoring grids (Comoglio, 2012; van der Vleuten *et al.*, 2017).

3. Methodology

This research is part of a larger study promoted by Cedefop, the European Centre for the Development of Vocational Education. It was conducted between 2021 and 2023 in eight European countries: Austria, Croatia, France, Finland, Spain and Sweden, with Italy and Latvia acting as pilots; for further information see the synthesis report (Cedefop, 2023). The study sought to understand how entrepreneurship competence is cultivated in vocational education. A sub-question focused on assessment: "How does assessment (both formative and summative) support the development of an entrepreneurship competence in VET?" (Cedefop, 2022, p. 30). Given the type of research question and the limited sample, this study was explorative and interpretive (Ravitch and Carl, 2019). With regard to the selection of the VET providers, the research team in each country proposed 12 institutions. These were not selected on a casual basis but were suggested by VET and entrepreneurship experts as having practices that nurtured entrepreneurship competence. In one case a VET school was chosen because the teacher had won the Global Teaching Award for his start-up creation classes. Another criterion for selection was accessibility by the research team, meaning on one hand that VET providers had been previously contacted and had given their consent to involvement with the research, and on the other hand that they were mostly located in northern Italy, which facilitated logistics and data collection. It can be hypothesised that the 12 institutions put forward were among the best in Italy at developing entrepreneurship competence, and therefore are by no means representative of the picture as a whole. Of these, Cedefop selected six providers representing a balance of IVET, CVET and apprenticeships, covering six regions, five in the north and only one in the south.

Case study is an appropriate research methodology for entrepreneurship education (Blenker *et al.*, 2014), since it examines the contextual aspects of the research, emphasises richness and depth and integrates exploration with explanation. Table 1 shows the diverse source of data used by the present research to ensure triangulation and multiple perspectives (Ravitch and Carl, 2019). The first phase, in summer 2021, was analysis of policy documents and interviews with experts and policy makers. In the subsequent empirical phase, in autumn 2021, the team (comprising two researchers) paid two-day visits to each VET provider. The researchers contacted the teachers (or often the teacher) delivering the programme. The focus within each provider was on entrepreneurship initiatives or courses, and data gathering

included: (1) school documents (the online document with the school's overall offer – known as PTOF, *Piano Triennale dell'Offerta Formativa* [three-year education plan], schemes of work, assessment tools, scoring grids and assessment rubric); (2) interviews: (a) in schools (sometimes with focus groups) with teachers, school directors and vice directors, learners and alumni; (b) (in the case of apprenticeships) with instructors, company tutors and employers, apprentices and alumni; (3) when possible, observation of teaching and learning activities aiming to develop entrepreneurship competence.

The interviews with teachers collected the tools (in the form of files) used for assessment and grading. Sometimes schools had also developed assessment guidelines. Analysis focused on the following elements: (1) the school PTOF, to verify the extent to which entrepreneurship competence development was on the school agenda; (2) the type of entrepreneurship activity or programme, along with formative and summative assessment practices, including whether entrepreneurship competence (or a proxy for it) was assessed; (3) how the grades were awarded, for example through assessment rubric or scoring grids. These analyses, combined with analysis of school assessment guidelines, allowed for hypotheses to be developed on whether courses were based on an assessment culture or a testing culture as per Baartman *et al.* (2007), in other words, the extent to which teachers not only taught but also assessed competences. They thus enabled the research team to establish the level of coherence between teaching, learning and assessment (Mulder, 2019; Biggs *et al.*, 2022). The next section outlines the six case studies; each program presents the relevant teaching and learning activities alongside the associated formative and summative assessment practices, to allow the reader to gain a better idea of the context in which entrepreneurship competence was assessed, as it was a thick description (Ravitch and Carl, 2019).

4. Results

4.1 Apprenticeship scheme in Lombardy

This large IVET institute, located between Milan and Varese, provides an experimental apprenticeship scheme based on the dual approach, whereby a handful of learners from technical courses (information technology, electronics, mechatronics) go to school in the morning, and in the afternoon undertake paid apprenticeships with companies. The school PTOF does not mention entrepreneurship as defined by the European Commission (2006, 2019) but rather "self-entrepreneurship" (3 occurrences) and "an entrepreneurial spirit" (2). The PTOF also makes no mention of the apprenticeship scheme. Furthermore, from the teachers and tutors' interviews, it was clear that entrepreneurship competence is assessed neither formatively nor summatively. While interviewees focused on the technical skills developed in the workplace, they suggested that entrepreneurship competence develops "spontaneously" in work contexts. The field research unearthed a kind of assessment rubric against which learners were assessed. The rubric criteria mostly centred on technical skills, which were assessed in terms of knowledge and proficiency over four levels of performance, but the performance descriptors were very short, giving the impression that the number awarded was more important than the description. Besides technical skills, the criteria

Interviews with VET experts, policy makers and social partners 6	Interviews with Vet alumni 11
Interviews with school directors 6	Focus groups with teachers 3
Interviews with teachers 16	Focus groups with learners 8
Interviews with work tutors 4	Observation of learning environments 5
Interviews with entrepreneurs and HR managers 8	Policy documents consulted 30
	School documents consulted 98

Table 1.
The research in figures (Source: Authors' own creation/work)

focused on learners' participation in school activities, for example "the trainee accepts tasks that are allocated to him/her" or "the trainee identifies problems and solutions".

4.2 State IVET in Trentino

This small institute, located in a remote valley, is developing a PCTO pathway for two technical courses (tourism and accounting), whereby learners simulate the creation of a cooperative to manage a service. The school PTOF describes the programme as one of its flagships, and mentions a "sense of initiative entrepreneurship" five times. The local municipality commissioned the two Grade 4 classes (a dozen learners in total) to evaluate the cycle paths in the valley. The federation of cooperatives supported the project by providing experts and teaching materials (for example the laws governing the creation of a cooperative). The programme was assessed by means of a "reflective journal" document, which was produced by the federation of cooperatives and issued to students, then assessed summatively. Most of the document, however, was given over to content-based homework where learners answered open ended questions. One example was the governance aspects of a cooperative, where students had to explain what governance was and give examples.

Only the final part of the reflective journal was devoted to reflection: learners described the activities they had undertaken on their own, the problems encountered, and how they had tackled them. On the last page, learners assessed their success with developing personal traits and skills such as self-esteem or teamwork, giving themselves a mark from 1 to 10. The second summatively assessed task was a group presentation of their proposal. The two tasks were brought together in a scoring grid on the overall cooperative creation programme. The grid also included criteria related to the learning process, for example commitment and participation. Each criterion incorporated the subject towards which the mark contributed, for example, economics or literature. Only two criteria were loosely related to entrepreneurship competence: group work and problem solving. While it was a programme (not a single task) that was assessed, assessment was mostly summative and hence based on a testing culture. The institute has assessment guidelines, but these do not mention the assessment of entrepreneurship competence. The same was the case for the "rubric for assessment of students" learning and communication skills' document, where most of the tools were not rubrics, but rather scoring grids that assigned points when students successfully completed a task.

4.3 Regional CVET in Emilia Romagna

The focus of this one-year CVET programme, jointly delivered by a state IVET professional school and a regional VET provider, is evaluating premium local food and wine for sustainability. The school PTOF mentioned "entrepreneurship competence" four times. While the document detailing the programme made no explicit mention of entrepreneurship, the 800-h course included work on an entrepreneurial project. This project was active throughout the school year, to give learners the opportunity to apply what they learnt in the other lessons. After graduation, students could use their work on the project as a springboard for the development of a self-employment business plan, as some alumni already had done. The project first brainstormed ideas, then selected the best; next, the students worked in groups, each group developing an idea that was eventually presented at the final assessment.

Project work was assessed in a variety of ways. Formative tasks were assessed through blind peer assessment: two learners independently rated each idea for clarity, degree of detail and originality. On the same assessment form, the reviewer had to note down at least one strength and one weakness of the idea, make at least one suggestion and ask for clarification on at least one aspect that was unclear. Students were coached throughout the project by a former graduate; she never imposed her point of view, but when she felt something was missing, learners had to justify the choices they had made. For the final assessment, a

commission of experts nominated by the region undertook summative evaluation of the project. The products assessed were: (1) a written report of the idea; (2) an oral presentation of it and (3) a "Concept Food Event," where learners had to turn their idea into a menu and cook it for the commission. Scoring grids were used for final grading; here, only one criterion was loosely related to entrepreneurship (organisation of work in the kitchen). Although scoring was based on grids, it can be hypothesised in line with Baartman *et al.* (2007) that the project was mostly based on an assessment culture and a fully-fledged competence-based assessment programme comprising both summative and formative tasks.

4.4 State IVET in Puglia

Within the specialisation of information technology systems, the school runs a unique four-year experimental course in "self-entrepreneurship education". The school PTOF mentions the term "self-entrepreneurship" four times while "entrepreneurial spirit" is mentioned once. Besides the regular vocational subjects, learners study subjects such as debating, creativity, communication and change making, with many hours of co-teaching in English. The IT teacher runs a successful start-up creation program; learners first brainstorm ideas, which the teacher screens them for feasibility. Subsequently, in teams, students begin the start-up process and define their entrepreneurial learning eco-system: they create their website and undertake web-based marketing through social media; they liaise with strategic partners (public institutions, local providers, shops, other schools) depending on the needs of their start-up. Students' ideas vary significantly: one dealt with evaluating local products and crafts through a web-platform, another promoted sustainable goals and thinking in the broader public and a third sought to combat bullying in schools. Where assessment was concerned, the IT teacher regularly coached learners, but field research found no trace of formative or summative assessment tools. The IT teacher contended that he deliberately avoided summative assessment in order to break away from a focus on marks and encourage students to concentrate on developing their competences through their passions. The soft impact of this choice was reflected in learners' enthusiasm: the groups often met outside of classroom sessions to further develop their project. In other subjects, teachers used oral presentations for summative assessment to develop entrepreneurship-related capabilities such as presentation and communication skills. No trace of assessment rubrics or grids was found. Overall, while it can be hypothesised that most subjects drew on a testing culture, it is hard to apply Baartman's *et al.* (2007) categorisation to the start-up creation classes, as assessment was described as being deliberately neglected.

4.5 Regional apprenticeships in Friuli Venezia Giulia

This VET provider delivers different apprenticeship programmes that are tailored to learners' needs. Besides learning within the company, apprentices must follow a total of 120 h of courses. The wide course offer is easy to explore on the website; it is organised around six areas, one of which highlights a "sense of initiative and entrepreneurship" as a key competence as per the European Commission's 2007 definition. The provider offers 21 course options for the 120 h of study, 7 of which (enterprise creation; pro-activeness, communication and group work; creative problem solving; citizenship; financial literacy and business communication) nurture a sense of initiative and entrepreneurship. Only one course features formative self-assessment tasks. Summative assessment tasks range from knowledge-based to competence-based exercises, and sometimes relate to entrepreneurship. Tasks include: multiple choice tests (4 courses); written test (2 courses); oral tests (2 courses); business plan (1); case study (1); oral presentation (1); project work (1); simulation (1). Overall, assessment was mostly undertaken through programs targeting not only knowledge, but also skills and attitudes; however, it often lacked a formative component, suggesting that the institution

operates on the basis of a testing culture. Assessment of workplace learning used assessment rubric, which focused solely on technical skills, although one page was left deliberately blank to record other competences apprentices had developed.

4.6 State IVET in Piedmont

The institute offers a variety of VET courses, and the PTOF mentions entrepreneurship competence five times, referring to the European Commission's definition of 2019. The only programme relating to entrepreneurship, however, is an extracurricular initiative: a competition sponsored by local entrepreneurs, where Grade 4 and 5 learners are grouped together to further develop a prototype or an artefact the students have designed during in lessons (for example, a garment). Groups are guided by a coach to encourage innovation, and to help them take account of sustainability and energy saving issues. An external jury nominates the best prototypes. Notably, this competition was not assessed. Moreover, the analysis of the school's assessment documents revealed scoring grids focusing on autonomy, commitment, behaviour and communication, hence only loosely related to entrepreneurship. Therefore, the school seemed to lean towards a testing culture.

4.7 Summary of results

Table 2 summarises the results. Entrepreneurship was found in all online documents explaining the courses offered by schools: in two cases (2 and 5) it referred to a sense of initiative and entrepreneurship, the definition given by the European Commission in 2007; in two cases (3 and 6) entrepreneurship competence (European Commission, 2019), and in the remaining cases (1 and 4) it was produced by the institution (self-entrepreneurship and entrepreneurial spirit). With regard to formative assessment, the apprenticeships providers (1 and 6) used no clear form of structured feedback. Four programs (cases 2, 3, 4 and 6) used coaching, sometimes overlooking summative assessment ("unclear", cases 4 and 6). It was sometimes unclear how learners were assessed summatively (cases 4 and 6). The most frequently used summative tools were: (a) written tasks (cases 2, 3, 5); (b) oral presentations (cases 2, 3 and 5), and observations (cases 1 and 5). As regards grading, only two apprenticeships providers (1 and 5) made use of rubric, while cases 2, 3, 6 used scoring grids. With the exception of the courses in case 5, entrepreneurship did not appear explicitly in the assessment documents, and was only loosely targeted (1, 2, 3 and 6).

5. Discussion

First, the fact that all VET providers refer to entrepreneurship competence indicates that they all attach some importance to the development of this key competence. Second, only one provider had a clear and structured formative task; instead, most interviewees simply said they coached students during the entrepreneurial process. Notwithstanding the importance of coaching and mentoring for the development of entrepreneurship competence (Neck and Corbett, 2018; Jones *et al.*, 2019), these activities are not part of the formative assessment strategies listed by van der Vleuten *et al.* (2017). While there is research on how school coaching can integrate formative feedback (for example Dudek *et al.*, 2019), the present study did not find evidence of this. Third, the study did not find any authentic summative assessment tasks as discussed by Deutscher and Winther (2019). Rather, tasks instead somewhat traditional, consisting mostly of written and oral presentations. Hence, the findings of Pittaway and Edwards (2012) on the traditionality of entrepreneurship assessment at university level can also be generalised to include Italian VET. Some programmes had no clear summative task. Fourth, when it came to grading tools, two providers made use of scoring grids, thus indicating a quantitative view of learning (van der Vleuten *et al.*, 2017) that is not appropriate to competence development (Comoglio, 2012); and

Table 2.
Summary of results

VET institution	Mention in PTOF of entrepreneurship competence	Type of initiative	Formative assessment practices	Summative assessment practice in entrepreneurship initiative	Tool used for grading	Assessment of entrepreneurship competence
(1) Apprenticeship Lombardy	Self-entrepreneurship, entrepreneurial spirit	Apprenticeship scheme	Unclear	Observations	Assessment rubrics	Loosely related (participation, problem solving)
(2) State IVET Trentino	Sense of initiative and entrepreneurship	Work experience: cooperative creation simulation	Coaching	Open ended questions Oral presentation	Scoring grids	Loosely related (commitment, participation)
(3) Regional CVET Emilia Romagna	Entrepreneurship competence	Project work throughout the year	Peer assessment of ideas Coaching	Written report Oral presentation Concept food event	Scoring grids	Loosely related (organisation)
(4) State IVET Puglia	Self-entrepreneurship, entrepreneurial spirit	4-years course in self-entrepreneurship	Coaching	Unclear	Unclear	Unclear
(5) Regional apprenticeship Friuli	A sense of initiative and entrepreneurship	7 courses on entrepreneurship out of 21 that apprentices can choose from to achieve a total of 120 h	Unclear	Courses Multiple choice tests Written tasks Business plan Case study Oral presentation Project work Simulation On-the-job apprenticeship: observation	Assessment rubrics	Courses: entrepreneurial competence On-the-job apprenticeship: technical skills
(6) State IVET Piedmont	Entrepreneurship competence	Extra-curricular prototypes competition	Coaching	Not assessed	Unclear	Scoring grids (for the whole school) loosely related to entrepreneurship (autonomy commitment)

Source(s): Authors' own creation/work

only two made use of assessment rubrics. In two cases it was not clear how the final judgment had been arrived at. While there is no perfect tool for assessment, the assessment process should, nevertheless, be transparent and rigorous (Castoldi, 2016; van der Vleuten *et al.*, 2017). Lastly, most of the programmes related the competencies they assessed only very loosely to entrepreneurship, even though it is essential to embed and assess learning outcomes on entrepreneurship in order to nurture this competence (Morselli, 2019).

6. Conclusions

This paper has examined the assessment of entrepreneurship competence in six Italian case studies selected from IVET and CVET institutions and apprenticeships schemes. The research question was: *To what extent are entrepreneurship assessment practices competence-based*? One limitation related to the selection of the VET providers and research participants; these were chosen not on a casual basis, but because they had programmes of relevance to the development of entrepreneurship competence. The present results are therefore not representative of the whole panorama of VET in Italy. They also indicate that the guidelines for work experience (MIUR, 2018b), through which entrepreneurial competence is often developed, focus excessively on summative assessment, which aligns with the argument put forward decades ago by Birenbaum *et al.* (2006), namely that European educational systems neglect formative assessment. Fifteen years later, things in Italy do not seem to have changed much. The six entrepreneurship programmes selected for this study mostly took a competence-based approach to teaching and learning, since learners were asked to deal with real-world challenges and engage in complex tasks (Sturing *et al.*, 2011).

To be aligned with such teaching and learning activities, however, assessment tasks should have been also competence based (Mulder, 2019), with fully fledged assessment programmes, and a focus on both formative and summative assessment (Birenbaum *et al.*, 2006; Baartman *et al.*, 2007). Unfortunately, this was only the case with the CVET provider. In all other cases, formative assessment was often neglected, very much in line with the PCTO guidelines (MIUR, 2018b). Most of the time, self-assessment, peer assessment and structured feedback were lacking, and there was little evidence of learner involvement in the assessment process. Overall, these findings suggest institutions have a testing culture with regard to assessment (as from Baartman *et al.*, 2007), at the level of both policy and practice. In most cases, entrepreneurship competence was not directly assessed, and learning outcomes were only loosely related to entrepreneurship (for instance, problem-solving or teamwork). The teachers seemed mystified, considering entrepreneurship competence another thing that they *have to deliver* that takes away from what they are truly passionate about. As a result, this key competence was highlight in schools' online documentation about their overall offers, but faded away when it came to programmes and assessment plans. This finding is coherent with Michelotti (2021), who systematically scrutinised schools' online documentation in the Trentino region.

This study involved only few VET providers, and it would be beneficial to study a larger number with better sampling, so that results can be better generalised to the whole country. However, there are already implications for VET policy and practice in Italy. At the policy level, there is a need for new guidelines for competence development and assessment in VET, guidelines that are more aligned with educational research. Such guidelines should distinguish between formative and summative assessment, and suggest a variety of assessment tools, especially for formative assessment, embedding self-assessment and peer-assessment as well as structured feedback. The new guidelines should encourage teachers to involve learners in the assessment process, suggesting potential approaches, for instance designing assessment rubric with learners, and encourage the use of rubrics over grids for scoring. Moving on to VET providers and instructors, and in line with the synthesis report presenting the results of the study in eight European countries (Cedefop, 2023), guidelines are

not sufficient to ensure change in the practice and mindset of instructors and school leaders. To ensure the development of a culture of formative assessment and nurture entrepreneurship competence, educators need in-service training and a community of practice where they can develop their teaching and assessment competences.

Notes

1. Although Biggs *et al.* (2022) concentrate on tertiary education, their claims relating to the importance of assessment and alignment can be extrapolated to all levels of education.
2. DPR 87, 88 and 89 of 15 March 2010.
3. Decree 61 of 13 April 2017.

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Corresponding author
Daniele Morselli can be contacted at: daniele.morselli@unibz.it