Iris Klein and the TEACH-VET team

PROFILES AND COMPETENCES OF VET TEACHERS AND TRAINERS
Comparative report on the development of teaching competences of VET teachers and trainers in Germany, Lithuania and Italy

Universität Bremen

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Institut Technik und Bildung (ITB), Universität Bremen, Mai 2020
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This report is a collaborative report using parts of the national reports elaborated by the project partners:

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Zusammenfassung:

Digitalisierung, Inklusion, lebenslanges Lernen – um nur drei aktuelle Trends in der Berufsbildung zu nennen – sollten auch an den Lehrenden in Berufsschulen und Betrieben nicht spurlos vorbeigehen. Doch haben diese die Voraussetzungen angemessenen Unterricht zu diesen Themen vorzubereiten? Im Kontext der Internationalisierung der Berufsbildung, z. B. der transnationalen Mobilität von Auszubildenden und Lehrpersonal und der Umsetzung des European Credit Transfer Systems (ECTS) an den Hochschulen sollten diese Voraussetzungen nicht nur national, sondern transnational vergleichend erhoben werden. Es mangelt jedoch an geeigneten Instrumenten zur Erhebung, Bewertung und zum EU-weiten Vergleich der Lehrkompetenzen in der beruflichen Bildung.

Im Rahmen des Projektes TEACH-VET wurden solche Instrumente entwickelt und eingesetzt. So konnten die gemeinsamen und divergierenden Trends in der Ausbildung von Lehrkräften und Ausbildern in Deutschland, Italien und Litauen aufgezeigt werden. Angesichts der Vielfalt an (politischen) Ansätzen und Praktiken in den EU-Ländern hierzu und ihrer Relevanz für die Berufsbildungssysteme konnte dieses Vorhaben nur mittels einer starken transnationalen Zusammenarbeit erfolgen. Dieser Forschungsbericht veröffentlicht die Ergebnisse einer vergleichenden Analyse in den ausgewählten EU-Ländern zu den wichtigsten Gemeinsamkeiten und Unterschieden der Ausbildung von Lehrenden in der beruflichen Bildung. Der Bericht zeigt zudem auf, welche rechtlichen Rahmenbedingungen, öffentliche Stellen und andere Interessengruppen in diesem Prozess eine führende Rolle spielen.

Abstract:

Current changes in vocational education and training, such as responding to the technological and organizational development (the advent of the 4th industrial revolution), internationalization, integration of VET in lifelong learning processes, create the need for better development of the teaching competence of VET teachers. There are different practices and experiences of VET teachers training in the EU countries, which creates the space for effective policy learning in this field. Comparability of the teaching competence of the VET teachers is important from the point of view of internationalization of initial VET and international mobility of VET students and teachers in implementing ECTS measures in teacher education. However, there is still a lack of modern practical instruments in monitoring, assessment, guidance and comparability of the teaching competence of VET teachers and trainers.

The goal of this comparative study is to disclose the common and diverging trends in the development of teaching competences of VET teachers and trainers in Germany, Italy and Lithuania. Having in mind the complexity of this task and its relevance for the VET systems in many countries, as well as the variety of the policies, approaches and practices of development and assessment of teaching competence of VET teachers in the EU countries, this undertaking requires strong international partnership. This research report points out the findings of a comparative analysis in chosen EU countries (Germany, Lithuania, Italy), about the main similarities and differences regarding the training (and hence competence development) of VET teachers and trainers, and which regulatory frameworks, public bodies and other stakeholders take a leading role in this procedures in the above-indicated countries.

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3

Content

1 Introduction

Competences of VET teachers and trainers and their development increasingly attract the attention of researchers and policymakers as highly important factors of quality and accessibility of VET as well as its acceptance in society. Day (2017) reminds us that in addition to benefits, such as criteria for teaching quality assurance via minimal or threshold standards for teacher education, competence-based approaches in teacher training also bring significant drawbacks, like favouring atomistic and reductionist learning outcomes and difficulties in ensuring acquisition of holistic capabilities required by increasingly complex tasks of the teaching profession. The application of competence-based approaches in teacher education is often strongly influenced by the spread of corporate management values and parameters in the identification and assessment of teacher performance and competences leading to the development of an "entrepreneurial" identity of teachers (Day, 2017). Wuttke and Seifried (2017) note that competence-based teacher education approaches are heavily influenced by behaviorisms and characterized by over-specification and fragmentation of learning. In order to overcome this drawback, current approaches of modelling 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 really 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). This study will seek to provide a comparative perspective on teaching competences of VET teachers and trainers in the Countries of **Lithuania**, **Germany** and **Italy**, offering the baseline for measures needed in the context of the changing content of their work and institutional context of teacher training.

2   Approach and methodology

The goal of this study is to compare the teaching competence of VET teachers and trainers in **Lithuania**, **Germany**, and **Italy**. The first step in this procedure was to collect and to analyse information about framework guidelines, occupational standards, the involvement of public bodies, stakeholders and other relevant parties regarding the training of VET teachers and trainers (and hereby their acquisition of competences) in the mentioned countries. Analysing these documents was of importance in order to draw a picture of the actual occupational profile of VET teachers and trainers in each country. Which tasks are executed and which competences are needed for these tasks? Research methods included comparative content analysis of the policy documents and legal acts, as well as qualitative research methods, such as interviews with experts from the field and focus groups of VET teachers and trainers. Later on, the outcomes were used as background information to develop so called "fields of competence" like "planning of vocational education and training". These fields of competence are dimensions of an electronic on-line tool for self-assessment, monitoring, guidance and comparability of teaching competences of VET teachers and trainers.

To master the task of comparing teaching competences development during VET in the partner countries the following steps were executed in detail:

1. Collecting literature, existing research data and statistics on the teaching competence of VET teachers and trainers in the countries mentioned. Analysing research papers, reports, statistical data providing relevant information about the assessment and development of the teaching competence of VET teachers and trainers. The main focus hereby lies on features of the legal and institutional framework for VET teachers' and trainers' training and competence development.

2. Analysing available information about national occupational standards or profiles: legal acts that stipulate qualifications and competences of VET teachers and trainers, descriptors of qualifications from the occupational standards. Analysing official documents that stipulate the occupations or qualifications of VET teachers and trainers will provide the basic reference information for the description of the national profiles of VET teachers and trainers in the mentioned countries.

3. Interviewing insiders: VET teachers, trainers, and experts are questioned to get the updated relevant information about the occupational profile and competences needed for the profession as a VET teachers and trainers first hand.

On the basis of the occupational profiles and competence frameworks, the fields of competence (see chapter 5) were developed in order to assess and develop the professional and pedagogical competences of VET teachers and trainers via an online-tool.

3 Aspects of the development of competences of VET teachers and trainers in *Germany*, *Italy*, and *Lithuania* - Comparison of legal frameworks and institutional governance

This section covers a comparative overview of the recent trends in the field of legal regulation of VET teachers and trainers training and competence development, as well as institutional settings of the governance of this field in terms of involvement of the state, social partners and stakeholders and other relevant parties.

3.1 Legal regulations

To what extent and how are the issues of VET teachers' and trainers' training and competence development regulated by the national laws and legal acts? What kind of laws regulate these issues?

Germany: The German Basic Law (Grundgesetz), Art. 12 states that everyone has a free choice of occupation. But with respect to VET teachers and trainers the Vocational Training Act (Berufsbildungsgesetz, BBiG, Teil 3), enacted by the German Federal Parliament (Bundestag) with approval of the German Federal Council (Bundesrat), states that there has to be a certain suitability of training personnel regarding Dual Vet. However, the training of VET teachers and the matter of training competence development is more object of the federated states (regions with certain sovereignty). The federal system (Bund) confers so-called cultural sovereignty on the federated states (Länder) and accords them the right to pass legislation in school-related matters. This legal principle is followed by a complex body of ordinances, resolutions and federal state laws[1]. The rights and duties of teachers and learners, as well as the aims of teaching, are regulated by the senatorial authorities, mostly the Ministry of Education and the Ministry of Science. The resolutions of the Standing Conference include the federally standards for the educational contents regarding the training of (VET), the federal framework agreement for the training and examination of the teaching profession and the resolution about common requirements for the preparation of the teaching-practice and the final state examination. Besides these training and examination regulations of the states, there are State Laws regarding the admission and selection procedure at the Universities recorded in the so called Higher Education Acts as one has to pass a university degree in order to become a legitimate VET teacher.

Regulations about the training of VET trainers (in-company trainers) are set down in the Vocational Training Act (Berufsbildungsgesetz, BBiG, Part 2, Kap.1 Abschnitt 3, §27-33), which refers to the suitability of training personnel, as mentioned. The BBiG is also a joint agreement on coordination of training regulations and framework curricula which governs the content of training for the apprentices and coordinates the content which is taught in companies. The professional aptitude is defined in the §30. Trainers can approve their vocational and occupational pedagogical qualifications by taking a trainer aptitude test. Further Regulations are found in the Ordinance on Trainers Aptitude (Ausbildereignungsverordnung, AEVO). In addition to the AEVO,

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[1] The following laws and regulations as well as resolutions are passed by the different authorities regarding to the vocational training of VET teachers are in this case mostly exemplified by the state of Bremen.

the provisions of the Vocational Training Act (personal and professional aptitude) applies.

Lithuania: The work of VET teachers and trainers and their competence development are legally regulated in a centralized way with the significant role played by the key national laws and legal acts and the functions of regulation in this field delegated to the Governmental institutions. The duties of a vocational teacher are characterized by the content of the activity defined by the Law on VET, other normative documents, requirements of the curriculum and curricula. The Education Law establishes the obligation of a teacher to participate in professional development events for at least five days a year. Law on Amendment of the VET Law (2017) states, that VET teachers must comply with the qualification and competence requirements set out in VET programs and the Education Act, qualified personnel must be suitable for the planned VET and quality assurance of VET. Ministry of Education and Science is responsible for the planning of the VET teachers' training and their competence development.

Italy: In 2015 the Italian government reformed the apprenticeship regulations introducing the Dual-System (D.Lgs. 81/2015; State-Regions agreement of 24 September 2015). These arrangements have been integrated into the Italian VET system in place. 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. The initial VET training programmes can be provided both by private VET centres funded by the region and by public vocational schools in subsidiarity form. Regarding teachers employed by VET centres, the national legislation does not provide a mandatory teacher training course as regards IeFP[2] provided by VET centres, because the Italian VET system is not managed (for the most part) directly by the central government, i.e., many functions in work and competence development of VET-teachers are delegated to the regions. At regional level, within the framework of the State-regions Agreement of 22 January 2015, each region and autonomous province is responsible for setting its standards for teacher training to ensure high-quality VET services financed by public funds.

In 2015, the Italian past government implemented different reforms in order to improve the initial and in-service public-teacher education (public-school teachers who are teaching in IeFP programmes) and to support both the job placement and the working life of Italian teachers (law n. 107/2015; decree n. 59/2017; DM 616/2017). However, the several changes of government led to confusion on this topic, because the current minister seems to mix up the old system with the new one. Neither the D.Lgs. 81/2015, which rules the Italian dual system (Apprenticeship type 1), nor regional decrees provide indications about VET-trainers' development. Only the following characteristics are required:

- must be an experienced worker, appointed by the employer, who operates in the same work context in which the apprentice was placed;

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[2] IeFP: istruzione e formazione professionale are three- to four-year initial VET programmes organised by the regions. These modular programmes aim at developing basic, transversal and technical-occupation-al skills and include on-the-job training (especially internships). Learners can change areas of study through recognition of credits. Qualifications at EQF levels 3 and 4 are recognised nationally.

– must have at least three years of seniority (this requirement does not apply if there are no workers in the company who possess this characteristic);

– must have a company level equal to or higher than the one the apprentice will have at the end of the apprenticeship;

– must carry out work activities consistent with those of the apprentice.

3.2 Institutional setting of the governance of VET teachers' and trainers' training and competence development: involvement of state, social partners and VET providers

What state institutions are involved in the governance of the VET teachers' and trainers' training and competence development? What are the responsibilities of these institutions in the design of VET teachers' and trainers' training curricula, organization of training, assessment of acquired competences and qualifications?

Germany: Educational legislation and admission are primarily the responsibility of the federated states (Bundesländer). The ministers of education and cultural affairs of all 16 German federal states participate in a standing committee (Kultusminister-konferenz, KMK) which ensures a certain degree of uniformity and comparability in school and higher education policies. Decisions are recommendations, legally bound when passed by the regional parliaments (Landesparlamente). The resolution "standards for teacher training in the educational science" maintain the main emphases of the curricula of the educational sciences. These formulated standards are of particular importance for vocational training and the work of VET teachers. The document drafts the competences which have to be acquired during the study and training in educational sciences. Four areas of competence are mentioned: teaching, educating, judging, innovating, eleven competences are assigned to these fields of competences which are acquired via theoretical training sections and practical training sections.
The educational acts of the regions stipulate the conditions under which teaching and learning take place, rights and duties of teachers and learners, the aims of teaching; they regulate teaching contents; they determine the respective skeleton curriculum (Rahmenlehrpläne/RLP). e.g. learning objectives and the written and oral transcripts of records.

In 2007 the so-called "learning field concept" (Lernfeld-Konzept) was established by the Standing Conference of the Minsters of Education and Cultural Affairs (Kul-tusministerkonferenz, KMK). From there on teaching by subject was shifted to a more focused education, oriented on vocational tasks and problems.

Matters regarding the framework and governance of universities are regulated by the Senator for Education and Science and are reflected in the laws and regulations for the higher education sector (university education of the VET teachers).

Studying at a State University is one of three training steps in order to become a (VET)teacher:

– Step 1: absolving the Bachelor's degree program: 6 semesters for all types of school, 180 CP, standard period of study 3 years.

– Step two: studying the Master of Education: 4 semesters for all types of school, 120 CP, standard period of study 2 years.

– Third and final step: "Referendariat" (a kind of preparatory service, the first practical phase in school) & Second State Examination - Duration in Bremen: 18 months. With the completion of the Master of Education you have acquired the first state examination (EQF Level 6) and can apply nationwide for the preparatory service, which concludes with the Second State Examination (EQF level 7). Only then is the teaching qualification as a teacher in public schools and VET acquired.

The State Institute for School of the Free Hanseatic City of Bremen (LIS) is a facility of the Senator for Children and Education and provides as a centre of competence, professional, educational and psychological services and support services for becoming VET teachers.

It provides guidance and guideline-documents to ensure a successful transition from the educational to the practical phase, referred to as "Referendariat". This traineeship is part of the training curricula of the State University and serves the transfer and application of the contents learned in the training. If the traineeship is sought outside the state in which the university degree was acquired, one must obtain information from the Ministry of Culture of the respective federal state.

The main tasks of the LIS regarding to the training of VET teachers are in particular: the training of the becoming VET teachers "Referendar*Innen" and therefore the qualification of teachers, the promotion and support of schools in the design of processes of school and lesson development, the development of frameworks and quality assurance tools for school and education, the provision of media and materials for the design of school teaching and learning processes.

According to the Vocational Training Act VET trainer must provide vocational skills, knowledge and competences (vocational action competence) that are needed for the performance of an occupational activity in a changing work environment, and do this as part of an organised training course. They must also grant the acquisition of the necessary vocational experience (minimum EQF level 4). Trainers in vocational education and training must have the competence, skills, and experience needed to ensure that their teaching leads to the acquisition of vocational action competence.

VET schools (Berufsschulen) provide professional and general competences via their trained staff, develop vocational flexibility for dealing with the changing requirements in the work environment and in society, attract learners to advanced and continuing VET, and nurture the capability and willingness to act responsibly in private and public life.

Lithuania: The Ministry of Education and Science is responsible for planning of VET personnel training and their competence development. The Centre for Development of Qualifications and Vocational Education and Training is responsible for the development of curricula for the training of VET teachers. In August 2019 there was approved the national occupational standard of the education sector and libraries, which includes descriptors of qualifications of the VET teacher (EQF levels 5 and 6), and trainer (EQF level 5). These descriptors serve as a basis for the development of unified curricula for the training of VET teachers and trainers.

Italy: The regions and autonomous provinces delegate the management of the training of VET teachers to VET centres. Each local government establishes criteria for teacher assumption, e.g., several regions (such as Veneto) ask private centres to

recruit only staff with a degree or an upper secondary school diploma, with work experience in the relevant sector and suggest (without forcing) to prefer teachers with a teaching license. There is no national regulation and standardization of the qualifications of VET teachers, nor nationally recognized register of trainers or formal recruitment procedures. Regions and social partners could be involved in the governance of the VET trainers training, but so far, no institutional action has been implemented about it.

As regards the Public-school teachers, also who are teaching in IeFP programmes provided by vocational schools, their training and competence development is regulated by the central government, which delegates the Italian universities for the organization of the courses, the monitoring of the internships, and the release of the licenses. The public teachers' training curricula are designed by the law and by the National Collective Labour Contract (CCNL) for people working in schools.

It is important to point out that the autonomous provinces of Trento and Bolzano, which are special-status regions, are some of the few local public contexts in which the initial training of VET teachers is mandatory and ruled by the province.

What social partners are involved in the governance of the VET teachers' and trainers' training competence development? What are the responsibilities of these partners in the design of VET trainers' training curricula, organization of training, assessment of acquired competences and qualifications of the VET trainers?

Germany: German VET teacher education regulations do not foresee any active or mandatory role of social partners or chambers. But on a voluntarily basis a co-operation is desirable. Two examples: Delegates from industry and handicraft are invited to comment on study modules whilst re-accreditation of VET-teacher study programmes. When it comes to a re-development of VET-profiles, a pilot chamber is responsible for organizing this process. Two separate groups develop the curricula: Delegates from social partners (mainly trainers) negotiate the curricula for learning venue company; delegates from federal states (VET-teachers) are in charge for learning venue VET-school. The two groups do not have to co-operate, but obviously a co-operation smoothens the process.

The social partners have in particular an impact on the VET trainers teaching in the companies. Employers and trade unions participate intensively in the development of training regulations for the practical part of the vocational training in the enterprises together with the Federal Institute for Vocational Education and Training in order to turn the experience from training to good use and to heighten the acceptance of new training regulations in the enterprises providing training. In **Germany** employers' organizations and trade unions are significantly involved in the development of training regulations from the very beginning.[3] There are currently around 330 occupations requiring formal training in **Germany**. Employer organizations and trade unions are also the drivers when it comes to updating and creating new training regulations and occupational profiles or modernizing further training regulations. This of course has an impact on what the trainers teach during the vocational training.

In **Germany** the chamber requires each company which is providing training, to at least have one certified trainer.

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[3] https://www.bibb.de/en/22624.php

Lithuania: Employers' organizations and some enterprises are rather actively involved in the different national and ESF funded projects dealing with the development of technological competences and practical skills of the VET teachers and trainers. They organize the practical training of the VET teachers and trainers.

Italy: Social partners are not formally involved in VET teachers' training competence development. Also currently not for the training of VET trainers on national level.

What are the roles and responsibilities of VET providers in the governance of the VET teachers' and trainers' training and competence development?

Germany: There are training coordinators in the schools for the supervision of the Referendar*Innen, becoming VET teachers. They are contact persons for the trainee teachers when it comes to teaching or to convey information that concerns the school as a whole or to coordinate the training between school and for example LIS, the State Institute for School of the Free Hanseatic City of Bremen. During the Referendariat, the practical phase of the teachers' training the schools also provide mentors. These are teachers who are individually available for each subject. They assist in finding the professional role as a teacher. They are consultants "on the ground" in the development of professional routines. They conduct prepared and reflected classroom visits. And they help in promoting empowerment in all school practice, in all educational and organizational matters. For the in-company trainers the companies pay for the training which they provide. This includes a remuneration of the apprentices as well as material expenses and personnel costs for the trainers.

Lithuania: Due to the absence of institutionalized provision of training of VET teachers and trainers this responsibility is now overtaken by the VET providers. VET centres themselves organize the training of VET teachers, provision of necessary pedagogical and professional competences. One of the widespread practices in this field is the recruitment of the graduates or former VET students in teaching positions. 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. VET centres tend to resist the introduction of higher level qualifications of VET teachers (for example, LTQF/EQF level 6 qualification with higher education) because a big part of VET teachers and trainers currently have qualifications referenced to level 4 and attracting people with higher education to work as teachers and trainers in the VET system is highly challenging.

Italy: The role of VET centres is central to the development of the skills of VET teachers and trainers because they are the only ones able to organize training courses for their teaching personnel. However, these actions depend on the will and financial resources of the VET providers. Therefore, no standardization is envisaged. Differently, the training of public teachers who works in vocational schools is ruled by central government and provided by universities.

> **Chapters 3.1. and 3.2. can be summarised as following:**
>
> Comparison of institutional role of main competent bodies for VET-teacher and trainer education delivers a clear picture: In **Lithuania** it is regulated by national laws; in **Germany** the (few) regulations on VET-trainer education are as well regulated by a national law, but the exhaustive regulations for VET-teachers and all regulations in **Italy** are governed by regional bodies.
>
> Besides the obvious differences in size and number of inhabitants of the three countries, a root cause of this distribution of responsibilities can be found in a historic comparison. Development of state institutions and statehood in **Lithuania** in the last century was strongly precluded by the losses of independence causing significant disruptions and derailments – whilst **Italy** and **Germany** emerged from former separate entities.

3.3   National Standards

Are there any national occupational standards or profiles that define the competences and qualifications of the VET trainers? If yes, to what extent and how are these documents used in the VET trainers' training and competence development?

Germany: The KMK defines educational contents as nationwide standards to make the quality of degrees in **Germany** comparable. The sovereign states agree to implement, apply and evaluate the standards for teacher education. This applies in particular to the study regulations for the teacher training courses, the preparatory service and the further education and training of teachers. Universities implement nationwide standards of the KMK (see appendix 9.1 KMK resolution translation) and state regulations in the university education. In Bremen these regulations have an impact on the Bachelor "Berufliche Bildung" and Master of Education.

To become a vocational trainer a certain personal suitability is required, as stated in The Vocational Training Act §30: A VET trainer has to possess a certain level of pedagogical and educational skills, professional skills as in knowledge and abilities that are relevant for teaching the contents of the particular training occupation.

The required vocational skills, knowledge and abilities are proven by passing the final examination in a sector corresponding to the occupation for which the training was provided.

A recognised examination must be taken at a training centre or a final examination at a state or state-recognised school in a field appropriate to the profession or one is tested by another available examination office. In addition, the person examined must have spent a reasonable amount of time in his or her profession. The Ordinance on Trainers Aptitude, in short AEVO (see appendix 9.2 German Ordinance on Trainer Aptitude) describes the fields of competence of the vocational trainers and competences needed to educate the apprentices in the companies.

Lithuania: The occupational standard of the sector of education and libraries approved by the Order of the Director of the Centre for Development of Qualifications and Vocational Education and Training No. V1-143 on the 19th of July 2019 provides the descriptors of qualifications of the VET teacher (EQF level 5 and 6) and trainer (EQF level 5). These descriptors define the units of qualifications and competences, as well as the ways of the acquisition of qualification. This document

foresees, that qualifications of the VET teacher and trainer can be acquired in different ways including higher education studies, on the job learning and recognition of the non-formal, informal and experiential learning. On basis of these documents there has been developed an undergraduate study programme "Vocational pedagogy" providing a bachelor degree of educations science which also can be taken helping to enhance the pedagogical qualifications of VET teachers" (see page 16). There can be expected emergence of the special study programmes providing qualifications of VET teachers and trainers (EQF level 5) at the universities of applied sciences.

Italy: There are no national occupational standards or profiles that define the competences and qualifications of VET teachers and trainers. The only regulation regarding the development of pedagogical skills refers to teachers for public schools. In that regulation, competences are divided in four dimensions: professional, personal, practical and theoretical (see appendix 9.3, Italian Standards for teachers of public schools).

> **Chapters 3.3. can be summarised as following:**
>
> National standards for qualifications of VET-teachers and trainers differ largely between the three investigated countries: The state of **Italy** sets *no standards*; **German** national authorities set *minimum standards* that can be modified or raised by the regions and **Lithuania** sets *norm standards* – to be applied by all regions and training institutions.
>
> This finding correlates strongly with the conclusions drawn after last chapter on the role of regions compared to national authorities; Centralisation leads to unified standards – and vice versa.

4 Comparison of the training-systems

Comparing the legal regulations regarding the competence development of VET teachers and trainers in **Lithuania**, **Germany** and **Italy**, there can be outlined the following similarities and differences in this issue.

First of all, it is to mention that there are differences between the training pathways of either VET teachers or VET trainers and therefore the regulations may differ. In Germany for example VET teachers (Berufsschullehrer) work in VET Schools whereas VET trainers (Ausbilder) teach the apprentices during the time they spend in the companies. Nevertheless, Training and Education of VET teachers and trainers are in all countries the objects of national legislation, although to a different extent. But there are several differences regarding if certain duties and development of VET teachers and VET trainers competences depending is responsibility of the federal government or organised by the federated states or regions.

In **Lithuania** the competence development of VET teachers and trainers is legally regulated in a centralised way: a significant role is played by the key national laws and legal acts and the functions of regulation are delegated to the governmental institutions. Another focus in addition to the competence development lies in the definition of professional activities. The activity of a vocational teacher is characterized by the content of the activity defined by the Law on VET, occupational standard, other normative documents and requirements of the curricula. According to the Law on Vocational Education, the work of a vocational teacher is regulated by the space (professional theoretical training usually takes place on the premises of the institution; practical training may also take place in the field, for example in a training farm, in a greenhouse, on roads, in the forest, etc.) and on time (lesson 45 minutes; one theoretical session) lasts no longer than 90 minutes, one practice can take 6-8 hours). As mentioned, the teacher is obligated to participate in professional development events for at least 5 days a year. Obligatory participation in the training is paid by the VET institution at the expense of the student basket. The work of a vocational teacher at school is also stipulated by internal rules of the educational institution and the instructions of the teacher. VET teachers must comply with the qualification and competence requirements set out in VET programs and the Education Act. The Ministry of Education and Science is responsible for planning VET teachers training and their competence development.

In **Germany** for example matters regarding school fall into the responsibility of the federal states. It is important to keep in mind that Germany has a dual training system: Educational training in VET schools is done by VET teachers after completion of the Master of Education and first state examination (EQF Level 6) *and* preparatory service (the German Referendariat), which concludes with the Second State Examination (EQF level 7) only then the qualification as teacher for either public schools or VET Schools is acquired. Whereas in-company training is done by VET trainers who are allowed to train after acquiring the Trainers Aptitude (Ausbildereignung). To be precise: in **Germany** teaching in the companies is mostly regulated by the Ordinance on Trainers Aptitude (Ausbildereignungsverordnung, AEVO), an ordinance of federal law which stipulates approval of the vocational and occupational pedagogical qualifications of trainers by taking a trainer aptitude test (Ausbildereignungsprüfung).

As mentioned before, in **Germany** all school matters are responsibility of the federal states, VET schools included, but matters regarding VET trainers, the duties, curricula etc. fall under federal laws. This distinction of responsibilities may cause problems for the training in companies, like too little attention to regional peculiarities or to agree on adequate examinations: Innovative assessments like a "company-specific order" in the industrial metal and electronic vocations are on option in some regions – in others not.

In **Italy** one can say it is the other way around, school matters are more a federal matter, matters concerning VET trainers are more a matter of the regions and VET centres. To be precise: national legislation delegates many functions in VET trainers' training and competence development to the regions. National legislation on VET does not provide for a mandatory teacher training course because vocational training (in particular with regard to VET centres), respectively the Italian VET system, is not managed (for the most part) directly by the central government. However, there are some national legal acts that stipulate the competence development of teachers[4]. At the regional level, within the framework of the State-regions Agreement of 22 January 2015, each region and the autonomous province are responsible for setting its own standards for teacher training to ensure high quality VET services financed by public funds. The initial VET training programs are provided both by private VET centres funded by the region and by public vocational schools in subsidiarity form.

Currently, in **Lithuania** there is planned a revision of the existing legislation on the training of VET teachers. Occupational standard of the education sector and libraries introduced in 2019 foresees, that the candidates for qualification of the VET teacher referenced to LTQF/EQF level 6 must acquire a defined volume of professional and pedagogical competences related to VET curriculum design, organisation and provision of training, assistance to learners, assessment of competences. These competences can be acquired in different ways including higher education (undergraduate) studies, on the job training and work experience. The qualifications of the VET teacher (EQF level 5) and trainer (EQF level 5) can be acquired by completing specialized courses provided by different institutions (HEIs, adult education and continuing training providers, companies), on the job training and practical experience. So 2019-2020 is a period of important critical juncture in the legal regulation of the formal qualification requirements for VET teachers and trainers. Because before the introduction of the occupational standard for the sector of education and libraries in 2019, there were foreseen rather minimal educational requirements for the VET teacher's qualification and there were no formal requirements for the qualification of trainers working in the enterprises. All vocational teachers only had to have vocational (professional) qualifications. Pedagogical qualifications were not necessary: they could have it or have a course in pedagogical-psychological knowledge. For example: Pedagogical qualifications could be acquired in parallel by studying in integrated parallel studies; in a sequential manner - in non-degree studies. Mostly pedagogical studies are already carried out with a vocational (professional) qualification (in a sequential manner). There is provided one course of master degree studies in the field of VET pedagogy, but this course is more oriented to the provision of higher-level qualifications

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[4] e.g., Legislative Decree 2017, n. 59 - Reorganization, adaptation and simplification of the system of initial training and access in the roles of teacher in secondary school to make it functional to the social and cultural enhancement of the profession)

(VET teacher expert, management of VET provision). Subject qualification on the other hand could be obtained after graduation from higher education (college, university) or after completion of the vocational training program. In this case, it was necessary to have 3 years of relevant work experience.

Regarding the initial training of the VET teachers, there can be noticed a trend of national standardisation and at least minimal legal regulation of this issue in all analysed countries, although with some differences and specificities. The most centralised governance of VET-teachers initial training is typical for **Lithuania**. Here the Ministry of Education, Science and Sport is responsible for planning the VET teachers training and their competence development. Another state institution – the Centre for Development of Qualifications and Vocational Education and Training is responsible for the development of the curricula for the training of VET teachers.

As current national legislation foresees rather minimal educational requirements in VET teacher qualification, currently the institutional framework of the provision and awarding of the qualifications for VET teachers is on the initial stage of implementation. Vytautas Magnus University plans to launch the social undergraduate study programme "Vocational pedagogy" in 2020 on the basis of the requirements of the national occupational standard of the education sector and libraries.

The provision of qualifications of trainers **in Lithuania** will be executed through specialised training courses provided by the different institutions, including the Universities of Applied Sciences, as well as through the validation of their experientially acquired competences.

Involvement of social partners in the training of VET teachers and trainers is rather episodic in **Lithuania:** Employers' organisations and some enterprises are involved in the different national and ESF funded projects dealing with the development of technological competences and practical skills of VET teachers and trainers and organise practical training for VET teachers and trainers on a voluntarily basis.

Due to the absence of institutionalized provision of training of VET teachers and trainers in **Lithuania** this responsibility is now overtaken by the VET providers. VET centres themselves organize the training of VET teachers, provision of necessary pedagogical and professional competences. One of the widespread practices is the recruitment of the graduates or former VET students in the teaching positions. One of the key challenges is lack of attractiveness of the VET teachers career due to low salaries, which pushes the qualification requirements for VET teachers down. VET centres tend to resist the introduction of higher-level qualifications of VET teachers (for example, LTQF/EQF level 6 qualification with higher education), because a big part of VET teachers and trainers currently have qualifications referenced to level 4 and attracting people with higher education to work as teachers and trainers in the VET system is highly challenging.

In the federalised VET policy of **Germany** some features of centralised coordination of the VET teachers' training frame curricula can be noticed in the fact, that the ministers of education and cultural affairs of the German States participate in a standing committee (Kultusministerkonferenz, KMK) which ensures a certain degree of uniformity on the education standards. The initial training of the VET teachers is taking place at Universities, therefore it concerns the governance of universities, which are reflected in federal laws and regulations for the higher education sector (university education of the VET teachers). Becoming a VET teacher requires absolv-

ing the Bachelor's degree program, 6 semesters, 180 CP, standard period of study 3 years, *plus* completing the master's degree studies in educational science: 4 semesters for all types of school, 120 CP, standard period of study 2 years, followed by the Referendariat (practical training in the VET schools) and Second State Examination (duration in Bremen: 18 months).

German VET teacher's education regulations do not foresee any active or mandatory role of social partners or chambers. However, such cooperation takes place on a voluntary basis. For example, delegates from industry and handicraft are invited to comment on study modules whilst re-accreditation of VET-teacher study programs. Social partners also play an important role in the VET trainers' teaching at the companies. However, one of the most significant implications of active social dialogue for the development of competences of VET teachers and trainers is related to the intensive involvement of employers and trade unions in the development of training regulations for the practical part of the vocational training in the enterprises. Employer organizations and trade unions are also the drivers when it comes to updating and creating new training regulations and occupational profiles or modernizing further training regulations. This, of course, has an impact on what the trainers teach during the vocational training. Chambers also play a very important role in the competence development of trainers through the execution of quality assurance functions of work-based training - the chamber requires each company which is providing training, to at least have one certified trainer.

The role of VET providers in VET teachers' training is focused mainly to the provision of the methodical support and guidance. There are training coordinators in the schools for the supervision of the Referendariat. They are contact persons for the Referendar*Innen when it comes to teaching or to convey information that concerns the school as a whole or to coordinate the training between school and LIS. During the Referendariat the schools also provide mentors. These are teachers who are individually available for each subject. They provide "on the ground" consultations in the development of professional routines, conduct prepared and reflected classroom visits and help in promoting empowerment in all school practice, in all educational and organizational matters.

In **Italy**, similarly like in **Lithuania**, the training and employment of VET teachers in State vocational schools and in centres for adult education (Centri Per l'Istruzione degli Adulti - CPIA) is regulated by the Ministry of Education and work. However, initial training of these teachers, like in **Germany** is provided by Universities on behalf of the Ministry of Education and in collaboration with schools. The minimal requirement for accessing the teaching profession is a five-year bachelor degree in specific teaching subjects (math, chemistry, foreign languages), followed by a one-year traineeship (Active Teaching Traineeship, Tirocinio Formativo Attivo – TFA) in schools. These university courses can be provided by both public and private universities. At the end of this training pathway, teachers must pass a State exam in order to be admitted to State schools (both for public ones and private institutes accredited by national authorities). Governance of continuing training of VET teachers is more delegated to the VET providers and social partners. As already mentioned several times, there is no mandatory initial training for teachers who work in private VET centres. There is no national regulation and standardisation of the qualifications of VET teachers, nor nationally recognised register of trainers or formal recruitment

procedures. Similarly like in **Lithuania**, there are established rather minimal requirements to the training profession by the National Collective Work: a degree or an upper secondary school diploma and work experience in the relevant sector. Each Region and autonomous province in **Italy** have their own standards for trainers' training with a view to ensuring high quality VET services financed by public funds. To access these funds, the training organisations must be accredited by the competent authorities (regions and autonomous provinces) on the basis of quality standards, which also affect the skills of trainers, as indicated by the new national accreditation system of training and guidance providers. VET trainers' in-service training is not formalised. It varies greatly and participation is discretionary. Activities are mainly promoted by regional authorities and funded by the European Social Fund and more recently by Joint Inter-Professional Funds for Continuing Training (Fondi inter-profesionali).

In **Italy**, like in **Lithuania**, VET centres play a very important role in the training of teachers. Each VET centre and/or each VET federation is free to manage teacher training. Consequently, the training of VET teachers depends either on the will of the management of VET centres or on their free personal initiative. The increasing interest of the state to promote the development of teacher training and competence development while maintaining rather important autonomy of schools in this matter should be noticed. Recent national reforms of education (e.g., Good school reform Law) made teachers' in-service training compulsory and continuing by providing incentives to support teachers' continuous training.

In concluding this section it can be noticed, that the school-based VET systems of **Italy** and **Lithuania**, differently from the institutionally diverse and mature VET system of **Germany**, often lack maturity and sufficiency of institutional settings and infrastructure of the VET teachers' training and competence development. This has rather a deep impact on the initial and continuing training of VET teachers and trainers – from the stronger state regulation and intervention to compensate the lack of involvement of social partners and stakeholders, to the delegation of many functions and responsibilities for VET teachers' training and competence development to the VET providers.

Findings on VET-teacher and trainer training systems and practice can be summarised very briefly: **Minor differences** between federal states/providers in **Germany**, **huge differences** in **Italy** and **Lithuania**.

More enlightening is a comparison of findings on training systems (chapter 4) and institutional settings (chapter 3), it reveals a high consistency for **Italy**: Governance on regional level and no national standards correspond to a manifoldness of VET-teacher and trainer education sub-systems.

The **German** approach can be considered as well as somehow consistent: The share of responsibilities, the corporatist beliefs and the minimum qualification standards led to non-identical, but similar education of VET-teachers and trainers as well as of practice of VET in all regions; especially when regarding long time-spans.

Situation in **Lithuania** is strongly differing from these consistent and stable descriptions from the two countries mentioned before: Although governance is central and norm standards had been set; an "absence of institutionalized provision of training of VET teachers and trainers in Lithuania" was reported – a contradictory finding that depicts the need of serious improvements. One of such future improvements is introduction of the new bachelor study program "Vocational Pedagogy" by Vytautas Magnus University. This study program will provide bachelor degree in education science and qualification of vocational teacher after 3 years of studies and is planned to be launched in 2020-2021.

5 Occupational profiles of VET teachers and trainers

Further research regarding the actual competences of VET teachers and trainers in **Lithuania**, **Germany**, and **Italy** was done by a content analysis of the existing standards, profiles or other descriptors of qualifications, as well as interviews with experts and VET teachers and trainers. The population of informants per country were 5 (initial) VET teachers and 5 trainers from different sectors, 2-5 experts from VET teacher training institutions.

For example, in **Germany** five trainers from small local enterprises (up to 50 employees) in the area of South Lower Saxony were interviewed, active in retail, heating and sanitation, car repair, logistics, media design & commercial office administration. All trainers have achieved the formal permission to give training (Ausbilderschein). The companies represented in the interviews train between 1-5 apprentices. Two further interviews were held with the education officer (Bildungsreferent) of the Chamber of Commerce and Industries Hildesheim-South lower Saxony and the Chief quality manager in charge of organizational development of "Zufall logistics group" with about 2000 employees of which about 120 are trainees.

In order to get a broad view on what competences should be trained or achieved during the initial VET and which are also needed during the professional occupation, we did interview VET teachers undergoing training as well as VET teachers who are working already for a long time (who also recognize the changes in this profession). Furthermore, the head of the department for the Bachelor "vocational training – study programme: metal technology and vehicle technology" who designs and implements teaching content and training objectives was interviewed; she holds a professorship for the scientific and didactic training of prospective vocational school teachers. The second expert interviewed was a member from LIS - The State Institute for School of the Free Hanseatic City of Bremen, a former VET teacher, nowadays working in the School Development Department - Continuing Education, as Consultant in the sector of school and economy as well as career orientation - transition from school to work.

To develop the occupation profiles for each country the guideline for the Interviews contained following topics and questions:

Interview topics	Key questions
Status and position of the VET teacher or trainer	- Do you work as vocational teacher or trainer in a permanent employment? Is this your only or the main job position? - How would you evaluate the possibilities to express yourself in this work? Do you feel satisfied with this aspect of your work? - What further career possibilities do you see in this job? Are you satisfied with these possibilities? - What are the main motivators of your work in a VET teacher or trainer position? - Do you plan to change your teaching career? Why? If so, in which field do you plan to move?

Interview topics	Key questions
Overview of contents of VET teachers work processes by discerning key changes of work contents and context. 1) Daily planning and organization of curriculum and lessons, development of learning contents. 2) organisation of the teaching and learning process, 3) VET didactics 4) formative assessment of learning.	- What are the main work processes executed in the indicated fields? - What are the goals of these work processes? - Please describe briefly the contents of these work processes – executed tasks, workplaces, quality requirements from learners, enterprises, public or state institutions, other parties involved in these processes, applied instruments, tools and equipment, applied approaches of information and communication. - What kind of changes can be expected in the work processes in the near perspective (2-5 years)?
Competence requirements	- What kind of knowledge, skills and competence (values, abilities) are needed for the execution of the discerned work processes of VET teachers and trainers? - What steps of competence development (sequence of competence development from the development of simpler to complex units of competence) can be suggested for each competence field?
Competence development and recognition	- What approaches and methods can be used for development of outlined competences? - What are the requirements for learning environment and context? (place, technological environment, organization of learning and training). - What kind of methodical and organizational support is needed for development of these competences? - What are the possibilities of assessment and recognition of developed competences?

In addition to that, the focus groups were asked: In your opinion, in what respects do the skills of and the requirements for VET teachers differ from those of general education teachers?

Comparing the findings of this research (see appendix 9.4 "Occupational profiles" on basis of interviews) there can be noticed, that the VET teacher competence profile from **Germany** and, to some extent, from **Italy** are more focused on the different didactical and methodological competences in the field of curriculum design – and on improving teaching lessons and practical trainings. In **Lithuania**, however, the focus rather is in the field of management and organisation of the education and training processes. This difference, at least partially can be explained by the influence of recent methodological approaches in the field of VET curriculum design. Strong and fast implementation of the modular competence-based curricula in the VET system of **Lithuania** leads to re-focusing of functions and competences of VET teachers from didactics of the subject-based training (which prioritise provision and practical application of vocational knowledge and basic skills) to approaches that use learning potentials of real work processes for integrated training. This requires paying more attention to different organisational aspects of training and learning. This also explains striking differences of attention to different socio-pedagogical and socio-psychological competences of VET teachers in the compared competence profiles. Whereas in the profiles of **Germany** and **Italy** there can be noticed a rather strong

focus on these competences, they are very marginal in the profile of **Lithuania** and they are more integrated with the pragmatic and managerial functions of the organisation of training and learning aiming at facilitating employability and employment.

Notwithstanding these differences, there have been identified 11 transnational common fields of competence for VET teachers (page 22ff.) and VET trainers (page 25ff), each. The headings of the following tables briefly describe these fields. They are partly identical for VET-teachers and trainers – but listed twice with respect to further exploitation in self-estimation online-tool. Entries below these bold headings of competence fields **do not claim** to describe these holistic fields as an operationalisation or as a checklist; they are just highlighting some activities within these fields to facilitate development of statements for self-estimation within online-tool.

5.1   VET teachers

1 Planning of Vocational Educational and Training
comparing self-made learning material with the material produced by colleagues
planning and designing lessons, considering that each student performs differently
selecting contents and methods, forms of teaching and communication with reference to curricula and, if necessary, individual development plans
testing the prepared learning and training materials and methods in order to evaluate their suitability with learning requirements and learning needs of the students
considering social and cultural diversity while designing the educational content for different groups of learners
training skills that are required in economy considering general technological and social trends (Industry 4.0, demographic changes, social status of students, etc.)
designing and re-designing teaching and learning processes taking findings of research about the acquisition of knowledge and skills into account
preparing long-term, short-term and thematic training plans
collecting and evaluating information about work processes and their changes of the respective apprenticeship

2 Implementation of vocational training and learning in VET-schools
being responsible for workplace safety
considering individual needs and possibilities of students
teaching students methods of self-determined, self-responsible and cooperative learning and working
promoting value-conscious attitudes and self-determined judgement or action on the part of students
recognising learning outcomes to promote students
introducing different forms of learning to students and apprentices, by applying and adjusting strategies and means of learning motivation
applying and adjusting methods of work-based learning and training
fostering peer-to-peer teaching and learning between students
reconstruction of real changing work processes in simulated work environment for training

3 Implementation of vocational training and learning in enterprises[5]
searching social partners and mentors for practical training and establishing contacts of cooperation
coordinating practical training in real workplaces
participating in preparation of curricular arrangements and schedules of practical training.
assistance in choosing work processes and workplaces for practical training referring to the requirements of training curriculum
helping in controlling the preparedness and suitability of workplaces for the provision of practical training
supporting trainers and mentors in the organisation of the training and learning processes
assistance in assessment of competences
supporting trainers and mentors in solving complex pedagogical situations and conflicts
supporting trainers and mentors in implementing pedagogical innovations

4 Diversity: Teaching students with special needs[6]
adjusting the learning environment (infrastructure – working and learning areas, equipment, etc.) referring to the specific conditions and needs of learners and by following instructions and recommendations of specialists
preparing and adjusting learning and training materials for students with special needs* (with visual, audition, movement impairments and disabilities, behaviour and understanding impairments, etc.)
recognising disadvantages, impairments and dealing with them appropriately
scheduling pedagogical support and preventive measures
preparing a safe environment of learning and training for students with special needs* (moving parts of equipment, noise, dust, vibration, stairs and elevators, individual protection measures, sonor signals, etc.)
explaining practical tasks to students with special needs and supporting them in executing these tasks
supervising the work of students with special needs by ensuring its safety
preparing individualised training curricula and modules referring to the learning possibilities of students with special needs
evaluate the suitability and effectiveness of the adjusted training programmes and modules

5 Assessment and monitoring of student' learning outcomes
foreseeing assessment tasks in long-term and short-term training plans
executing formative assessment of acquired knowledge, practical and key skills
providing feedback on the learning achievements (and criteria of assessment of learning outcomes) to students, their parents and other interested parties
planning and fostering self-assessment and self-monitoring activities for students
development of evaluation criteria together with students and other relevant stakeholders, like social partners
analysing the results of the assessment of students or apprentices learning outcomes
analysing the instruments and procedures of assessment critically in terms of their relevance, credibility, suitability to the purpose and effectiveness

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[5] In Germany the processing of these tasks would be assigned to the VET trainers. In Lithuania, these tasks can also belong to the core activities of VET teachers.

[6] The expression "students with special needs" refers to all students with problems that give them a disadvantage compared to their peers (students with difficulties of learning deriving from physical, mental or due to the social / family context of belonging).

following the development of methodological and organisational innovations of instruments, procedures and processes of assessment of learning outcomes
adjusting existing instruments and procedures of assessment of learning outcomes to changing requirements of work processes and to individual needs of learners (including learners with special needs*)

6 Advising students and parents on issues of vocational education, employment and career
searching information for counselling on descriptors and profiles of qualifications and occupations
supporting students in finding appropriate VET programmes
introducing the VET school or training centre to students, explaining learning conditions and admission requirements
explaining the training programme to students by introducing intended competences
evaluating perspectives of employment and career inside the country and abroad
providing advice on the recognition of informally and non-formally (through work experience) acquired competences
offering special support to students who are at risk of dropping out of the programme
advising students who decided to leave the programme
advising parents in case of minor students

7 Project work and involvement in the development of VET provision
collecting information about local, national and international events related to professional activity
preparing students for national and international skills competitions
organising local and national skills competitions and judging at these competitions
representing the training institution at exhibitions and other events
producing products for exhibitions and other events
generating and developing project idea
searching resources for the implementation of a project and implementing it
preparing and implementing projects by applying principles of teamwork
applying knowledge and skills of intercultural communication in the project work

8 Professional development
reflecting executed training activities (strengths, weaknesses and potential for improvement) by using feedback from students and other data
foreseeing the directions of development and advancement of technological, pedagogic-didactic, and key competences
reflecting own professional attitudes, experiences and competences as well as their development and drawing consequences from this
defining relevant and realistic goals for the own professional development
giving feedback and using feedback of others (colleagues etc.) in order to optimise the own (pedagogical) work
using findings from educational research for the own work
learning in real workplaces, by participating in open lessons, projects, study visits, conferences and trainings
collecting evidence of the own continuing professional development
using individual and collective continuing education opportunities

9 Managing students' conflicts and emotions
fostering communication and recognition of emotions
usage of classroom-management techniques
encouraging self-awareness
collecting information on reasons and circumstances of occurred conflicts
reporting of occurred conflicts to the managers and specialists (upon the need)
being able to recognize and understand non-verbal expressions
analysing the reaction-cycle: implementing actions for the prevention of critical situations (actions to lower the intensity of reactions) and actions to recover after the reaction
recognizing emotional seizure situations
implementing relaxation techniques into practice

10 Digital competences development
using cloud services and platforms with students (e.g. google office) in order to foster learning process
knowing various media that can be used for education and being able to apply them
being able to explain the use of digital tools to students
contributing to the awareness of students in their use of social media, with particular reference to privacy and the management of blocks and filters
educating on how to recognize, prevent and deal with cyber-bullying phenomena
knowing preconditions, technical implications and requirements of digital tools for education
complying with data protection regulations
fixing simple technical problems of ICT-based educational technologies and supporting students in making technology work
integrating modern information and communication technologies in a didactically meaningful way and reflecting the own use of media

11 Co-operation with VET schools, chambers, international partners
cooperating with social partners regularly on issues related to the provision of work-based learning and apprenticeship (curriculum design, organisation and provision of training)
cooperating with social partners in monitoring and assurance of quality of provided vocational education and training
cooperating with social partners in the organisation and provision of the assessment of competences
cooperating with the national agency in organising and executing international mobilities of VET students
participation or assistance in providing continuing vocational training courses for companies
participation or assistance in adjusting and developing continuing vocational training courses for companies
using the opportunities of professional development offered by social partners (training courses, on the job training)
participation in expert activities of different networks and partnerships involving VET teachers, trainers, chambers and companies concerning design and implementation of innovations in VET
using opportunities of international mobilities provided by the Erasmus+ programme

5.2 VET trainers

1 Analysis of the training requirements and pre-conditions in companies
explaining and justifying the advantages and benefits of in-company training
explaining the organisation of training at the workplace to potential apprentices
presenting structures of the vocational training system and its interfaces
identifying training needs and possessed skills of new apprentices
participation in planning and decision-making of in-company training needs based on legal frameworks, wage agreements and in-company framework conditions
selectin training occupations for companies and justifying the decisions
examining the suitability of the trainee or apprentice for the chosen training occupation in the company
identifying and communicating potentials of training VET students' and apprentices' work to contribute to overall (strategic) goals of the company
designing training scheme so that it contributes to companies' goals

2 Planning and preparation of Vocational Educational and Training
ensuring availability of sufficient and suitable materials, tools, instruments and information resources needed for training at the workplace
designing an in-company training plan on the basis of training regulations, by taking the participation and co-determination of company interest groups into account
consulting stakeholders regarding appropriateness of prepared training scheme
checking the suitability of workplaces to safety and work hygiene requirements of training
identifying risk factors related to workplace and foresee possible solutions
applying criteria and procedures for the selection of trainees and apprentices, also in respect of diversity issues
preparing vocational training contracts and arranging the registration of the contract at the competent authority
preparing workplaces and training materials for the training of special needs students (with different types of physical and cognitive handicaps)
adjusting workplaces and training materials for training of apprentices from different origin and cultural background (e.g., migrants, refugees, etc.)

3 Implementation of Vocational Training in companies
selecting training materials (instruments, equipment, tools) according to requirements of learning tasks, achieved learning results and work output
designing and facilitating learning and work tasks from company training plans and typical work and business processes of the respective occupation
demonstrating skillful execution of concrete standard work processes and operations and facilitating development of practical skills
proposing additional training offers to trainees, in particular in form of additional qualifications, and examining the possibility of shortening the duration of training in order to grant early admission to the final examination
involving apprentices in learning activities, giving and receiving feedback
estimating the potential of learning in specific and changing work processes for the social and personal development of apprentices
(self-)reflecting on executed training and learning processes for quality management purpose
evaluating the involvement and participation of trainees and apprentices in the organisation and executing of training
collecting and analysing feedback of trainees and apprentices on training processes

4 Diversity: Teaching students with special needs[7]
taking part in adjusting the learning environment (infrastructure – working and learning areas, equipment, etc.) referring to specific conditions and needs of learners and by following instructions and recommendations of specialists
taking part in preparing learning and training materials for students with special needs (with visual, audition, movement impairments and disabilities, behaviour and understanding impairments, etc.)
recognising disadvantages, impairments and barriers by applying existing instruments
scheduling pedagogical support and preventive measures
explaining practical tasks for apprentices and trainees with special needs and helping them in executing these tasks
supervising the work of apprentices and trainees while ensuring their safety
adjusting individual training methods according to special needs of apprentices and trainees with physical, intellectual and behavioural disabilities and impairments
preparing individualised (specific) practical training plans for apprentices with specific needs
supporting trainees with learning difficulties by providing training aids (e.g. the possibility of extending the training period)

5 Assessment, Monitoring and Examination
preparing tasks for assessment in line with norms and requirements of the professional field and appropriate methods for competence assessments
collecting evidence and data for competence assessments at the workplaces
providing feedback on the advancement of learning to trainees and apprentices
discussing criteria of competence assessment with vocational teachers and trainees or apprentices
executing initial and intermediate diagnostic assessment of competence and analysing it's results
preparing trainees and apprentices for the final examination or journeyman's examination according to examination dates and leading the training to a successful outcome
ensuring that trainees and apprentices register for examinations at the competent body
monitoring employment and integration of selected trainees and apprentices in enterprises
collecting and analysing data about the suitability and effectiveness of applied instruments and methods of competence assessment acquired in practical training (feedback from apprentices, observation of the assessment process, analysis of assessment results)

6 Advising students and parents on issues of vocational education, employment and career
searching information for counselling on descriptors and profiles of qualifications and occupations
introducing facilities of practical training in the enterprise, explaining learning conditions and admission requirements for apprenticeship
explaining the training programme of apprenticeship by introducing intended competences to trainees and apprentices
evaluating perspectives of employment and career inside the enterprise and sector of economy
supporting students in finding appropriate VET programmes
providing advice on the recognition of informally and non-formally (through work experience)

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[7] The expression "students with special needs" refers to all students with problems that give them a disadvantage compared to their peers (students with difficulties of learning deriving from physical, mental or due to the social / family context of belonging).

acquired competences
offering special support to students who are at risk of dropping out of programme
advising students who decided to leave the programme
in case of minor students, advising their parents

7 Project work and involvement in the development of VET provision
collecting information about local, national and international events related to professional activity
Preparing apprentices and trainees for national and international skills competitions
organising local and national skills competitions and judging at these competitions
representing enterprise at different events related to training and skills development
generating and developing project ideas
searching for resources in order to implement projects
Preparing and implementing projects by applying principles of teamwork
applying knowledge and skills of inter-cultural communication in my project work
producing products for exhibitions and other events

8 Professional development
searching for information on technological innovations in the professional field
sharing knowledge and experience with colleagues and vocational teachers
participating in training seminars, workshops, projects, trade-fairs and exhibitions and other events aiming at developing professional or technological competences
developing training (didactic) skills and competences by applying innovative didactic approaches, methods and technologies of work-based training
reflecting critically own training activities (strengths, weaknesses, potential of improvement) by using feedback and other information
generating ideas on improvement of training
foreseeing directions for development and advancement of technological, pedagogic-didactical , and key competences
defining relevant and realistic goals for the own professional development
using findings from educational research for the own work

9 Managing students' conflicts and emotions
fostering communication and recognition of emotions
using management techniques for learning groups
encouraging self-awareness through appropriate techniques
collecting information on reasons and circumstances of occurred conflicts
reporting on occurred conflicts to managers and specialists (upon the need)
recognizing emotions
analyzing reaction-cycle: implementing actions for the prevention of critical situations (actions to lower the intensity of reactions) and actions to recover after the reaction
recognizing emotional situations
implementing relaxation techniques into practice

10 Digital competences development
using cloud services and platforms with trainees and apprentices (e.g. Google Office) in order to foster learning process
knowing various media that can be used for training at the workplace and being able to apply them
being able to explain the use of digital tools to trainees and apprentices
selecting media according to purpose and context of training
contributing to the awareness of trainees and apprentices in their use of social media, with particular reference to privacy and the management of blocks or filters
knowing preconditions, technical implications and requirements of digital tools for training at workplace
complying with data protection regulations
fixing simple technical problems of ICT-based training technologies and supporting trainees and apprentices in making this technology work
integrating modern information and communication technologies in a didactically meaningful way and reflecting the own use of media

11 Co-operation with VET schools, chambers, international partners
cooperating with VET schools and social partners regularly on issues related to the provision of work-based learning and apprenticeship (curriculum design, organisation and provision of training)
cooperating with VET schools and social partners in monitoring and assurance of quality of provided vocational education and training
cooperating with VET schools and social partners in the organisation and provision of the assessment of competences
cooperating with the national agency in organising and executing international mobilities of trainees and apprentices
participation and assistance in providing continuing vocational training courses for VET teachers
participation and assistance in adjusting and developing continuing vocational training courses for VET teachers
using opportunities of professional development offered by VET schools and social partners (training courses, on the job training)
participating in expert activities of different networks and partnerships involving VET teachers, trainers, chambers, companies in designing and implementing innovations in VET
using opportunities of international mobilities provided by the Erasmus+ programme

These outcomes serve as a basis for the design of the online tools for self-assessment and competence development (www.teachvet.eu). By using these online instruments, VET teachers and trainers will have the opportunity to identify the level of attainment of their competences in these fields. Furthermore, they will be able to plan and manage their competence development activities. The platform will also provide access to information and guidance materials needed for the development of different identified competences.

6 Conclusions

Training and competence development of VET teachers and trainers is an object of national legal regulation in all analysed countries, although to a different extent and intensiveness. In **Lithuania** and **Italy** legal regulation and institutional governance of initial and continuing training of VET teachers and trainers is strongly influenced by recent educational reforms, but in rather different directions. In **Italy**, the initial training of VET teachers is strongly influenced by holistic reforms of the entire educational system (e.g., Good School reform), which enhances a more holistic and education-oriented change of functions, responsibility, competences and qualifications of VET teachers, like the importance of competences related to cultural education and requirements of higher education and pedagogical competences. In **Lithuania**, there can be noticed a rather strong influence of neoliberal competence-based reforms of VET curricula and VET provision by focusing on teacher competences and responsibilities to the satisfaction of needs of the labour market and the organisation of flexible and outcome-oriented training and learning processes. In this regard, **Germany** presents the case of a well-established, mature and complex legal and institutional setting of training of VET teachers and trainers with well balanced requirements of holistic education (attention to the didactic competences of subject based education, requirements of higher education degree for VET teachers) and skills needs of the world of work (significant element of professional experience and internship in the VET schools).

Ministries responsible for education and training play significant role in the governance of the processes of VET teachers' and trainers' initial training, although at different levels of governance: in **Lithuania** this governance is more centralised (The Ministry of Education, Science, and Sport and it's agency, the Centre for Development of Qualifications and Vocational Training, govern and coordinate initial training of VET teachers), whereas in **Germany** and **Italy** this function is delegated to regional authorities. Social partners play rather different roles in VET teachers training and competence development: whereas in **Germany** they are sustainably consulted in activities of teachers' training curriculum design and development and other activities on a voluntary basis, in **Italy**, and especially in **Lithuania** the involvement of social partners is much more fragmented, which often requires a stronger involvement of the state in order to compensate it. Social partners are more engaged and more influential in the training of trainers in **Germany**.

Regarding instruments and mechanisms related to the standardisation of competences and qualifications of VET teachers and trainers, there can be outlined the absence of coherent and systemic standardisation in **Lithuania** and **Italy**. The introduction of a national occupational standard of the education sector, which includes qualifications of VET teachers and trainers, should help to solve this problem in **Lithuania**.

Despite of different orientation of the analysed competence profiles of VET teachers and trainers towards didactical and cultural competences (bigger attention to these competences in **Germany** and **Italy**, less attention in **Lithuania**), the comparison of these profiles permitted to develop common fields of competence (see chapter 5) as basis for self-estimation and development of pedagogical and professional competences.

7 Outlook

On basis of this comparative analysis of teaching competences of VET teachers and trainers in the partner countries, an on-line instrument for assessment and development of teaching competence for VET teachers and trainers has been created (www.teachvet.eu).

The following added values for VET teachers and trainers who visit the page are foreseen:

1. Information about the project and the partners
2. This comparative study; offering a comprehensive insight into status, strength, opportunities and development needs of educational systems for VET-teachers and trainers in the participating countries Lithuania, Germany and Italy and the potentials for mutual learning.
3. Transnational (for **Lithuania**, **Germany**, and **Italy**) common fields of competence for VET-teachers resp. VET-trainers that sketch skills needed for a modern, work-process oriented VET education.
4. The option to self-assess own competences in any of the fields drafted in Chapter 5.
5. Concrete information on possible courses (online and offline recommendations) in order to improve the competences in any field in mother tongue (German, Lithuanian, Italian) for VET teachers and trainers. For each field, two courses are recommended: One traditional offline offer, e.g. a seminar at a university, the other one online, e.g. an interactive course via moodle.

Partners expect, that using and exploitation of the developed online tool for assessment of teaching competences of VET teachers and trainers will significantly improve self-estimation of beneficiaries.

And, as a consequence, effectiveness of provided services of training and competence development support for VET teachers and trainers should develop – as well as project partners hope that policy makers and stakeholders improve their governance – and treat the relevance of effectiveness of competence development of VET teachers and trainers seriously.

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9 Appendix

9.1 KMK resolution (translation) standards for the teacher training in the educational science (VET teaches), *Germany*

The central task of the Standing Conference of the Ministers of Education and Cultural Affairs of the Länder *(in short: Kultusministerkonferenz, KMK)* is to ensure the quality of school education. The submitted standards for teacher training draft the competences in educational sciences, which have to be acquired during the study, and training. They are of particular importance for vocational training and the work as a VET teacher. The Länder agree to implement and apply the standards for teacher education - this applies in particular to the study regulations in the teaching study courses, the preparatory service and the further and advanced training of teachers, - which are presented in the following. The Länder also agree to regularly evaluate teacher training on the basis of the agreed standards.

Competences and standards for the training of teachers

1. The importance of standards for teacher education

The introduction of the standards and their review is an essential element in ensuring and further developing school education. By these so called standards for teacher training, the Standing Conference of the Ministers of Education and Cultural Affairs of the Länder in the Federal Republic of *Germany* defines requirements that teachers should fulfil. Herby the KMK relates to the educational and upbringing objectives formulated in the school laws of the Länder. The occupational profile described by the President of the Standing Conference of the Ministers of Education and Cultural Affairs of the Länder in October 2000 and the Chairmen of the Teachers' Associations in October 2000 corresponds to these objectives.

1. **Teachers are experts in teaching and learning.** Their core task is the targeted planning, organisation and reflection of teaching and learning processes based on scientific findings, as well as their individual assessment and systemic evaluation. The professional quality of teachers is determined by the quality of their teaching.

2. **Teachers are aware that the educational task** at school is closely linked to teaching itself and school life. This is most successful the closer if a cooperation between parents and teachers are granted. Communication has to go both ways to find constructive solutions if educational problems arise or learning processes fail.

3. **Teachers carry out assessment and advisory duties** competently, fairly and responsibly in weather in class or in perspective to the granting of authorisation regarding training and career paths. This requires teachers with high pedagogical, psychological and diagnostic skills.

4. **Teachers are constantly developing their own skills** by using further education and training opportunities in order to take account of new developments and scientific findings in their professional activities. In addition to that, teachers

should maintain contacts with extracurricular institutions and todays world of work in general.

5. **Teachers are involved in tasks of school development** by designing a supportive learning and school culture and a motivating school climate. This also includes the willingness to participate in internal and external evaluations.

2. Fields of Competence

Standards in teacher training describe requirements concerning the professional actions of teachers. They refer to competences and thus to the abilities, skills and attitudes a teacher has to build to deal with the requirements of the job. Teachers have to cope with the professional requirements. This also includes the competence for cooperation of the colleagues and the cooperation with other professions and institutions.

The aspired competences to result in requirements valid for the entire training period and later on professional practice.

2.1 Basic framework for the Standards in the Educational Sciences

The training is divided into two phases, the university training and the preparatory service *(Vorbereitungsdienst)*, and is state responsibility. Both phases contain theoretical and practical parts with different weightings. Starting from the focus on theory, the first phase opens up pedagogical practice, while the second phase focuses on this practice and its theory-based reflection. The relationship between university education and vocational training must be coordinated in such a way that a systematic, cumulative build-up of experience and competence is achieved. Further training *(Fort- und Weiterbildung)* is considered as the third phase of teacher training. It is not explicitly addressed in the Standards, but the competences described are also objectives of lifelong in this profession.

One of the essentials for the acquisition of competences for the vocational field of schooling is the educational sciences; they contain the scientific disciplines that deal with educational processes, educational systems and their framework conditions. The formulation of competences and standards for the educational sciences takes the fact into account that education and teaching take place primarily on the basis of subject-specific content.

2.2 Main content of the training

The curricular focal points of the educational sciences in the training of teachers are:

- Education and educational upbringing
  - Justification and reflection in the institutional processes
  - Profession and role of the teacher
  - Teacher professionalism; the professional field as a learning task; dealing with occupation-related conflicts and situations
  - Didactics and methodology
  - Designing of the teaching environment and learning surroundings
  - Learning, development and socialisation
  - Learning processes of children and adolescents inside and outside school
  - Performance and learning motivation

- Motivational basics regarding to learning, performance and competence development
- Differentiation, integration and promotion
- Diversity and heterogeneity as conditions of school and teaching
- Diagnostics, assessment and counselling
- Diagnosis and promotion of individual learning processes; performance measurements and performance assessments
- Communication
- Communication, interaction and conflict resolution as basic elements of teaching and educational activities
- Media education
- Dealing with media under conceptual, didactic and practical aspects
- School development
- Structure and history of the educational system; structures and development of the educational system and development of individual schools
- Educational research
- Goals and methods of educational research; interpretation and application of its results

2.3 Didactic-methodological approaches in educational sciences regarding to the teacher training

The following approaches can be considered for conveying educational content:

- Situation approach
- Case and practice orientation
- Problem-solving strategies
- Project organisation of learning
- biographical-reflexive approaches
- Context orientation
- Phenomenon orientation
- Research orientation

The development of competences is promoted, among other things, by:

- the concretisation of theoretical concepts using described or constructed examples
- demonstrating the concepts using literary or cinematic examples as well as role-playing and teaching simulations
- the analysis of simulated, cinematically presented or actually observed complex school and teaching situations and their methodically guided interpretation

- the personal testing and subsequent reflection of a theoretical concept in written exercises, role play, simulated lessons or in natural teaching situations or in extracurricular learning locations
- the analysis and reflection of one's own biographical learning experiences with the help of theoretical concepts
- the testing and use of different working and learning methods and media in universities, preparatory service *(Vorbereitungsdienst)* and schools
- the participation in school development projects as well as research and schools related research
- cooperation in planning as well as mutual work shadowing *(Hospitation)* and collective reflection
- the cooperation and coordination of the trainers in the first and second phases
- research-based learning in practical phases

3. Competences

The following catalogue describes the competences based on the requirements of professional activity *(berufliches Handeln)* regarding the teaching profession. The Standards are assigned to them.

The distinction made here is regarding to the achievements in the theoretical and practical training sections. It is not to be understood as a demarcation.

Field of competence: Teaching - Teachers are experts in teaching and learning.

Competence 1
Lessons are planned by teachers in a professional and appropriate manner, taking different learning requirements and development processes into account, carrying them out in a professional and correct manner

Standards for theoretical training sections	Standards for practical training sections
What the graduates have to know… – the relevant theories of education and training, understand the goals of education and training theory as well as the standards to be derived from them and reflect these critically. – general and subject-related didactics and what needs to be considered when planning teaching units, even in performance-heterogeneous groups. – different teaching methods, task formats and task forms and how to use them according to requirements and situations. – concepts of media pedagogy and psychology and the possibilities and limits of using media in class according to requirements and situations. – procedures for the assessment of teaching performance and teaching quality.	The graduates… – can derive target perspectives and principles for action from the relevant educational theories. – combine scientific and didactic arguments and plan and design lessons, taking performance heterogeneity into account. – select contents and methods, forms of work and communication with reference to curricula and, if necessary, individual development plans. – integrate modern information and communication technologies in a didactically meaningful way and reflect their own use of media. – examine the quality of their own teaching and reflect the fit with the learning requirements and learning needs of the pupils.

Competence 2	
By designing learning situations, teachers support the learning of pupils. They motivate all pupils and enable them to establish connections and use what they have learnt.	
Standards for theoretical training sections	**Standards for practical training sections**
What the graduates have to know… – learning theories *(Lerntheorien)* and forms of learning. – the basics and results of research regarding school and teaching matters and are able to reflect on them in an application-oriented way. – how to actively involve learners in teaching and how to support understanding and transfer. – theories of learning motivation and performance motivation and possibilities how they are applied in teaching.	The graduates… – stimulate and support different forms of learning. – design teaching and learning processes taking the findings about the acquisition of knowledge and skills into account. – strengthen pupils' willingness to learn and perform. – guide and accompany learning groups.

Competence 3	
Teachers promote the abilities of their pupils to learn and work independently.	
Standards for theoretical training sections	**Standards for practical training sections**
What the graduates have to know… – learning strategies and self-motivation strategies that have a positive effect on learning success and work results. – methods of promoting self-determined, self-responsible and cooperative learning and working. – how to develop a continuing interest in and basis for lifelong learning in the classroom.	The graduates… – impart and promote learning and working strategies. – teach pupils methods of self-determined, self-responsible and cooperative learning and working.

Field of competence: Education - Teachers carry out their educational tasks.

Competence 4	
Teachers know of the social and cultural living conditions, possible disadvantages, impairments and barriers for pupils and influence their individual development within the school framework.	
Standards for the theoretical training sections	**Standards for the practical training sections**
What the graduates have to know… – pedagogical, sociological and psychological theories of development and socialization of children and young people. – about possible disadvantages of pupils in the learning process and possibilities of pedagogical aids and preventive measures. – intercultural dimensions – the importance of gender-specific influences	The graduates… – recognise disadvantages, impairments and barriers, implement pedagogical support and preventive measures. They use the possibilities of cooperation with other professions and institutions. – They provide individual support and work together with the parents of the pupils in a spirit of trust. – take the social and cultural diversity into account while designing the educational content for different groups of learners

Competence 5
Teachers convey values and norms, an attitude of appreciation and recognition of diversity and support self-determined judgement and action by pupils.

Standards for theoretical training sections	Standards for practical training sections
– What the graduates have to know… – and reflect democratic values and norms as well as their mediation. – how essential recognition of diversity is for the successful learning. – how to promote value-conscious attitudes and self-determined judgement / action on the part of pupils. – how students deal with personal crises and situations of decision-making	The graduates… – reflect values and act accordingly. – practice self-responsible judgement / action with the pupils. – deal constructive with norm conflicts.

Competence 6
Teachers find solutions for difficult situations and conflicts during schools and in lessons.

Standards for theoretical training sections	Standards for practical training sections
What the graduates have to know… – communication and interaction skills (with emphasis on teacher-pupil interaction). – the rules of conversation and interaction regarding to teaching, school and parental work. – the risks and dangers of childhood and adolescence as well as possibilities for prevention and intervention. – To analyse conflicts and methods of constructive conflict management as well as how to deal with violence and discourse.	The graduates… – shape social relationships and social learning processes at school. – develop and implement rules of respectful interaction with each other. – Take action in concrete cases and apply strategies of conflict prevention and resolutions to conflicts

Field of competence: Judgement - Teachers advise their students in a manner that is both relevant and targeted, and exercise their assessment tasks fairly and responsibly.

Competence 7
Teachers diagnose learning conditions and learning processes of their pupils; they support pupils in a targeted manner and advise learners and their parents.

Standards for theoretical training sections	Standards for practical training sections
What the graduates have to know… – the concept and characteristics of heterogeneity and diversity. – about the variety of factors influencing learning processes and their effects on performance. – how different learning conditions influence teaching and learning and how they can be used positively while teaching heterogeneous learning groups.	The graduates… – recognise stages of development, learning potentials, learning obstacles and learning progress. – recognise learning outcomes and use special possibilities of promoting pupils – recognise talents and know possibilities of talent promotion. – coordinate learning opportunities and learning requirements.

Standards for theoretical training sections	Standards for practical training sections
What the graduates have to know… – forms of high and special giftedness. – the basics of learning process diagnostics. – the principles and the approaches of counselling pupils and parents. – the different cooperation partners and are aware of the different perspectives of other professions and institutions.	The graduates… – use different forms of counselling according to the situation and differentiate between counselling function and assessment function. – cooperate with colleagues and other professions and institutions in diagnosis, support and counselling - both within and outside of school.

Competence 8
Teachers hold records of the development of student performances, assess learning and achievement on the basis of transparent assessment criteria.

Standards for theoretical training sections	Standards for practical training sections
What the graduates have to know… – the different forms and effects of performance assessment and – feedback, the function of it, advantages and disadvantages. – different reference systems for performance evaluation and weigh them against each other. – the tension between learning-related/ promoting feedback and the social functions of performance assessments.	The graduates… – design tasks according to the criteria and formulate them accordingly. – apply evaluation models and standards in a professional manner fitting to the situation – communicate about the principles of evaluation with colleagues. – justify evaluations and assessments in a manner that is appropriate to the target group and point out perspectives for further learning. – use performance reviews as constructive feedback on their own teaching activities.

Field of competence: Innovate - Teachers are constantly developing their skills.

Competence 9
Teachers are aware of the special requirements of the teaching profession. They see their profession as a public post with special responsibilities and obligations.

Standards for theoretical training sections	Standards for practical training sections
What the graduates have to know… – the basics and structures of the educational system and of school as an organization. – about the legal framework of their activities (e.g. Basic Law, school laws, human rights conventions). – to reflect their personal professional values and attitudes. – the essential results of stress and strain research.	The graduates… – learn to deal with stress. – use working time and equipment in an expedient and economical way. – practice collegial counselling as an aid to teaching development and for reducing the work-load

Competence 10	
Teachers see their profession as a constant learning task / life-long learning.	
Standards for theoretical training sections	**Standards for practical training sections**
What the graduates… – know methods of self-evaluation and outside evaluation in the context of development and assurance of teaching and school quality. – receive and evaluate the results of educational research. – know organisational conditions at schools as well as cooperation structures in the school and extracurricular sector. – reflect the professional requirements of the environment	The graduates… – reflect their own professional attitudes, experiences and competences as well as their development and can draw consequences from this. – use findings from educational research for their own work. – document their own work and its results for themselves and others. – give feedback and use the feedback of others to optimise their pedagogical work. – take advantage of opportunities for participation. – know and use support opportunities for teachers. – make use of individual and cooperative continuing education opportunities.

Competence 11	
Teachers participate in the planning and implementation of school projects.	
Standards for theoretical training sections	**Standards for practical training sections**
What the graduates have to know… – and reflect the specific educational task of different types of schools and educational programmes. – the goals, methods, framework conditions and processes of school development and reflect the challenges of inclusive school development.	The graduates… – apply the results of teaching and educational research to school development. – use procedures and instruments of the internal evaluation of teaching and school. – plan and implement school projects and plans cooperatively.

Source: Sekretariat der Kultusministerkonferenz (HG)(2004 in der Fassung von 2014): Standards für die Lehrerbildung: Bildungswissenschaften, Berlin/Bonn. [https://www.kmk.org/fileadmin/Dateien/veroeffentlichungen_beschluesse/2004/2004_12_16-Standards-Lehrerbildung-Bildungswissenschaften.pdf abgerufen am: 18.03.2019]

9.2 German Ordinance on Trainer Aptitude (AEVO)

On the basis of § 30 (5) of the Vocational Training Act of 23 March 2005 (BGBl. I S. 931) the Federal Ministry of Education and Research, after consulting the Board Committee of the Federal Institute for Vocational Education and Training, issues an ordinance:

[…]

§ 3 Fields of action

(1) The field of action in accordance with § 2 (1) shall include the vocational and occupational pedagogical aptitude to examine training prerequisites and to plan training. The instructors are in a position,

1. to be able to present and justify the advantages and benefits of in-company training,

2. to participate in the planning and decision-making of in-company training needs on the basis of the legal frameworks, wage agreements and in-company framework conditions,

3. to present the structures of the vocational training system and its interfaces,

4. to select training occupations for the company and to justify the decisions,

5. to examine the suitability of the company for the chosen training occupation, whether and to what extent training contents can be imparted by measures outside the training facility, in particular training in a group, inter-company and external training,

6. to assess the possibilities of using preparatory measures for vocational training, and

7. to coordinate the tasks of the participants in the training within the company while taking their functions and qualifications into account.

(2) The field of action in accordance with §2 (2) includes the pedagogical aptitude in the fields of vocation and training to prepare the training sessions taking organisational and legal aspects into consideration. The trainers are in a position,

1. to design an in-company training plan on the basis of training regulations, a plan which is in particular oriented on work and business processes that are characteristic for the profession,

2. to take the participation and codetermination of company interest groups into account,

3. to determine the need for cooperation and to coordinate contents and organisational matters with the cooperation partners, in particular the vocational schools,

4. to apply criteria and procedures for the selection of trainees, also in respect of diversity issues,

5. to prepare the vocational training contracts and arrange the registration of the contract at the competent authority and

6. to examine the possibilities of whether parts of the vocational training can be carried out abroad.

(3) The field of action specified in §2 (3) comprises the vocational and pedagogical aptitude, that independent learning in work and business processes shall be promoted in way that is action-oriented. The trainers are in a position

1. to create conditions conducive to learning and a motivating learning culture, to give and receive feedback,

2. to organise, design and evaluate the probationary period,

3. to develop and design company learning and work tasks from the company training plan and the work and business processes that are typical in the occupation,

4. to select training methods and media according to the target group and to use them accordingly to the circumstances,

5. to support trainees in the event of learning difficulties by individually designed training and provide learning guidance, to use training support aids if necessary and to examine the possibility of extending the training period,

6. to propose additional training offers to trainees, in particular in the form of additional qualifications, and examine the possibility of shortening the duration of training and grant early admission to the final examination,

7. to promote the social and personal development of trainees, to recognise problems and conflicts in time and to work towards a solution,

8. to determine and evaluate performance, evaluate third-party performances and asses examination results, conduct assessment interviews, draw conclusions for the further training, and

9. to promote intercultural competences.

(4) The field of action in accordance with § 2 (4) comprises the vocational and educational suitability to lead the training to a successful qualification and to show the trainee prospects for his further professional development. The trainers are in a position

1. to prepare trainees for the final examination or journeyman's examination accordingly to the examination dates and to lead the training to a successful outcome,

2. to ensure that trainees register for examinations with the competent body and to indicate any special features relevant to the conducting,

3. to participate in the writings of the certificate based on performance appraisals; and

4. to inform and advise trainees on company development paths and vocational training opportunities.

9.3 Italian Standards for teachers of public schools

In Italy the only regulation regarding the development of pedagogical skills of the teachers refers to the public school. Given that we believe they can be useful as a reference point also for VET-teachers training context, we propose below a summary of teachers competences divided in four dimensions: professional, personal, practical and theoretical. The matrix have been developed on the basis of the sources mentioned above.

	PROFESSIONAL DIMENSION	PERSONAL DIMENSION
THEORETICAL DIMENSION	**Cultural competences** – knowing and understanding content knowledge and pedagogical content knowledge (competency-based learning), – knowing and understanding school pedagogy (organizational and didactical autonomy, inclusion, global citizenship, social cohesion, etc.), – knowing and understanding psychological theories (learning processes, social processes, prevention of neuro-psychic disturbances in adolescents etc.), – knowing and understanding anthropological views on school and society.	**Reflective Competences** – researching on teaching and learning; – documenting experience – reflecting critically on practice; – making sense of what one is doing (ethical competence); – fostering pedagogical and methodological innovation; – identifying and sharing mission and strategic priorities; – exchanging thoughts and experience with other teachers and sharing materials; – mastering a second language.

	PROFESSIONAL DIMENSION	PERSONAL DIMENSION
PRACTICAL DIMENSION	**Methodological Competences** – guiding to the expected competence goals and learning objectives, – contributing to the school curriculum plan; – lesson planning; – constructing assessment tools and using the learning results; – managing spaces, equipment, time and space; – developing digital learning environments; – appreciating the differences and promoting the inclusion of diverse students (students with disabilities, special needs etc.); – activating forms of learning recovery and enhancing learning; – managing the continuity between in-coming and out-going, – planning and managing actions for guiding students to know themselves and to choose their future career; – controlling and monitoring all the undertaken actions contributing to the self-evaluation and the improvement of the school.	**Relational and organizational competences** – managing of teaching and learning environments; – managing discipline and creating a positive learning climate, defining clear and transparent rules - and compliance with them - in classroom and in school, and managing conflicts; – participating responsibly in school organization and collaborative work also online, – organizing human resources and managing economic resources, – constructing networks and agreements with other institutions; – linking school and world of work; – consulting and collaborating with students' families.

9.4 "Occupational profiles" on basis of Interviews

Germany

Occupational profile VET teachers, *Germany*

Title of occupation/ duty	VET teacher		
Corresponding qualification / EQF level	EQF Level 6: Bachelor. Internships during studies	EQF Level 7: Master: preparatory service	EQF Level 7: fully trained and qualified VET teacher after completion of 2nd state examination
The scope of work: goal and object	Initial design of teaching units: performing, observing and reflecting. Getting to know the work processes, insight into everyday life at the vocational school (e.g. in Bremen: 5 weeks internship, Hamburg: 2 days over the time of 2 semesters)	Practical phase: Familiarisation with the full work load during full-time employment as a full-time VET teacher, monitored by experts from Landesinstitut Schule (LIS)	Permanent position: full-time / part-time (civil servant status), teaching position (freelance; rare), temporary teachers (rare)

Fields of activities	Key work processes	Required competences
Daily planning and organization of curriculum and lessons, development of learning contents	On basis of the guidelines of the KMK, to teach the learning objectives (Lernfelder): to arrange distribution of learning objectives, to identify the work processes, to select suitable methods, to fill framework plan into time frame, to do didactic annual planning, room and resource selection, to check rooms and materials, to determine media selection, to take care of involvement of companies (incorporate practical orientation)	Organisational talent, time management, forward thinking, flexibility and the ability to reflect, work process relevance, to know which fields of competence are essential for gaining of occupational competence (berufliche Handlungsfähigkeit), to establish practical relevance, self-learning competence: to know where to get your information, plan lessons spiral curricular. KMK: Targeted planning according to scientific findings, organisation and reflection of teaching and learning processes, individual assessment and systemic evaluation, further development of competences according to the latest developments and scientific findings concerning your profession. Use further education offers and maintain contacts to extracurricular institutions as well as to the working world in general.
VET didactics	Teaching of the Berlin-Hamburg Model in teacher training for later implementation in class: e.g. Kersten Reich, Wolfgang Klafki, 10 characteristics of good teaching by Hilbert Meyer (action-oriented teaching), self-organized learning (inductive approach), practice-oriented	Methodological competence, self-learning competence and reflection instead of working through grids, to have knowledge of the types of learners and learning classes (dealing with internal differentiation), conflict management competence, patience, enabling young people to learn something instead of just imparting knowledge, rigour and empathy plus a high level of social competence: to teach in a motivating manner, imparting occupational competence: offering learning situations in an action-oriented way and combining them with appropriate didactics. KMK: finding constructive solutions to educational problems and / or unsuccessful learning processes

Fields of activities	Key work processes	Required competences
Formative assessment of learning	Tests/ exams/ class tests Homework / oral participation Projects/ Project work Lectures and presentations laboratory experiments	Professional competence: Preparation of knowledge, knowledge of examination relevance and practical relevance, query in the sense of regulatory means (Ordnungsmittel) KMK: To perform assessment and advisory tasks competently, fairly and responsibly. This requires pronounced psychological and diagnostic skills
Pre-requirements for candidates (education level, experience, etc.)	Regular training path to admission as a VET teacher at vocational schools: Training is divided into 2 phases - University training: successfully completed teacher training + preparatory service (takes place in state responsibility), i.e. Bachelor's degree ↓ master's degree ↓ Preparatory service (legal clerkship) ↓ 2nd State Examination (Examen) Admission requirements for studies: e.g. Bachelor of Vocational Education and Training in Electrical Engineering, Information Technology/Metal Technology, Automotive Engineering, Full Subject: General or subject-related higher education entrance qualification (e.g. Abitur, placement test). At least 1 year of work experience in a corresponding (metal, electro or IT-sector) vocation; in practice >2/3 of students have finalised a 3-year apprenticeship. Admission for first semester: 15.07. or 15.01., selection procedure via the Dialogorientiertes Serviceverfahren DoSV = Registration and application for undergraduate courses via the Stiftung für Hochschulzugänge (hochschulstart.de). Admission for higher semesters: admission free, 15.07.resp. 15.01. For admission to a Master's programme, a Bachelor's degree is required. Admission to 15.07., for higher semesters 15.01. or 15.07. Special features: Advanced students who have not completed their Bachelor studies at the University of Bremen can only be admitted to the winter semester	Systematic and cumulative building of experience and competence Skills, target group, requirements BA: interest in technology, in the design of company teaching, useful in regard to learning and work processes: experience in independent development of special technical content and in using digital media, ability to communicate constructively and to cooperate with other people - especially with younger people - distinct empathy, helpful: completed vocational training or a master craftsman's degree or state certified technician's degree in one of the four fields (electrical engineering, metalworking, automotive engineering, information technology)

52	of the 3rd semester. They must also provide proof of academic and examination achievements for the first and second semesters. Advanced students who have completed their Bachelor studies at the University of Bremen can be admitted as advanced students for the summer semester if they can prove that they have at least 10 CP from their M.Ed. studies, that they meet the admission requirements and that they have been admitted to an internship semester. Admission requirements for the preparatory service: There are two recruitment dates in the federal state of Bremen: February 1 and August 1 of each year Application deadline ends September 15 / March 15 Recruitment date February 1 / August 1. Applications must be submitted to the Landesinstitut für Schule (LIS) by the application deadline. Proof of a successfully completed teacher training course, "Certificate of successful completion of the Master's degree course" must be submitted by the deadline for submitting certificates on 10 October or 10 April at the latest. If you have already completed all or part of your preparatory service in another federal state, it is generally not possible to apply in Bremen. The legal entitlement to a place in the preparatory service is settled with the commencement of a preparatory service. Exceptions are only possible if you have not completed more than three months of preparatory service. Admission requirements 2nd state examination: Completed preparatory service, During the preparatory period, the Second State Examination for Teaching Offices in Public Schools is held. In short: three training steps have to be completed: 1) Bachelor: 6 semesters for all types of schools, 180 CP, standard period of study 3 years 2) Master of Education: 4 semesters for all types of schools, 120 CP, standard period of study 2 years 3) Refendariat + Second State Examination - Duration in Bremen: 18 months	

	With the completion of the Master of Education you have acquired the First State Examination and can apply nationwide for the Refendariat, which concludes with the Second State Examination. This is the only way to acquire the teaching qualification as a teacher at public schools.	
Requirements for learning environment and context (place, technological environment, organization of learning and training)	Flexible, technically equipped rooms such as servers and production facilities for practice, reflecting the state of the art in the companies, digitized processes: virtual and augmented reality, makerspace, workshops (practical learning locations)	Dealing with technologies, knowledge about teaching materials, preparation of teaching contents, media competence, professional competence, desire to impart knowledge and to activate self-learning ability
Possibilities of recognition of acquired/ developed competences or qualification.	Second state examination after practical training, Trial courses, discussions about development / target agreement discussions Other: student feedback, collegial evaluation Wishes: more trial lessons to test social and professional skills, more testing by responsible bodies, also unannounced, to test teaching, good teaching quality assurance system in addition to school quality assurance (QM), acquire batches as evaluation and promotion system	Occupational competence: skills and abilities as well as knowledge of contents of the learning objectives Batches for further education/ conferences with topics like: inclusion, dealing with heterogeneity, social skills, technology development, etc.

Occupational profile VET teachers, *Germany*

Title of occupation/duty:	Vocational trainer (Ausbilder) Related positions are training coordinator and technical supervisors (ausbildende Fachkraft)
Corresponding qualification / EQF level	From Level 4 (skilled worker) to level 6 (master or technician) or level 7 (technical economist, rare), with min. 2 years of professional experience and Ordinance on Trainer Aptitude (Ausbilder-Eignungsverordnung (AEVO)).
The scope of work: goal and object	To train apprentices and to support them in accomplishing their vocational training and to execute regular work tasks in the company, either in the role of training coordinator and supervisor, or as trainer responsible for specific work processes and competence fields. Ideal goals for vocational trainers are to train apprentices for subsequent recruitment as future employees in their companies. This has become increasingly relevant in recent years, against the shortage of skilled labour and to reduce the risk of hiring staff that does not meet company's needs.

Fields of activities	Key work processes	Required competences
1. Daily planning and organization of curriculum and lessons, development of learning contents.	- Setting up operational curriculum/training plan (betrieblicher Lehrplan) in line with the training regulation (Ausbildungsordnung) for the profession - Define goals, tasks and responsibilities for training periods - Developing, distributing, collecting and analyzing reporting instruments - Delegation of training tasks according to training plan - Participation in boards and examination committees - Administrative work, e.g. reporting to chamber and auditing institutions - Updating training organization and contents according to new regulations, demands and policies, e.g. work safety, quality management - Design of concepts and forms for learning outcome controls and reflective talks - Assessment of feasibility of digital media for training (e.g. learning programmes and learning platforms to social media applications and individual tools and applications), to compare advantages of digital media with analogue media and to critically assess hazards, restrictions and development trends. - Assessment how digital media can be integrated into operational strategies and processes and which technological infrastructure can be integrated for the operational context - Organisation and acquisition of learning materials needed for the training, e.g. specific tools, access to learning platforms - Formulation of tasks	- Knowledge on regulations, procedures and conditions of own enterprise - Planning competence - Communication - Teamwork - Coordination - Leadership - Reporting - Critical evaluation of procedures and tools - Organisation and procurement of materials

Fields of activities	Key work processes	Required competences
2. Organisation of teaching and learning processes	- Instructing, explaining and demonstrating work processes - Teaching on cross-cutting issues like quality management or environmental legislation - Monitoring traineesperformance and behavior, ensuring that expected standards and rules are maintained - Planning and coordinating the cooperation of involved actors at different learning locations (in the company, at vocational school, other trainers, exam commission) - Supporting integration of apprentices into company culture and workplace - Informing apprentices about rules and standards - Support and supervision of apprentices for wide range of problems, not only professional but also private - Providing help for self-help, knowing/recognising the right balance between guidance and letting loose - Communicating about individual trainees with other trainers, teachers at vocational school or trainees' parents - Organizing trainees collaboration for specific tasks - Organizing and implementing reflective talks - Definition and clarification of roles, tasks and timeframe for involved stakeholders (incl. trainee) - Controlling learning outcomes of apprentices and compliance of all stakeholders with the training plan - Administrative work, e.g. reporting to chamber and auditing institutions	- Communication and coordination - Collection and analysis of data - Instructing, explaining - Competence assessment and documentation of learning outcomes - Supervision and coaching - Self-awareness - Assertiveness

Fields of activities	Key work processes	Required competences
3. VET didactics	- Development of ideas and concepts how to teach/train certain contents and their implementation (this is done freely, based on previous knowledge, creativity or in collaboration with the apprentices, e.g. work projects - Methods and approaches to raise or maintain trainees motivation - Methods to support trainees' skills to work independently, e.g. developing challenges to be solved by one or several trainees in collaboration - Finding and using "new" communication channels for interaction between trainer/apprentice or between apprentices and for assessment of learning outcomes, e.g. blogs about the apprenticeship run by several trainees, or recording of work tasks for assessment - Selection and implementation of digital media in line with operational strategies and processes regarding available technological infrastructure - Applying methods to support autonomy of the trainees, e.g. projects and challenges, competitions,… - Work methods to promote sustainability - Organising mobilities: finding and building contacts to companies abroad to cooperate with, fulfilling administrative requirements for sending or receiving trainees from abroad, supporting travel organization, being in touch with the partner enterprise about to monitor traineesmobility and learning requirements	- Creativity - Assessment of procedures - Knowledge on learning styles - Use and facilitation of various digital media and tools - Motivating and empowering others - Organisation - Foreign languages

Fields of activities	Key work processes	Required competences
4. Formative assessment of learning	- Distribution, collection and analysis of feedback forms from trainers in other departments responsible for parts of an apprentices training - Gathering oral feedback from other trainers on individual apprentices through talks or forms - Regular reflective and situational talks or events with trainees to monitor and guide learning, to give feedback, to raise motivation and to solve immediate problems. This can be done within regular talks or in addition via different instruments, like interviews with trainer, reflective questionnaire, learning diary… (methods depend on size of organisation and personal preferences of the trainers). These assessments should be critical, but constructive/concrete as possible, transparent and understandable.	- Focused and objective communication - Giving feedback - Assessment of learning outcomes - Motivating and empowering others - Appreciation and empathy - Assertiveness
Pre-requirements for candidates (education level, experience, etc.)	Section 28 (1) of the Vocational Training Act (BBiG) states that only people who fulfil the personal and professional aptitudes are allowed to train. Personal aptitudes are assumed as given for generally everyone, unless there are concrete reasons speaking against it, e.g. criminal records that determine whether someone is allowed to deal with minors and youths. The professional aptitude is evidenced by: completed vocational training in the same profession, a higher education degree in the respective field, respective qualifications gained through further training and/or long term work experience in the area of training. With these preconditions fulfilled one can achieve a trainer certificate (Ausbilderschein) that entitles to train apprentices based, as outcome of a certified training and an exam. This means in practice that general pre-requirements for training apprentices are: accomplished vocational training/apprenticeship and some years of experience in the profession of training plus the trainer certificate (Ausbilderschein).	
Requirements for learning environment and context (place, technological environment, organization of learning and training).	A variety of learning offers exist to gain the trainer certificate, which are accessible to different degrees. All trainers can dedicate 5 working days per year to their own further training. As preferred mode of learning most mention f2f trainings, e.g. as offered by the chambers of commerce or private training institutes. Learning via digital media, e.g. online courses were considered attractive and practical, but had not yet been used much by the interviewees. Preferences for flexible and self-directed forms of learning were expressed by most, while few were more fond of traditional forms like seminars.	

Possibilities of recognition of acquired / developed competences or qualification.	The companies which were represented by the interviewees only informally recognize the learning efforts of their trainers (e.g. in performance appraisals) and do not explicitly demand for it. The training certificate (Ausbilderschein) is the basic formal credential in this area. In order to meet the demands of multiple and parallel roles additional qualifications can be gained through further training accredited by the Chamber (IHK). Since 2009 extensive further training courses for the "Certified Initial and Continuing Education Pedagogue IHK" (areas of learning processes and learning guidance, planning processes in vocational education and training and vocational pedagogical action), or to the "Geprüfter Berufspädagoge IHK" addressing full time trainers and representing the highest possible qualifications in the German vocational system above qualification level above the master level. However, they also acquire in-depth pedagogical and methodological knowledge, above all in management and personnel development tasks.

Italy

The following table shows the items and the related dimensions investigated trough the questionnaire.

Code	Dimensions	Items
Q1/5	VET-teachers personal data	- Age - Years of VET-teaching experience - Previous education framework - Working conditions
Q5-10	Self-expression and career opportunities	- Perceived self-expression opportunities - Perceived career opportunities - Inclination to find another job
Q11	Didactic actions implemented by the teachers	- Compiling documents - Crafting learning materials - Students' needs identification and evaluation - Planning didactic activities - Choosing learning materials - Choosing learning methods and strategies - Pre-assessment of the students competences - Preparing tests - Informs parents about students competences' improvement - Taking care of personal and professional growth - Foster disable student's during learning activities - Monitoring students while they're on the workplace - Supporting students ad hoc - Providing professional guidance to the students - Organizing skills-competitions - Proposing and taking part in national and international projects
Q12	Professional/technical competences self-development strategies	- Participating at world-skills competitions - Attending seminars proposed by providers - independent study of specialised literature - Self-study through online - Participating at stage and companies

| Code	Dimensions	Items
Q13	Support needed for professional/technical sector competences development	- 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 competences development	- attending 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 competences development	- Attending at pedagogical higher education courses - access to online and virtual learning - free access to the specialised literature - Developing knowledge on pedagogical methods - Sharing experiences with colleagues

Participants: One hundred and five Italian VET-teachers (28,6 % female) are 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 centers. The 71,4% reported having obtained a vocational/school certificate or a degree in the technical sector while the 28,6% in pedagogical field. The frequencies of the years of experiences in VET sector are as follows: 11-20 years = 37,1%, more of 20 y.=23,8%, 6-10 y. 21,0%, and less than 5 y.=18,1%.

Results According to the descriptive statistics results, most of the participants (86,7%) have a stable work situation guaranteed by an open-ended contract. 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. The education level divides the teachers involved in two groups of similar dimensions: the first is composed of teachers who obtained a university degree (bachelor=13,3%, master=37,1%), and the second is composed of non-graduate teachers (VET-qualification=3,8%, secondary school diploma=45,7%).

Looking at the tables following tables and graphics it emerges that teachers perceive the possibility of self-expression (M=0,28, SD=0,53) and career opportunities (M=1,16, SD=0,90) within the IeFP positively. However, these results seem to be in contradiction with the fact that 40% of respondents answered 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%). On the contrary, 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 (even if minor) are: self-empowerment opportunities (10.2%), work dynamism (6,1%), society perception of Italian VET-system is getting better (6,1%).

Level of perceived self-expression

Value	Level	Frequency	Percent
0	High	77	74.8
1	Medium	24	23.3
2	Low	1	1.0
3	None	1	1.0
	Other	2	
	Total	105	
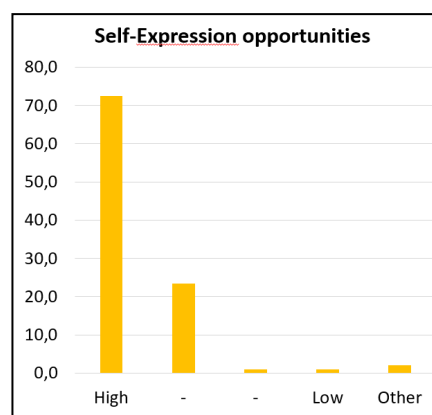
Level of perceived career opportunities

Value	Q07	Frequency	Percent
0	High	25	24.8
1	Medium	44	43.6
2	Low	23	22.8
3	None	9	8.9
	Other	4	
	Total	105	
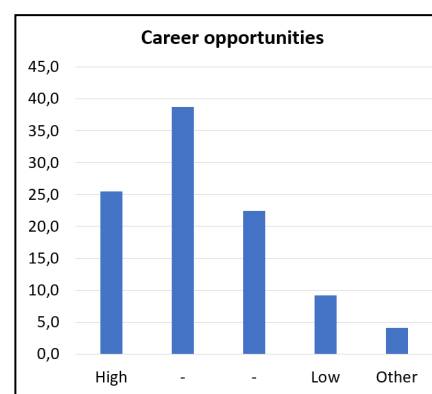
The following table and graphic report the descriptive statistics results about the following 5 dimensions: the first one tries to measure the amount of didactic actions and related activities implemented by the participants (Q11); the second one tries to estimate how much the participants autonomously develop their professional/technical competences (Q12); the one labeled as Q13 aims to gauge the support needed for professional/technical sector competences development; the Q14 tries to measure how much participants autonomously develop their pedagogical competences, and the last one (Q15) aims to gauge the support needed for developing its. As already mentioned, the average value of the collected scores for each dimension was calculated to allow the related analysis. Looking at table C, no particularly significant information emerges, because the average values of these dimensions are very similar to each other (min= 1,42 max=1,89).

Actions implemented by teachers

	Q11	Q12	Q13	Q14	Q15
Valid	105	105	105	105	105
Missing	0	0	0	0	0
Mean	1.74	1.42	1.89	1.50	1.84
Std. Deviation	0.37	0.54	0.44	0.55	0.48

The results of the descriptive statistics highlighted three interesting points: 1) the VET-teachers involved in the research are not full-time teachers, but they do also other jobs; 2) a large proportion of VET-teachers do not have a university degree, 3) although the teachers perceive career possibilities and space for self-expression inside the VET context, a good part of them think about leaving. The first point should not necessarily be

considered a negative element, because, if the teachers work in a sector related to the subject they teach, he could more easily favor the connections between teaching activities and the workplace. However, these three points could be also considered as a warning signal that highlights something structural that foster teachers to leave. In addition to participants answers, we think that this phenomenon could derive from the contrast between teachers-recruitment policies implemented for VET-centers and those implemented for public school teachers. As mentioned above, the Italian VET system is mainly regulated by the regions: regions requirements for VET-teaching are generally less restrictive than the national criteria for public-school teaching and this makes the IeFP a place of passage for teachers who aim to teach 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 teaching 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 centers until they find a permanent job in the public school. Moreover, as mentioned above, the situation is aggravated by the current Italian situation as regards educational policies, as the qualification training courses provided for by the "La buona scuola" law (2015) was interrupted and it is not yet clear what will be the new path to access teaching in public-school. The significant correlations between Q11 and Q12 and between Q11 and Q14 suggest that the most active VET-teachers in the teaching design and didactics are also more active both in the development of their professional and pedagogical skills. Based on this information, we could deduce that an intervention would be necessary to increase the pedagogical skills of those teachers who are less motivated both for teaching and for self-development. In conclusion, we believe that joint action of government and regions would be useful to 1) establish recruitment criteria for VET-centers that are specific for the characteristics of the context; 2) prepare training courses, both initial and refresher courses, centered on pedagogical skills and oriented to the growth of students' professional skills.

Lithuania

Matrix of vocational training competences for VET teachers

Core work processes – fields of competence development: 1. Planning of vocational education and training			
Competences			
To use printed and electronic diaries of assessment. To prepare reports and other documents for assessment and accounting of learning, advancement and student attendance.	To prepare printed and digital materials for learning and training (Moodle and other virtual environment) – textbooks, presentations, posters, etc. To test and adjust prepared training and learning materials.	To evaluate information on the labour market needs for the specialists in different occupations. To identify learning needs of students.	To design modules and programmes of formal or informal vocational training. To prepare long-term, short-term and thematic training plans. To prepare the plans for implementation of the modular VET curricula and curricula of informal training.

Core work processes – fields of competence development: 1. Planning of vocational education and training				
Competences				
			To evaluate training needs from skills demand in the sectors of economy (development of the sectors, shortage of workforce), by taking into consideration requirements of the technological and societal change (Industry 4.0, demographic changes, social status of students, etc.). To collect and evaluate information about the work processes and their changes. To design new ways and measures of learning and training (e.g., application of the networked chains of technological processes – Internet of Things, robotised work processes, systems of sensors).	To adjust curriculum referring to the results of assessment of learning outcomes.

Core work processes – fields of competence development: 2. Implementation of vocational training and learning processes				
Competences				
To assist in preparation of the training and learning materials. To ensure safe training and learning environment (moving parts of equipment, noise, dust, vibration, stairs, individual protection measures, sound signals etc.).	To look for social partners and mentors for practical training and to establish the contacts of cooperation. To coordinate practical training in the real workplaces. To execute supervision and control of the training at the real workplaces.	To select and adjust learning and training materials in order to achieve the learning outcomes. To use updated (newest) information sources for the preparation of learning and training materials.	To consider individual needs and possibilities of students. To use virtual training and learning environment.	To reconstruct the work processes taking place in the real workplaces. To apply methods of work-based learning and training.

Core work processes – fields of competence development: 2. Implementation of vocational training and learning processes				
Competences				
		To choose the learning and training measures (tools, equipment, digital technologies and equipment) by considering learning results and current level of technological development. To prepare the half-finished materials, tech blanks and billets for practical training. To execute prevention of injuries and damage. To plan and purchase learning and training measures and raw materials.		

Core work processes – fields of competence development: 3. Work with students having special needs:		
Competences		
To assist in preparing learning and training materials for the students with special needs (with visual, audition, movement impairments and disabilities, behaviour and understanding impairments, etc.). To prepare safe environment of learning and training for the students with special needs (moving parts of equipment, noise, dust, vibration, stairs and elevators, individual protection measures, sonor signals, etc.).	To adjust individual training methods according to the special needs of students with physical, intellectual and behavioural disabilities and impairments. To explain the practical tasks for students with special needs and to help them in executing these tasks. To supervise the work or students by ensuring it's safety.	To prepare individualised training curricula and modules referring to the learning possibilities of students with special needs. To evaluate the suitability of effectiveness of the development and adjusted training programmes and modules.

Core work processes – fields of competence development: 4. Assessment and monitoring of learning outcomes of students	
Competences	
To foresee assesment tasks in the long-term and short-term training plans. To execute initial and intermediate diagnostic assessment of learning outcomes. To execute formative assessment of acquired knowledge, practical and key skills. To execute summative assessment of the module or qualification together with social partners. To discuss the criteria of assessment of learning outcomes with students. To provide feedback on the learning achievements to students, their parents and other interested parties.	To apply theories, methods and measures of assessment. To prepare individual and group tasks for assessment of knowledge and practical skills of students. To apply digital technologies, software and hardware in preparing assessment tasks.

Core work processes – fields of competence development: 5. Activity for the community of school and project activities				
Competences				
To search information for counselling in the descriptors and profiles of qualifications and occupations. To introduce the VET school or training centre, to explain learning conditions and admission requirements. To explain to students training programme by introducing intended competences.	To evaluate perspectives of employment and career inside of the country and abroad. To provide advice on the recognition of informally and non-formally (through work experience) acquired competences.	To collect information about the local, national and international events related to professional activity. To prepare students for the national and international skills competitions. To organise local and national skills competitions and to referee at these competitions. To represent training establishment at the exhibitions and other events. To produce products for representatives and other events.	To prepare and implement projects by applying principles of team working. To apply knowledge and skills of intercultural communication.	To generate and develop the project idea. To search of resources for implementation of the project.

Core work processes – fields of competence development: 6. Professional development:	
Competences	
To search for information needed for the professional development by using specialised databases. To learn in the remote way. To execute common methodical activity with other teachers. To learn in the real workplaces, by participating in the open lessons, projects, study visits, conferences and trainings. To share acquired experience with colleagues.	To reflect executed activity (strengths, weaknesses and potential for improvement) by using feedback from the students and other data. To foresee the directions for development and advancement of technological, pedagogic-didactic, and key competences.

Matrix of vocational training competences for work-based trainers in the enterprises

Core work processes – fields of competence development: 1. Preparation of the practical training at the workplace.	
Competences	
To fill in the diary of practical training. To prepare the documents for assessment of quality of the practical training.	To prepare individual plan of practical training, including the schedule and timetable of training. To prepare the workplace for practical training.

Core work processes – fields of competence development: 2. Implementation / execution of the practical training.		
Competences		
To select the training materials (instruments, equipment, tools) according to requirements of learning tasks, achieved learning results and work output. To apply for learning up-to-date technologies and equipment. To execute prevention of accidents and damage at the workplace.	To demonstrate skillful execution of concrete work processes and operations and to facilitate development of practical skills by executing real work processes. To ensure healthy and safe learning and training conditions. To motivate apprentices to learn and cooperate with trainer. To collaborate with the vocational teachers from the VET schools.	To evaluate individual needs and possibilities of apprentices. To apply learning and training theories and training methods. To choose suitable methods of work-based training and learning by referring to established training goals. To adjust the methods of work-based training according to needs and requirements of apprentices and learning process.

Core work processes – fields of competence development: 3. Assessment and monitoring of the achieved competences of learners	
Competences	
To identify advancement of apprentices in the learning process. To provide feedback on the advancement of learning to apprentices.	To prepare the tasks of assessment referring to the norms and requirements of the professional field and following the principles, methods and approaches of competence assessment. To discuss the criteria of competence assessment with the vocational teacher and apprentice. To execute initial and intermediate diagnostic assessment of competence and to analyse it's results.

Core work processes – fields of competence development: 4. Professional development	
Competences	
To search for information on the technological innovations in the professional field. To share the knowledge and experience with colleagues and vocational teachers. To participate in the training seminars, workshops, projects, fairs, exhibitions, and other events aimed to develop professional / technological competences.	To reflect critically own training activity (strengths, weaknesses, potential of improvement) by using feedback and other information. To generate ideas on the improvement of training.