

Development of pedagogical competencies of the vocational teachers in Italy and Lithuania: implications of competence-based VET curriculum reforms

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Abstract

Purpose – The present study aims to reveal common and diverging trends in the development of pedagogical competences of vocational education and training (VET) teachers and trainers in Italy and Lithuania.

Design/methodology/approach – A structured survey was administered to Italian and Lithuanian teachers. The collected data were analysed and compared.

Findings – Results show that there are many common challenges and problems in the development of pedagogical competencies of the VET teachers in both countries; e.g.: the marginalisation of the VET teacher's work and working conditions, especially the dissatisfying wages and poor career opportunities, and the absent or weak institutionalisation of the VET teacher's qualifications and training.

Originality/value – The emerged results can be useful for directors of VET-centres and VET-schools to manage training and pedagogical growth of teachers both in Italy and in Lithuania. Moreover, the outputs can be considered as a set of suggestions also by the policymakers both at national and European level.

Keywords Teacher education, Vocational education and training, Pedagogical competencies, Competence-based education, Curriculum reforms, Vocational teachers

Paper type Research paper



1. Introduction

Competencies and qualifications of the vocational teachers [further vocational education and training (VET) teachers] are crucial factors of the VET curriculum reforms. Attainment of the goals of competence-based VET curriculum reforms, such as reducing skills mismatch, improving the responsiveness of the VET curricula to the labour market needs, enhancing employability and attractiveness of VET pathways amongst the youth and adults, largely depends on the availability of the competent VET teachers and trainers who are ready to restructure, update and adjust their pedagogical approaches and methods (Sartori *et al.*, 2015). For this reason, the development of pedagogical competencies presents by itself one of the key objects of implementation of competence-based VET curriculum reforms and requires attention from the policymakers, VET providers and social partners. It also becomes an important object of research aimed to provide know-how for the design and implementation of policy measures in this field.

Pedagogical competences of VET teachers and trainers and their development increasingly attract the attention of researchers and policymakers as highly important factors of the quality and accessibility of VET, and its acceptance in society. Usage of competence-based approach in teacher training brings important benefits, such as criteria for teaching quality assurance via a minimal/threshold standard for teacher education, as well as significant drawbacks, like favouring of atomistic and reductionist learning outcomes or difficulties in ensuring the acquisition of holistic capabilities required by increasingly complex tasks of the teaching profession (Day, 2017). Application of the competence-based approach in teacher education is strongly influenced by the spread of corporate management values and parameters in the identification and assessment of the teacher performance and competences leading to the development of an “entrepreneurial” identity of teachers (ibid. 2017). Wuttke and Seifried (2017) claim that competence-based teacher education approaches are heavily influenced by behaviourism and characterised by over-specification and fragmentation of learning. To overcome this drawback, current approaches of modelling of teaching competence draw on a more holistic teacher competence model, which consists of professional knowledge and beliefs, motivation and self-regulation (Wuttke and Seifried, 2017). The study of Tacconi and Gomez (2013) on the factors of success of the Salesian VET centres in Italy revealed that professional expertise and competence of those VET teachers who made an impact on successful training and further employment/career of their students were strongly integrated and linked with a wide range of personal skills and values. The ability of teachers to apply their professional competences and personal capabilities and values in the training process is what makes a real difference to students (Tacconi and Gomez, 2013).

Competence development of VET teachers and trainers is highly dependent on the institutional model of the VET provision and their reforms. Looking from this perspective, implications of the reforms and changes of the school-based VET model make a particularly interesting object of research for several reasons. Firstly, school-based VET models face quite radical changes in terms of increasing openness of curricula to the changing requirements of the work processes through the implementation of the competence-based curricula. Secondly, school-based VET provision is being expanded by introducing work-based learning, and dual apprenticeship approaches as an alternative to the school-based pathway. This has direct implications for the development of pedagogical competencies of the VET teachers.

The goal of this article is to explore common and diverging trends in the development of pedagogical competences of VET teachers and trainers in the school-based VET systems in Italy and Lithuania. The comparative study in these countries is relevant because of the involved similarities and differences, helping to distinguish the commonality and specificities of the competence development of VET teachers in the school-based VET systems. The VET systems in both countries are classified as school-based. Both countries implement competence-based

reforms of VET curricula in the very similar timeframe: the curriculum reforms started at the end of 20th century, whereas development of competence-based systems of qualifications – towards the end of the first decade of the 21st. The most significant differences concern the size of the VET systems, their institutional variety (the VET system of Italy contains a broader variety of institutional types of VET providers comparing to the VET system of Lithuania with the monopoly of public VET providers) and different history of the skill formation institutions (Southern state-corporate model in case of Italy and transitional post-communist model in case of Lithuania).

This paper focuses on the following research questions: 1. What are the contextual factors of the institutional change of the reforms of VET systems that influence the development of pedagogical competencies of the VET teachers in Italy and Lithuania? This question is tackled by comparing the institutional features of the VET systems and teacher training in Italy and Lithuania in the first section of the article. The main involved research methods include critical analysis of the policy documents and literature. 2. What are the main tasks of VET teachers related to the implementation of the competence-based VET curricula, and how do they influence the needs of pedagogical competencies? 3. How do VET teachers perceive their pedagogical tasks related to the implementation of the competence-based approach in training and their implications for their professional career and quality of teaching? These issues are tackled by executing quantitative survey of the VET teachers and trainers in Italy and Lithuania and analysing the findings.

1.1 Relationships between the competence-based VET reforms and the development of competencies of VET teachers

The relationships between the VET reforms and development of competencies of VET teachers are complex, diverse and can be analysed from different theoretical perspectives. Looking from the point of view of the political and institutional agendas of VET reforms, competence development of VET teachers can be regarded as a source of expertise and human resources needed for the implementation of the competence-based VET reforms, thus implying the responsibilities of state and other stakeholders, including the VET teachers themselves, in the field of provision of necessary competencies (Jossberger *et al.*, 2010; Wesselink *et al.*, 2010a; Sturing *et al.*, 2011; de Bruijn, 2012; Biemans *et al.*, 2013; Billet, 2016; Cremers *et al.*, 2016). From the perspective of the theories on VET curriculum design methodological approaches, such as constructivism and social realism, competencies of VET teachers and their development are treated as factors and requirements for the design of competence-based VET curricula, as well as the objects of competence-based VET reforms (Billet, 2016; Edwards *et al.*, 2009). For example, using the functional analysis in curriculum design, shift to the learner-centred pedagogy and work-based learning, the implementation of the learning outcomes and the competence assessment approaches significantly change the traditional roles of the VET teachers and thus restructure the competence requirements for VET teachers, including different restrictions and limitations brought in the work of teacher (Billet, 2016; Bagnall and Hodge, 2017; Cedefop, 2017; Day, 2017). This, in turn, becomes a significant challenge and obstacle for the implementation of the competence-based VET curricula in the school-based VET systems characterised by subject-based curricula and teacher-centred pedagogy, potentially slowing down the curriculum reforms or bringing different iterations (Billet, 2016; Bagnall and Hodge, 2017). Looking from the point of view of VET teachers and trainers, as actors and agents of VET reforms, there emerge questions about the role of autonomy and initiative of the VET teachers in implementing competence-based VET reforms (Fisher and Simmons, 2012; Avis, 2014; Edwards, 2016; Hodge *et al.*, 2016). Here can emerge significant contradictions and

discussions. Some researchers notice that competence-based curriculum reforms lead to the de-responsibilisation of teachers from some essential pedagogical processes, including assessment of learning (Matlay, 2000; Wesselink *et al.*, 2010b; Lassnigg, 2017). There is also noticed resilience of the VET teachers to the competence-based curriculum reforms, which impedes their successful implementation, especially if teachers perceive these reforms as top-down policy interventions (Edwards *et al.*, 2009; Rekkor *et al.*, 2013; Boldrini *et al.*, 2019). Other researchers claim that design and implementation of competence-based VET curricula, especially modularisation of the VET curricula, require the autonomous and responsible agency of VET teachers as experts of the pedagogical process, who can assume the responsibility for the relevance of provided competencies to the needs of learners and labour market (Nissilä *et al.*, 2015; Wijnia *et al.*, 2016; Mulder, 2017). However, it also requires from the teachers the abilities of teamworking and partnership with labour market stakeholders, as well as the delegation of the part of the responsibility for acquisition of learning outcomes to the students and apprentices (shared leadership).

The above-summarised relationships between the competence-based VET reforms and competence development of the VET teachers are largely shaped by the existing institutional settings of skill formation and VET. For this reason, the comparison of these relationships in the VET systems of Italy and Lithuania starts from the overview of the core institutional features of the VET systems and VET teacher training in these countries.

2. Institutional features of the VET systems and VET teacher education in Italy and Lithuania

2.1 The VET system and the teacher education in Italy

The Italian VET system, named *Istruzione e Formazione Professionale* (Vocational Education and Training – IeFP) was introduced in the school year 2011/2012 through several regulations issued by the state-region conference. The training activities which mainly represent the IeFP are the 3 and 4 years long initial VET programs, which allow students to get, respectively, the professional operator certificate [Level 3 according to the European Qualifications Framework for Lifelong Learning (EQF)] and the professional technician diploma (Level 4 EQF). These programs are provided based on: (i) a set of training standards for basic skills to be developed during three and four years programs; (ii) a set of minimum standards (valid at national level) for technical and vocational skills in relation to the occupation profiles included in the national qualifications register; (iii) a set of intermediate and final certifications that are valid at national level. In 2015 the Italian Government reformed the apprenticeship regulations introducing the Dual System of VET (D.Lgs. 81/2015; State-Regions agreement of 24 September 2015). These arrangements have been integrated into the IeFP initial programs (Angotti, 2018; INAPP, 2018). Furthermore, two post-secondary level training programs are part of the IeFP system, but they are marginal compared to the initial VET programs. Because of the poor visibility of the IeFP system (Scalmato, 2015; Fonzo and Tramontano, 2018), post-secondary VET involves only around the 8% of the entire population of the secondary level students (MIUR, 2017, 2019; INAPP, 2018). While the general school is mostly managed and financed by the central Government, the management of the VET system is divided up between the central Government and regions, i.e. the 3 and 4 years programs are provided by VET centres (private training centres accredited and funded by the Region according to nationally established criteria) or by public vocational schools (*istituti professionali* – public vocational schools providing 5 year training program which gives access to university studies) in subsidiarity form, as an alternative to the ordinary 5-year courses (Angotti, 2018). The shared management of the system and local differences in the Italian labour market create imbalance between regions in terms of the flows of participants' and quality of courses. Moreover, this also implies

that there are two categories of teachers working in the Italian initial VET system: teachers employed by VET centres (which are the main part), and teachers employed in public VET schools that provide IeFP programs in subsidiarity form. The majority of VET teachers work in VET centres and they are not obliged to participate in preparatory training courses unless it is provided for by the internal regulations of the centre or by regional laws. Unlike these, teachers working in general schools that offer VET programs in the subsidiary form need to follow the licensing course before teaching in public school. These teachers, who must attend a mandatory course focused on pedagogical and sectoral subjects, have different qualification profiles from the teachers who work in VET centres, as they are ordinary teachers of public schools providing VET. The autonomous provinces of Trento and Bolzano are special-status regions, where the initial training of VET teachers is mandatory. In this isolated case, the training course is regulated and provided directly by the Autonomous Province. It is interesting to note that even if the VET teachers who work in VET centres don't attend compulsory initial teacher training. Several studies show that their professional expertise and competence really made an impact on successful training and further employment/career of their students (Tacconi and Gomez, 2010; Tacconi, 2011; Gomez and Tacconi, 2013; Perini and Pentassuglia, 2018; Tacconi and Messetti, 2018).

2.2 The VET system and the teacher education in Lithuania

Development of the VET teacher training and professionalisation of the VET teachers in Lithuania in the last three decades have been taking place in the context of complex socio-economic and institutional transformations. The professionalisation of the VET teachers in Lithuania has been largely defined by the specificities of institutional change and reform of the education system and national system of qualifications. Post-communist reform of VET implemented in 1990–2003 brought decentralisation of the VET provision by abolishing strict central regulation of educational processes and activities of the VET teachers together with the delegation of the functions of VET curriculum design, organisation of training processes to the VET providers (Profesinio Mokymo Reformos Programos Koordinavimo Centras, 1999). This change, together with the formal standardisation of the VET curricula by introducing competence-based VET standards at the end of the 90-ties significantly increased autonomy and responsibility of the VET teachers in the field of VET curriculum design and organisation of training (Dienys and Pusvaškis, 1998). It also enhanced development of competencies of VET teachers in competence-based curriculum design, which was often limited to the formal transformation of the subject-based curricula to the competence-based by applying functional analysis, but without the subsequent change of the approaches and methods of training and learning (Dienys and Pusvaškis, 1998; Laužackas, 2005). Increasing autonomy and responsibility of VET providers, together with the introduction of different quality assurance measures in VET increased demand for pedagogical skills and qualifications of the VET teachers. Overall, the participation of the VET providers in the different EU programs and projects have played a decisive role in the professionalisation of the VET teachers (Dienys and Pusvaškis, 1998; Laužackas, 2005). Many vocational teachers acquired their pedagogical qualification during the different EU supported projects designed for the training of VET teachers in the period of 1998–2005 implemented by the Centre for Vocational Education and Research at Vytautas Magnus University under the different EU support programmes (PHARE, later European Social Fund). It significantly contributed to the acquisition of the different professional and key skills and competencies by VET teachers, which were crucial for the modernisation of the VET curricula in terms of transition to competence-based curriculum design and didactic approaches and practices, such as learner-oriented teaching and training and work-based

training (Tütlys and Kaminskienė, 2008). EU integration and implementation of the EU strategies of skills formation and lifelong learning created a favourable climate and necessary support for the development of the national system of qualifications (Tütlys and Aarna, 2017; Tütlys *et al.*, 2016). Lithuanian Qualifications Framework was introduced in 2010, and the design of competence-based occupational standards with the national modular VET curricula started in 2013. VET teachers and trainers have been actively involved in these projects as experts, what positively contributed to the development of their expertise and competence (Tütlys and Spūdytė, 2011; Tütlys *et al.*, 2016; Nazelskis and Tütlys, 2013). Implementation and promotion of competence-based approach to qualifications and curricula also enhanced increasing interest of policymakers, VET providers and stakeholders in work-based learning and apprenticeship (Cedefop, 2016). In 2013–2018, there were established sectoral practical training centres as the sites for the development of work-based learning and training. Dual apprenticeship was promoted by implementing different national pilot projects and introducing this form of training as an alternative to school-based VET in the Laws about VET issued in 2007 and 2017. These processes have had several important implications for the professionalisation of the VET teachers: (1) raised the importance of systemic and holistic training and competence development of VET teachers; (2) enhanced revision of the scope and object of qualifications in the field of VET by paying attention not only to the school-based VET but also to work-based training and apprenticeship.

Due to the absence of institutionalised provision of training of VET teachers and trainers, this responsibility is now overtaken by the VET providers. VET centres themselves organise the training of VET teachers to provide necessary pedagogical and professional competencies. One of the key challenges is the lack of attractiveness of the VET teachers career due to low salaries, which pushes the qualification requirements for VET teachers down. Normative documents regulate the salaries of Lithuanian teachers. The amount of the salary of vocational teacher depends on his/her pedagogical qualification category, pedagogical work experience, the size of the vocational training institution and the number of students, the teaching workload. In recent years, salaries for educational staff have risen, but are still below the national average. Current reforms and institutional changes in VET, such as decentralisation of the VET provision, implementation of competence-based VET modules, intensifying of work-based learning and applying of ICT-based learning solutions have rather controversial implications for the VET teachers' competencies and their development. From the one side, these changes demand to develop educational-academic background, professional and pedagogical competencies of the VET teachers (e.g. demand of higher education). From the other side, the dynamics of these changes and neoliberal policies in their implementation tend to focus attention on the cost-effectiveness of VET teachers training by orienting to the minimal (threshold) requirements to teachers' competencies referring to the current needs of workplaces and possibilities of educational institutions.

3. Methodology of research

3.1 The research focus and questions

As highlighted in the previous sections, the VET systems of Italy and Lithuania have different characteristics and VET teacher education is differently provided depending on the institutional context. Table 1 shows the items and the related dimensions of the executed survey, which were identified as a result of the contents analysis of the existing qualification profiles, VET teacher training programs, legal acts and other documents, which stipulate VET teacher training in Italy and Lithuania. Except for VET teachers' personal data, all the items were measure with 4 point-Likert frequency scale (1 = *regularly*, to 4 = *never*) and agreement (1 = *totally agree*, to 4 = *totally disagree*). The questionnaire was submitted online.

Table 1.
Questionnaire
dimensions

Code	Dimensions	Items
Q1-5	VET-teachers personal data	• gender • age • years of teaching experience • working conditions
Q6-10	Self-expression and career opportunities	• perceived self-expression opportunities • perceived career opportunities • inclination to find another job
Q11	Work tasks (didactic actions) implemented by the teachers	• preparing the school documentation • preparing vocational training materials • identifying the needs of learning • identifying training objectives and to planning training content • adapting the learning environment to the special needs students • accompanying students with special needs in the learning process to ensure the possibility of acquiring practical skills necessary for the job • supervision of practical learning at the workplace • choosing appropriate training materials and didactic means • providing individual training and counselling • choosing and applying effective training strategies and methods • performing a diagnostic, intermediate and final assessment • preparing tasks for the assessment of competence • consultation of students, teachers and student parents on the acquisition of skills and professional qualifications • consultation of students on matters of professional career • organising skills competitions and other events • participating in national and international projects • initiating national and international projects based on the needs of the vocational training school and system • choosing the best way and measures for professional development
Q12	Professional/technical competencies self- development strategies	• analysing own activity and planing professional development • participating at world-skills competitions • attending seminars proposed by providers • independent study of specialised literature • self-study through online
Q13	Support needed for professional/technical sector competencies development	• participating at stage and companies • internship in real workplaces • free seminars on innovation technologies • access to online and virtual learning • free access to the specialised literature • participation in specialised pair and seminars
Q14	Teachers actions aimed at pedagogical competencies development	• attending a pedagogical course at university • self-study through online • independent study of pedagogical literature • attending seminars proposed by VET stakeholders • sharing experiences with colleagues
Q15	Support needed for pedagogical competencies development	• attending at pedagogical higher education courses • access to online and virtual learning • free access to the specialised literature • developing knowledge of pedagogical methods • sharing experiences with colleagues

Each participant read an information sheet about the research objectives and approved the consensus form before compiling the survey.

The survey was approved by the Ethics and Research Committee of the involved institutions.

3.2 Participants

There were selected the following main criteria for choosing participants:

- Being employed as VET teacher in public or private VET school or training centre.
- Work experience of at least three years.
- Representation of both male and female genders.
- Representation of the different regions/geographical locations of the country.

3.2.1 Italy. One hundred and five Italian VET-teachers (28.6% female) have been involved in the study. 41.9% of them are between 41 and 50 years of age, followed by 24.8% between 31 and 40 years, 19% more than 51 years, and 14.3% between 21 and 30. The participants belong to two different Italian federations of VET centres. The 71.4% of survey participants reported having obtained a vocational/school certificate or a degree in the technological sector while 28.6% in the pedagogical field. The frequencies of the years of experiences in VET sector are as follows: 11–20 years – 37.1%, more than 20 years – 23.8%, 6–10 years – 21.0%, and less than 5 years – 18.1%.

3.2.2 Lithuania. The total number of surveyed VET teachers in Lithuania is 324. The survey was conducted in the 10 public vocational education and training centres from the different regions of Lithuania representing both bigger cities (two VET centres), regional centres (two VET centres) and rural areas (six VET centres). The structure of the age of the surveyed population is the following: 38% are between 41 and 50 years of age, 35% are more than 51 years, 21% are between 31–40 years of age and 6% are between 21–30 years of age. All the survey participants have a professional or vocational qualification, and only 5 (1.5%) have no pedagogical qualification.

3.3 Data analytic plan

Italian and Lithuanian sample are rather heterogeneous because of substantial differences between VET centres which are reported further. In line with the nature of the variables used, i.e. ordinal with four or five response categories, and nominal, Kendall's tau-b rank correlation coefficient was used. It is preferred over Spearman coefficient especially if correlating variables have a small number of categories and a large number of ties, consequently. The empirical distribution of Kendall's tau has better statistical properties (e.g. it converges to normal distribution faster) than the distribution of Spearman's coefficient (Kendall and Gibbons, 1990). The analyses have been performed with IBM SPSS Statistics, version 25.

4. Findings of survey

4.1 Findings of survey executed in Italy

Descriptive statistical data show that most of the participants (86.7%) have a stable work situation guaranteed by an open-ended contract. This allows some of them to have other jobs too; indeed VET-teaching is not the only work activity for all participants: 79% of them work full-time in VET, but 18.1% also have a secondary job and 2.9% said they teach in VET as a second job. It should not be regarded as a shortage or problem, because the work of VET teachers in a sector related to the subject that they teach provide them with stronger

connections between teaching activities and the workplace. Majority of interviewed teachers indicated that their job in IeFP completely (74.8%) or partially (23.3%) allowed them to express themselves. Only 24.8% of participants answered that they perceive ample career prospects in the field of IeFP, whereas the 43.6% of them perceive narrow career prospects and, 22.8% indicates that their job opens a relatively weak career path. These results seem to be in contradiction with the fact that 40% of respondents indicated they had thought of abandoning teaching in VET. For this specific group of teachers, the main reason to leave VET is the work conditions (40.6%), followed by the lack of career opportunities (34.4%) and, to a lesser extent, the unsatisfactory salary (24%). Differently, the most part of teachers who never thought of leaving said they stayed because the VET-teacher job is interesting and allow them to do something good (77.6%). According to the participants, other reasons to stay are self-empowerment opportunities (10.2%), work dynamism (6.1%), better perception of VET-system in society (6.1%). These contradictions signal the presence of structural and institutional reasons that push Italian VET-teachers to teachers to leave the VET system.

This phenomenon emerges from the different teacher recruitment policies implemented by the VET-centers and those implemented by public schools. The Italian VET system is mainly regulated by the regions, where the requirements for VET-teaching are generally less restrictive than the national criteria for public general education teaching, and this makes the VET system a convenient pathway for passage to teaching in public schools. In Veneto Region, for example, the Regional Decree n. 823 of 2018 establishes that:

The educational and training activities must be entrusted to teach staff with teaching qualifications or to professional experts with documented experience gained for at least five years in the professional field of reference.

This means that many teachers with the qualification work in VET centres until they find a permanent job in the public school.

Participants of survey reported that they less execute supervision of practical learning at the workplace, organisation of skills competitions and other events, participation in national and international projects or the initiation of international projects (Figure 1). This information seems to indicate that the dual system still plays a marginal role, while the teachers are not inclined or do not have the opportunity to participate in the teaching activities outside the VET-centers.

Descriptive statistics also disclose that participants mainly develop their professional competencies by personal initiative studying online material (often – 42.9%; regularly – 33.7%) and specialised literature (often – 46.9%; regularly – 21.4%). Less frequently, they attend seminars proposed by providers (rarely – 33.7%; often – 41.8%) and rarely participate in world-skills competitions (never – 53.1%; rarely – 25.5%) or through internship in companies (never – 45.9%; rarely – 28.6%). It is evident that most of the participants resort to self-training by demonstrating a particular motivation for teaching. Otherwise, training organised by the VET-centres seems to be less frequent, especially through internship or competitions. These findings look coherent with the main training needs indicated by the participants: free access to online and virtual learning (very useful – 39.8%; less than useful – 43.9%) and free access to the specialised literature (very useful – 39.8%; less than useful – 43.9%). Other needs are perceived “less than helpful” or “don’t need” by the most part of participants.

Looking to the distribution of the frequency of the way of developing pedagogical competences, sharing experiences with colleagues (regularly – 40.8%; often 49%) and attending seminars proposed by VET stakeholders (regularly – 16.3%; often 46.9%) are the

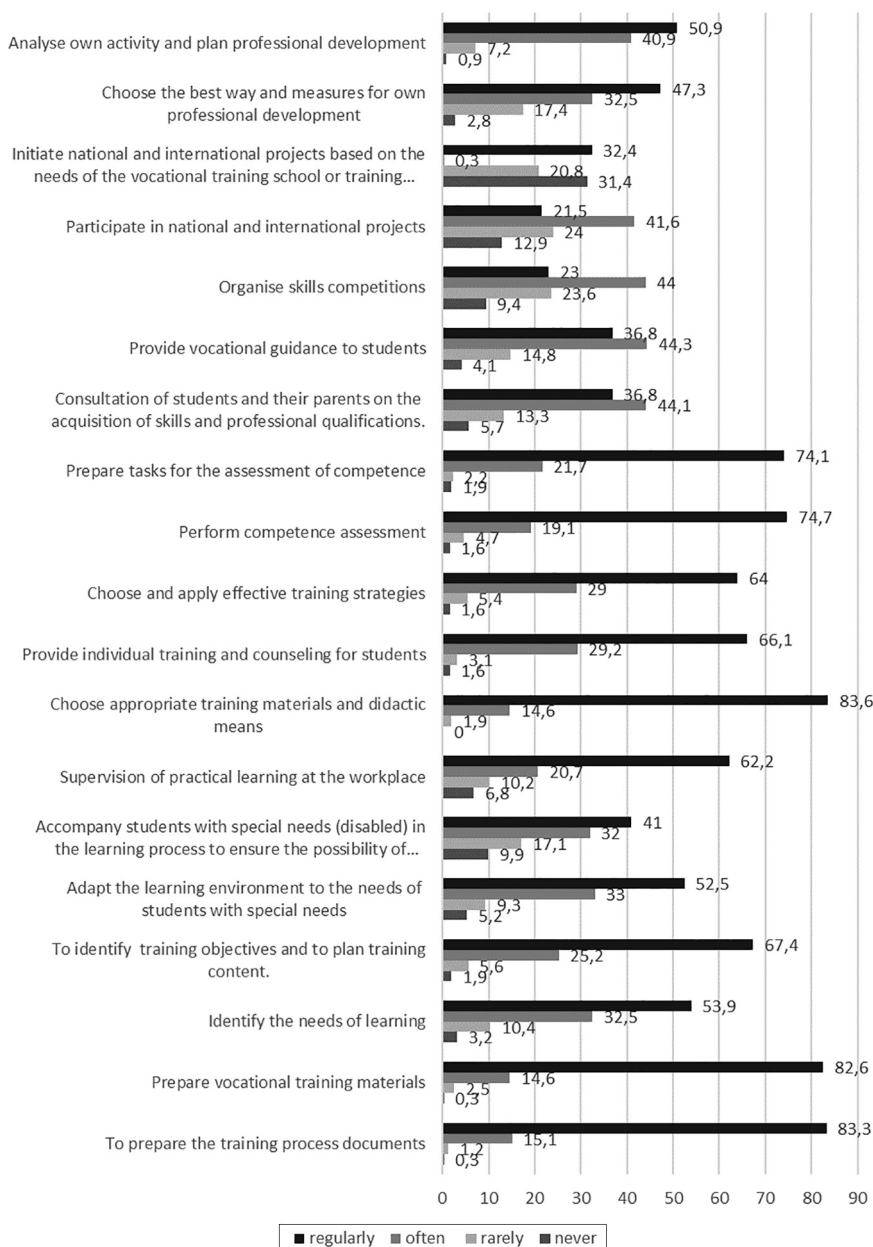


Figure 1.
The key tasks of the
VET teachers in Italy

most common teacher-training practices. The study of pedagogical literature and the self-study through online sources are also, albeit to a lesser extent, common learning strategies for pedagogical competencies (regularly – 16.3%; often 46.9%). What emerged highlights the high value that teachers give to sharing of teaching practices. This is also confirmed by the fact that

they rarely resort to university courses to update their pedagogical competences (never – 68.4%; rarely – 22.4%), perhaps because they are perceived as theoretical, far from the needs of vocational education and work. Nonetheless, attending at pedagogical higher education courses results to be the most common training need by respondents.

Correlational analysis showed high significant correlations between items within each dimension (see [Table 1](#)). Primarily, the analysis aimed to find significant relations between the didactic actions implemented by the teachers and the items of the four dimensions of: (a) professional competencies development, (b) support needed for professional/technical sector competencies, (c) developing pedagogical competencies, (d) support needed for pedagogical competencies development.

Firstly, there are significant relations between work tasks and professional sector competencies self-development strategies. In fact, all the five items of the self-development strategies have small or medium significant correlations with the dimensions of teachers' actions. To begin with, the self-study through online courses showed the highest number of significant correlations, i.e. planning didactic activities ($\tau B = 0.188, p < 0.01$), preparing tasks for the assessment of competences ($\tau B = 0.197, p < 0.01$), communicating with parents ($\tau B = 0.344, p < 0.001$), monitoring students in the workplace ($\tau B = 0.286, p < 0.001$), organising skill-competitions ($\tau B = 0.328, p < 0.001$), choosing the best way and measures for professional development ($\tau B = 0.220, p < 0.01$), taking part in international projects ($\tau B = 0.175, p < 0.01$) and consulting students on matters of professional career ($\tau B = 0.257, p < 0.001$). Likewise, participating the on-the-job training in the enterprises resulted to be significantly correlated to the frequencies of planning activities ($\tau B = 0.193, p < 0.01$), monitoring students in the workplace ($\tau B = 0.259, p < 0.001$), organising skill-competitions ($\tau B = 0.459, p < 0.001$), taking care about students professional growth ($\tau B = 0.330, p < 0.001$), taking part in and proposing international projects ($\tau B = 0.357, p < 0.001$; $\tau B = 0.314, p < 0.001$) and consulting students on matters of professional career ($\tau B = 0.321, p < 0.001$) but negatively correlates with helping disabled students ($\tau B = -0.240, p < 0.001$). The frequency of the autonomous study of specialised literature about technical and professional competencies, conversely, resulted in having a few significant correlations with compiling documents ($\tau B = 0.314, p < 0.001$), crafting learning materials ($\tau B = 0.198, p < 0.01$) and preparing tests ($\tau B = 0.242, p < 0.001$). All in all, even the frequency of participating in word-skills competitions has medium and small positive correlation with choosing the best way and measures for professional development ($\tau B = 0.334, p < 0.001$), organising and proposing national and international projects ($\tau B = 0.224, p < 0.001$), choosing the best way and measures for professional development ($\tau B = 0.182, p < 0.01$), analysing own activity and plan professional development ($\tau B = 0.189, p < 0.01$) and monitoring students in the workplace ($\tau B = 0.421, p < 0.001$). Finally, attending seminars proposed by providers correlates with monitoring students in the workplace ($\tau B = 0.189, p < 0.01$). All these correlations seem to suggest the presence of a peculiar dedication by the surveyed VET-teachers to the professional sector of reference.

Secondly, there a few positive correlations with the items related to the dimension of support needed for professional/technical sector. In fact, within the didactic actions, only the item of monitoring students in the workplace is significantly correlated to the need of internship in workplaces ($\tau B = 0.378, p < 0.001$), free seminars for innovation ($\tau B = 0.378, p < 0.001$), and access to online and virtual learning ($\tau B = 0.206, p < 0.01$). Likewise, the item choosing professional guidance to foster teaching skills correlates with participation in specialised seminars ($\tau B = 0.196, p < 0.01$), as well as consulting students, teachers and students parents on the topic of professional qualifications and free access to specialised literature ($\tau B = 0.291, p < 0.001$), choosing the best way and measures for professional

development with free seminars for innovation ($\tau B = 0.320, p < 0.001$). This information also seems to confirm the presence of a work-oriented culture in the vocational training centres. On the one hand, this fosters VET-teachers to keep their sector technical skills up-to-date; on the other hand, it promotes their attention to didactic activities with students.

By contrast, there is a more positive significant correlation with items linked to teachers' actions to develop pedagogical competencies and didactic actions. Firstly, the independent study of pedagogical literature highly correlates with students' needs evaluation, adapting and fostering learning environment, helping students with special needs, choosing learning methods and strategies, engaging in assessment, preparing tests and negatively with monitoring students with special needs (i.e. $\tau B = 0.214, p < 0.01$; $\tau B = 0.269, p < 0.001$; $\tau B = 0.195, p < 0.01$; $\tau B = 0.270, p < 0.001$; $\tau B = 0.177, p < 0.01$; $\tau B = 0.180, p < 0.01$; $\tau B = -0.221, p < 0.001$). Likewise, attending seminars proposed by VET stakeholders correlates with actions for students like students' needs identification ($\tau B = 0.214, p < 0.001$), planning didactic activities ($\tau B = 0.269, p < 0.001$), assessment of students competencies ($\tau B = 0.325, p < 0.001$), and preparing test ($\tau B = 0.176, p < 0.01$), taking part in and proposing international and national projects ($\tau B = 0.266, p < 0.001$; $\tau B = 0.180, p < 0.01$) and analysing own activity and plan professional development ($\tau B = 0.227, p < 0.01$). The action of sharing experiences with colleagues correlates with didactical actions, i.e. compiling documents ($\tau B = 0.198, p < 0.01$), students' needs identification ($\tau B = 0.206, p < 0.01$), planning didactic activities ($\tau B = 0.213, p < 0.01$), fostering learning environment ($\tau B = 0.180, p < 0.01$), fostering disable students' learning ($\tau B = 0.197, p < 0.01$), choosing learning materials ($\tau B = 0.208, p < 0.01$), choosing the best way and measures for professional development ($\tau B = 0.199, p < 0.01$) and engaging in self-evaluation ($\tau B = 0.343, p < 0.001$). A few correlations are shown for self-study online for pedagogical competencies development (i.e. students' needs identification, $\tau B = 0.212, p < 0.001$; monitoring students with special needs, $\tau B = 0.182, p < 0.001$; providing individual training, $\tau B = 0.170, p < 0.001$; choosing learning strategies and methods, $\tau B = 0.225, p < 0.001$; proposing national and international projects, $\tau B = 0.244, p < 0.001$; choosing the best way and measures for professional development, $\tau B = 0.180, p < 0.001$) and for attending a pedagogical course at university (i.e. crafting learning materials, $\tau B = 0.235, p < 0.01$; choosing professional guidance, $\tau B = 0.194, p < 0.01$, and engaging in self-evaluation, $\tau B = 0.220, p < 0.01$). All these correlations between the dimensions of (i) teachers' actions to develop pedagogical competencies, and (ii) didactic actions, show that in VET centres, pedagogical knowledge is as present as work culture. Even if teachers of VET centres are not obliged to attend a teacher education course before enrolment, pedagogical competencies and knowledge are an integral part of their working practices.

Finally, only a few correlations are shown between items of the support needed for pedagogical competencies development and didactic actions. In fact, the item related to developing knowledge on pedagogical methods significantly correlates positively with crafting learning materials ($\tau B = 0.213, p < 0.01$) and negatively with monitoring students in the workplace ($\tau B = -0.210, p < 0.01$). Likewise, the item referred to the free access to specialised literature within this dimension negatively correlates with monitoring students in the workplace ($\tau B = 0.253, p < 0.001$). These negative correlations suggest that the teachers who have more contacts with companies and external context related to the world of work (e.g. monitoring the students' internships) enrich their pedagogical knowledge while they're implementing their teaching practices. The large number of relationships between the dimensions concerning pedagogical skills, professional skills and didactic actions emerged from the correlation analysis could be confusing, but they could indicate the complementarity between the two different categories of competence. So, we could

suppose that the surveyed VET-teachers develop specific competencies in a holistic way (Mulder and Winterton, 2017) by their work practice and living in their work context. This does not mean that they do not need training, especially from a pedagogical point of view, but the working context of VET centres stimulates self-learning of teachers.

Correlation analysis has been run to find significant correlations between variables of the presented dimensions and the questions about self-expression, e.g. possibilities of self-expression in the work of VET and the intention to quit/stay. Significant correlations have been found suggesting that those teachers who reported to have a higher level of self-expression in VET implement more didactical actions. The item regarding the self-expression opportunity has significant and positive correlations with the didactic actions of planning activities ($\tau B = 0.180, p < 0.01$), engaging in supervision of students' competencies ($\tau B = 0.186, p < 0.01$), monitoring students ($\tau B = 0.180, p < 0.01$), choosing the best way and measures for professional development ($\tau B = 0.196, p < 0.01$), organising skills-competitions ($\tau B = 0.361, p < 0.01$) and proposing and taking part in national and international projects ($\tau B = 0.291, p < 0.01$). This shows that the activities listed above allow teachers to express themselves. Likewise, although only a few correlations have been found between the intention to quit the VET working sectors and the didactical and pedagogical actions, these results suggest that those who do not report to leave the VET sector are more used to implement didactical actions (i.e. choosing learning methods and strategies, $\tau B = 0.190, p < 0.01$) and self-development strategies (i.e. attending seminars in the university, $\tau B = 0.203, p < 0.01$).

4.2 The findings of survey executed in Lithuania

The majority of surveyed VET teachers (81.9%) indicated that the job of VET teacher is their permanent job and 62% indicated, that the job of VET teacher is their only job (25.2% indicated that they also had other supplementary jobs but the VET teacher was the main job).

Survey participants find the work of vocational teacher meaningful for them. The absolute majority of survey participants indicated that their work as VET teacher partially or completely allowed them to express themselves in the professional and personal field (50.6% indicated that work allowed them to express themselves, while 43.2% indicated that it partially allowed such self-expression). What factors could influence such opinions? Recent reforms of the VET system and curricula significantly change the work tasks and responsibilities of the VET teachers due to the implementation of the modular VET curricula. Development of the work-based training together with enterprises and practical training centres requires from the VET teachers to engage actively in the curriculum design, organisation and provision of the practical training, cooperation with the trainers and employers. It enriches the work of VET teachers and makes it more interesting and meaningful. It confirms the notions from the literature about the positive implications of the competence-based VET curricula for the contents of work and competence development of vocational teachers (Mulder, 2017; Wesselink *et al.*, 2010).

Nevertheless, the surveyed VET teachers do not share such positive opinions about the opportunities of professional career – only 36.6% of respondents indicate that they see ample career prospects in the education field and outside of it, whereas 41.3% indicate that work of the VET teacher creates narrow career opportunities in the field of VET and 19.4% indicate, that this work opens a relatively poor career path. Such distribution of opinions discloses different career opportunities which depend on the status and position of the VET providers. More advanced and bigger VET schools, which have the sectoral practical training centres and stronger partnership with the

labour market stakeholders can offer wider and more attractive career possibilities for VET teachers compared to the smaller VET providers.

Despite such a critical opinion about the career possibilities, the majority of surveyed VET teachers (69.0%) do not intend of giving up the career of VET teacher and the most important indicated reasons of such decision are good opportunities for learning and professional development in this profession (47.0%) and the interesting and meaningful work of vocational teacher permitting to express oneself and to change something for good (39.4%). The key reason for giving-up the career of VET teacher is dissatisfaction with a low salary (60.0%). One of the reasons for such a situation is the absence of a remuneration system that offers incentives related to competence development and continuing training of the VET teachers. Current qualifications of VET teachers referenced to Level 4 of the National Qualifications Framework of Lithuania (LTQF) and the EQF have not favoured competence development and vertical career. Occupational standard of the education sector and libraries approved in July 2019 introduces qualifications of the VET teacher referenced to the LTQF/EQF Levels 5 and 6. Another reason is weak involvement of VET teachers in collective labour relations and low unionisation, which does not permit to create pressure for the Government to revise the remuneration system.

Looking to the distribution of the frequency of the work tasks of the VET teachers (Figure 2), there can be noticed that the least frequent and probably most under-developed competence fields of the VET teachers are related to the activities executed outside teaching areas, such as participation in the projects, organisation of the skills competitions, vocational guidance of students, or provision of information and guidance to students and parents on the issues of acquisition of skills and qualifications. It is related to the fact that these new work processes of VET teachers are still in the process of emergence and introduction, as a part of the competence-based reforms and changes of VET provision.

The most popular ways of development of professional competencies of VET teachers are independent studying of professional literature (38.8% of respondents claim to use it regularly, 50.6% – often) and independent learning through the Internet, distance learning and virtual labs (33.3% of respondents use it regularly, 52.3% – often). When considering the needs of methodical organisational support for the development of professional competencies, surveyed VET teachers indicate the necessity of opportunities to participate in the specialised exhibitions and seminars (absolute necessity – 40.9%, necessity – 56.3%), access to free seminars and workshops on technological innovations organised by the suppliers of technologies and materials (absolute necessity – 39.0%, necessity – 56.0%) and access to literature on the technological and organisational innovations in the professional field (absolute necessity – 34.7%, necessity – 59.1%). It shows the potential for more intensive and wider involvement of social partners, especially employers, in the development of professional competencies of the VET teachers.

The most popular way to develop pedagogical competencies is participation in the discussions and exchange of experience with other teachers (39.9% of respondents use it regularly, 47.8% – often), which is followed with the participation in seminars organised by the VET providers and other responsible institutions (27.9% use it regularly, 53.9% – often) and with independent studying of the pedagogical literature (25.8% use it regularly, 53.1% – often). In assessing the needs of methodical and organisational support for the development of pedagogical competencies, the respondents indicate the necessity of opportunities to exchange experience with other colleagues from the different VET providers (absolute necessity – 38.8%, necessity – 55.0%), as well as access to the pedagogical literature (absolute necessity – 30.6%, necessity – 60.0%), and access to methods for solving of pedagogical problems (absolute necessity – 30.4%, necessity – 61.4%). It shows the growing

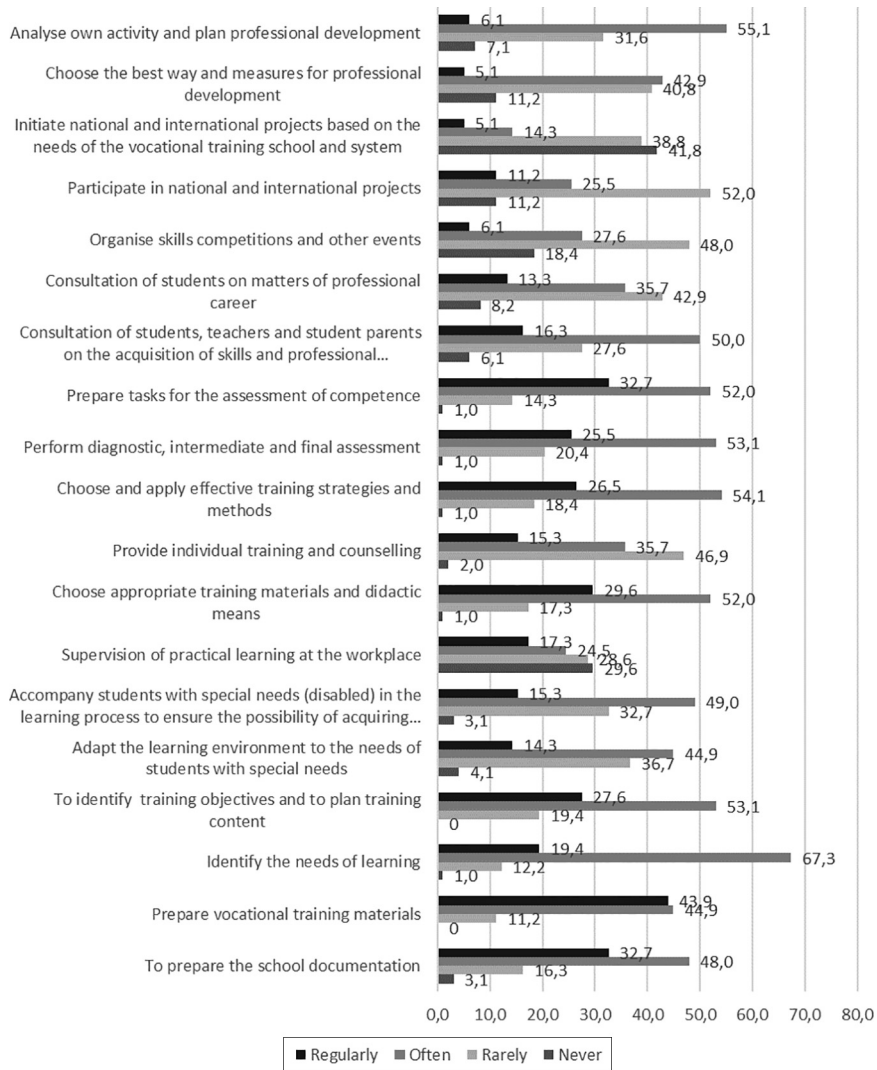


Figure 2.
The key tasks of VET
teachers in Lithuania

potential for the professional networks and organisations of the VET teachers and trainers to contribute to the development of pedagogical competencies of VET teachers.

The survey disclosed significant correlations between the didactical actions and tasks, and the ways of development of professional competencies. For example, there are significant negative correlations between the indication of the frequency of preparation of training materials and independent learning through Internet, distance learning and virtual labs ($\tau B = -0.179, p < 0.001$), independent studying of professional literature ($\tau B = -0.217, p < 0.001$) and participation in the seminars organised by the suppliers and producers of technologies and materials ($\tau B = -0.221, p < 0.001$). Preparation of training materials increasingly refers to the concrete work processes and related tacit knowledge of the VET

teachers, rather than to theoretical knowledge. Indication of the frequency of adaptation of learning environment to the requirements of students with the special needs negatively correlates with the preference of independent learning by using Internet and distance learning ($\tau B = -0.144, p < 0.005$) and preference of participation in the seminars of suppliers of technologies and materials ($\tau B = -0.136, p < 0.007$). This work task of VET teachers requires more experiential tacit know-how, rather than explicit theoretical knowledge, just like the supervision of practical learning at the workplace, choice of the effective training strategies and methods and preparation of the tasks for competence assessment.

Indication of the frequency of supervision of practical learning at the workplace negatively correlates with the preference to develop professional competencies by participating in the seminars of providers of technologies and materials ($\tau B = -0.223, p < 0.001$). Indication of frequency of choosing and applying effective training strategies and methods significantly correlates with preferences to develop professional competencies by independent learning through Internet and distance learning ($\tau B = -0.242, p < 0.001$), independent studying of professional literature ($\tau B = -0.180, p < 0.001$) and participation in the seminars of suppliers of technologies and materials ($\tau B = -0.208, p < 0.001$). Indication of the frequency of preparation of tasks of competence assessment also significantly correlates with preference to develop professional competencies through Internet and distance learning ($\tau B = -0.208, p < 0.001$) and by independent studies of professional literature ($\tau B = -0.186, p < 0.001$). It shows the increasing influence of the development of work-based learning for the orientation and attention of teachers to the work-oriented ways and approaches of their competence development.

There are also significant negative correlations between the answers about the frequency of the work tasks and the preferences of the ways in developing pedagogical competencies. By executing their work tasks, the VET-teachers acquire and develop their pedagogical competencies through professional experience, which reduces the need and motivation to use other, more formal ways of acquisition and development of pedagogical competencies. Some formal ways of development of the pedagogical competence (e.g. seminars organised by different institutions, independent studying of pedagogical literature) lack relevance to the pedagogical practice and tend to be replaced by the concrete training practices and activities. For example, the indication of the frequency of the task to adapt the learning environment to the requirements of students with special needs, consultation of the students on the matters of professional career and organisation of skills competitions and other events significantly negatively correlates with the all indicated preferences in developing pedagogical competencies, except of discussions and exchange of experience with other teachers. Indication of the frequency of identification of training objectives for the planning of the training content significantly negatively correlates with the preferences of self-learning through the Internet and distance learning ($\tau B = -0.264, p < 0.001$), as well as with independent studying of pedagogical literature ($\tau B = -0.206, p < 0.001$). Frequency of supervision of practical learning at the workplace significantly negatively correlates with the preference of participation in seminars organised by the VET providers and responsible institutions ($\tau B = -0.192, p < 0.001$). Frequency of choosing and applying effective training strategies and methods significantly negatively correlates with preferences to develop pedagogical competence by self-learning in using the Internet ($\tau B = -0.165, p < 0.001$), independent studying of pedagogical literature ($\tau B = -0.238, p < 0.001$), and with participation in the specialised seminars on the development of pedagogical competencies ($\tau B = -0.215, p < 0.001$). It also evidences challenges of pedagogical competence development of the VET teachers and trainers in the context of the modularisation of VET curricula, which are related to the lack of relevance of available learning materials and disappointment with provided training courses.

There were identified significant correlations between the answers to the question about the possibilities for self-expression in the work of VET teacher and the indication of the frequencies of some tasks of professional activity, such as negative correlations with identification of training objectives for the planning of training curricula ($\tau B = -0.190, p < 0.001$), choosing appropriate training materials and didactic means ($\tau B = -0.195, p < 0.001$), accompanying students with special needs in the learning process by ensuring the acquisition of practical skills ($\tau B = -0.189, p < 0.001$). Self-expression in the work of the VET teacher sometimes is hampered by increasingly standardised and regulated processes of VET curriculum design, preparation of training materials and accompanying students with special needs. On the contrary, some non-standardised and less regulated activities, like project work, supervision of practical learning or consulting of students on the acquisition of skills, may contribute more to self-expression in work. There are positive correlations between the answers about the possibilities for self-expression in the work of VET teacher and the indication of the frequencies of initiating of national and international projects ($\tau B = 0.207, p < 0.001$), consulting of students, teachers and parents on the acquisition of skills and qualifications ($\tau B = 0.147, p < 0.004$) and supervision of practical learning at the workplace ($\tau B = 0.139, p < 0.007$).

There were also found significant correlations between the answers about the professional career opportunities for a VET teacher and the tasks of work: positive correlations with the supervision of practical learning at the workplace ($\tau B = 0.210, p < 0.001$), initiating national and international projects ($\tau B = 0.229, p < 0.001$) and choosing the best ways of professional development ($\tau B = 0.188, p < 0.001$). It could be explained by the increasing importance of these tasks in the work of the VET teacher in the context of the implementation of the competence-based modular VET curricula and practices of work-based training and apprenticeship.

Negative correlations are found with the provision of individual training and counselling ($\tau B = -0.148, p < 0.005$) and analysis of own activity and planning of professional development ($\tau B = -0.183, p < 0.001$). It shows that the understanding of the professional career opportunities by the VET teachers mainly refers to the “objective” contributions of the VET teacher to the VET school as an organisation (by coping with the challenges and tasks posed by the reforms and institutional changes), whereas “subjective” aspects of career, such as individual relationships with the students or critical reflection of the own activity are of minor importance.

5. Discussion

Development of pedagogical competencies of the VET teachers in the school-based VET systems of Italy and Lithuania takes place in rather similar institutional conditions and context of development. The formalisation of qualifications and initial training of VET teachers is very fragmented and weak in both countries. This presents a serious obstacle for sustainable and structured development of pedagogical competencies. This problem is being solved in Lithuania by introducing formal qualifications of the VET teachers (referenced to EQF levels 5 and 6) with the official approval of the national occupational standard of the education sector and activities of libraries in August 2019. Introduction of formal qualifications opens the space for initiating of the formal programs of studies and training targeted to the provision of VET teachers' qualifications, what will create conditions for new quality assured pathways of development of pedagogical competencies.

The survey indicates that there are many common challenges and problems of development of pedagogical competencies of the VET teachers in the school-based VET systems in Italy and Lithuania. First of all, it is a challenge of precarity and marginalisation of the VET teacher's work and working conditions, especially the dissatisfying wages and poor career opportunities. It presents a significant challenge for the sustainability of initial and continuing training of the VET teachers and their maintaining in the VET sector in both

countries. This is also an important objective factor of the VET reforms for the competence development of VET teachers, which is not raised in the dominant literature focused on the issues of these reforms in Nordic Europe, German-speaking, Benelux or Anglo-Saxon countries, where the socio-economic status of VET teacher is not so marginalised.

In the same time, there can be noticed the strange contradiction between the dissatisfying material working conditions and the strong feeling of the meaningfulness of VET teacher's work, which is enhanced by the stronger involvement of VET teachers in the processes of VET provision resulting from the implemented reforms of VET in the fields of curriculum design (modularisation and competence-based curricula) and organisation of training (fostering of work-based learning and apprenticeship). This conforms to the importance of subjective factors of VET teacher's personality and professional identity for the successful implementation of the competence-based VET curriculum reforms raised in the literature.

Absent or weak institutionalisation of VET teacher's qualifications and training in both countries also contribute to the development of more individualised patterns of pedagogical competence development by preferring independent studying of literature, online materials, sharing of experience and other similar measures. Current reforms, especially implementation and fostering of work-based learning and dual apprenticeship, significantly increase the importance of learning in the concrete work processes for the acquisition of pedagogical competencies. VET teachers in Lithuania tend to rely more on work-based practices in developing their pedagogical competencies, while in Italy VET teachers also indicate the increasing demand for teacher training activities in enterprises. However, increasing standardisation and centralised regulation of the VET curricula tend to weaken the self-expression of VET teachers, which reduces the space for the autonomous development of pedagogical competencies in both countries.

6. Conclusions

Development of pedagogical competencies of VET teachers presents an important factor in the reform and institutional change of the school-based VET systems. First of all, implemented reforms of VET curricula (competence-based modularised VET curricula) and provision of training (introduction of work-based learning and apprenticeship) require important change of the pedagogical competencies of VET teachers. Surprisingly, qualifications of VET teachers, their initial and continuing training and competence development do not emerge as priority fields of activities in implementing these reforms in the analysed countries (at least until the recent period). Fragmented practices of VET teachers training and development of their pedagogical competencies will become a serious obstacle for the successful implementation of reforms.

Both competence-based orientation of the VET curricula and introduction of the work-based learning practices in VET significantly change the contents of work tasks and responsibilities of VET teachers by strengthening the dimension of the work process in the training practices. It leads to the increasing demand of "tacit" pedagogical competencies applied in the contexts of work, work-based learning and apprenticeship.

Teachers increasingly perceive the development of their pedagogical competencies as individualised learning, strongly contextualised in the work processes. Development of such pedagogical competencies requires a strong and systemic partnership between the experts of didactics and the experts of the work processes and technologies at the different levels (national regulation of VET teachers training, competence development of VET teachers and trainers in the sectors of the economy, human resource development in the VET centres and schools). Such partnership is largely absent in the current practices of VET teachers training and competence development in Italy and Lithuania.

Referring to the findings of this research and their limitations, there can be suggested several potential areas for future comparative studies in this field. First of all, it would be interesting to compare the evolution of the institutional settings of the VET teachers training and competence development in the context of the implementation of competence-based reforms in the different countries by collecting quantitative and qualitative data from the different stakeholders: VET teachers and trainers, students and apprentices, employers and trade unions, governmental agencies. Such comparative research could include the countries with different institutional models of VET and skill formation (for example, by involving countries with marked-based or collective skill formation systems). Secondly, the implications of VET teacher training and competence development for the professionalisation and occupational status of VET teachers and trainers could be explored by applying qualitative research methods.

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