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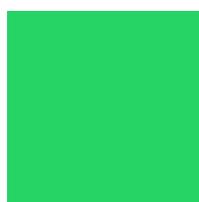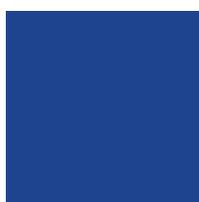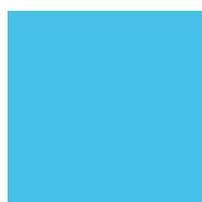# TEACHERS AND TRAINERS IN A CHANGING WORLD

Building up competences for inclusive, green and digitalised vocational education and training

PORTUGAL

Teachers and trainers in a changing world Portugal

Building up competences for inclusive, green and digitalised vocational education and training (VET)

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The thematic perspectives series complements the general information on vocational education and training (VET) systems provided in 'VET in Europe database'. The themes presented in the series feature high on the European agenda.

Thematic perspectives provide national overviews of specific themes in a common format and offer comparative dimension across the EU Member States, Iceland and Norway. They are available at:
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This thematic perspective was prepared based on data/information from 2021.
The opinions expressed here do not necessarily reflect those of Cedefop.
Thematic perspectives are co-financed by the European Union and ReferNet national partners.

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CHAPTER 1.   Introduction

In 2020, the Population Reference Bureau warned ([1]): Portugal is already the fifth most aged country in the world, with about 21% of its population aged 65 years and over, well above the European average. And the future does not seem brighter: according to Eurostat data, in 2019, Portugal was also in fifth position among the countries in Europe with the lowest birth rate. This points to the most pressing country-specific challenge in relation to teachers and trainers: the ageing and low attractiveness of the profession. The prospects of a shrinking school population do not provide politicians with incentives for expanding the tenure of new teachers and make the profession more attractive: according to TALIS 2018 data (OECD, 2020), only 9% of teachers are satisfied with the terms of their contract, a much lower percentage than the OECD average (66%) ([2]). The perceived skills gaps reveal the difficulty for ageing teachers to adapt to the latest challenges of their profession: in TALIS 2018, 22% of teachers reported a strong need of training for teaching in a multicultural and multilingual context and 12% for the use of information and communication technologies (ICT) in teaching. However, teachers' commitment to providing the best education to their learners has not been affected and, in 2019, following the interruption of all face-to-face activities, education was moved online overnight in a remarkably successful way. In school based IVET previous existing Moodle platforms were revived and made available to learners and teachers. In apprenticeships schemes the digital platform for e-learning of the Institute of Employment and Vocational Training (IEFP), available in all the network of VET centres, enabled the continuity of teaching and training. Curricular sequences were adapted, practical subjects and work-based learning (WBL) were pushed forward, allowing them to be taken up again after the lifting of restrictions in May, before the end of the school year.

On the training demand side, the great expansion of IVET offers which occurred from 2005 onwards has resulted in a very sharp increase in its attendance, but the percentage of learners choosing vocational paths, although already higher than 40% of the total of upper secondary learners, is floating and is still below the desired target of 50%. The challenge taken on since 2016 has been to increase the attractiveness and prestige of vocational education and training.

([1])   https://www.prb.org/countries-with-the-oldest-populations/

([2])   In 2017/18, the proportion of non-permanent teachers (on temporary contracts) was 16.9% in primary education and 21.4% in secondary education (DGEEC, 2019). The possibility of providing more teachers with a permanent contract was opened and between 2017 and 2019 more than 6500 teachers became permanent in the schools where they teach.

VET programmes are not oriented towards preparing learners for the secondary education national examination that serves to rank candidates for higher education, and this has been pointed out as the main drawback of following a vocational path. In 2019, only 18% of IVET learners entered tertiary education, far from the 85% who did so after a school path in upper secondary general education (Eurydice, 2020). Decree-Law No 11/2020 of 2 April now allows VET learners to take exams in the higher education institutions to which they apply, giving Higher Education Institutions (HEI) the autonomy to evaluate if they have the knowledge and competences considered indispensable for the entry and progression in the study cycle to which they apply, thus responding to the diversity of candidates' paths in a fairer way.

Another challenge taken on was to augment the transparency and portability of qualifications awarded in VET. This was tackled through the reformulation by Ordinance No 47/2017 of 1 February of the National Credit System for Vocational Education and Training ([3]), which defined learning outcomes-based qualifications.

The intention to promote the qualification of VET routes was also expressed in the revision of the Short-Cycle Higher Education ([4]), of Decree-Law No 63/2016 of 13 September, allowing for vocational and technical higher education programmes (*Cursos técnicos superiores profissionais* - CTeSP) to fully play their role of short cycles of higher education, linking them to IVET pathways and to the first cycles of higher education (ISCED 6).

The changes in curriculum management implemented in general education were transposed to IVET, giving schools greater autonomy in curriculum management, but also clarifying and regulating assessment and certification processes (Decree-Law No 55/2018 of 6 July and Ordinance No 235-A/2018 of 23 August). This focus on governance regulation is also present in the development of the EQAVET Framework, which is applicable to all schools and VET schools that offer IVET ([5]). The quality verification process based on an independent external evaluation process of over 500 VET schools and centres was initiated in

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([3]) The process of prior learning recognition is simplified by an online tool, the Qualifica passport, which allows adults to record their qualifications and skills and identify further learning pathways.

([4]) CTeSP has 120 ECTS credits and a duration of two curricular years of learners' work. It does not confer an academic degree, but the successful conclusion of the respective study cycle awards the higher professional technician diploma. Decree-Law No 63/2016 concedes institutions of polytechnic higher education autonomy to establish the rules for admission to the programme for holders of non-secondary post-secondary education and professional higher technical diplomas.

([5]) Mandatory for privately owned professional schools.

2020 and was sustained despite the pandemic. According to ANQEP, until May of 2021 over 400 seals of approval were granted.

The 9th priority of the Portuguese Recovery and Resilience plan is focused on promoting VET. About 13% of the EUR 710 million budget are dedicated to renewing education infrastructures and the remainder to modernising equipment and qualifying VET human resources.

CHAPTER 2. Types of teaching and training professionals

There are three main types of IVET offer ([6]): 1) education and training programmes for young people (CEF), NQF 2 (ISCED 2) or NQF 3 or 4 (ISCED 3), which is initial vocational training for young people who have left – or are at risk of leaving – school before having attained compulsory education; 2) professional programmes which are initial training of young people, NQF level 4 (ISCED 3), focusing on their insertion in working life and allowing further education; and 3) the apprenticeship programmes NQF 4 (ISCED 3), the initial dual professional training for young people, privileging their quick integration in working life, still allowing further education.

2.1. Main types

The Institute of Employment and Vocational Training (*Instituto do Emprego e da Formação Profissional* - IEFP) defines IVET as education which enables the exercise of a certain profession and allows access to a certified professional qualification. It is structured in such a way as to make programmes NQF level 2, 3 and 4 accessible according to different modalities. Whatever the chosen modality, level 2 NQF certifies ISCED level 2 and NQF level 4 certifies ISCED level 3, allowing for further education in any given offer.

The National Agency for Qualification and Vocational Education (ANQEP) identifies three main categories/types of teaching and training professionals: 1) Teachers; 2) Trainers; 3) Workplace Training Tutors.

Teachers usually provide the sociocultural and scientific components of IVET programmes and may also be pedagogical supervisors in CEF - Education and training programmes for young people. IVET trainers ensure the development of technological and practical components of IVET programmes in schools and are frequently responsible for the interface between centres/schools and the labour market. IVET trainers can participate in the process of recognition, validation, and certification of competences, supervise professional/ artistic proofs, and integrate,

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([6]) More scattered, but part of the available E&T offer, there are also the specialised artistic programmes (EQF 3), which are specialised artistic programmes, such as visual and audiovisual arts, theatre and dance, and programmes with special plans, which are specific curricular programmes developed within the scope of the schools' autonomy to diversify their education and training offer.

when necessary, the certification jury of IVET programmes. They may also be workplace training tutors responsible for placing and managing the WBL of learners. Whenever VET programmes have a work-based training component, a workplace training tutor is selected from amongst trainers, as to guide and monitor the student in the development of the work plan defined for training in a work context. A member of the company in which it will occur is selected to perform the task of guiding the apprenticeship (an in-company tutor), liaising with the workplace training tutor from the school ([7]).

2.2. VET schools

The strategy to promote the growth of vocational education was based on two principles: first, the expansion of accessibility by disseminating offers amongst a wide range of providers: public and private, under the tutelage of the Ministry of Education or the Ministry of Labour, Solidarity and Social Security (MTSSS).

The second one was to promote permeability and equivalence between education and training offers, which resulted in the coexistence of schools devoted and specific to IVET, schools where IVET and general education coexist and centres which specialise in IVET and adult education.

There are four main types of schools/centres with IVET offers. The 1) IEFP VET centres of direct management and the 2) centres of participated management (created by protocols signed between the IEFP and social partners), are under the responsibility of the Ministry of Labour, Solidarity and Social Security and, within IVET, develop the apprenticeship programmes. In addition, under the tutelage of the Ministry of Education and mainly offering professional programmes, are the 3) private and public professional schools ([8]) and the 4) school clusters of the public network. Operating in association with a school, a school cluster of the public network, a private VET school, an IEFP direct or participated training centre, a business or industrial association or a company, the *Qualifica* centres ([9]), mainly directed to adult learners, provide information, guidance and referral services and

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([7]) In company tutors are not IVET training professionals. This is not a paid position, there are no qualification or training requirements and no functional dependence towards the education/training institution. They collaborate, within the scope of their activity in the company

([8]) The request for authorisation to operate is granted by the Ministry of Education (DGestE), after consulting ANQEP, a dual entity (Ministry of Education and Ministry of Labour Solidarity and Social Security) that manages the National Qualification Framework.

([9]) In September 2020, the centres network was made up of 310 centres (Eurydice, 2020).

the recognition, validation, and certification of competences (RVCC) acquired throughout life.

2.3. Teaching and training professionals by type of VET school

The types of teaching and training professionals do not vary structurally according to the type of school. Nevertheless, because of differences in schools IVET main offer and nature of entities (public or private), there are differences in teachers/trainers profile distribution. It can be said that teachers are more frequent in public schools and school clusters, trainers in the IEFP's direct and participated management VET centres (associated with CVET, more than IVET) and a balanced distribution between teachers and trainers is found in professional (private and public) schools. Hybrid profile teachers (teachers of general education/ theoretical and of technological/ practical subjects) do exist and are more common in public schools. Hybrid profile trainers who combine training with other professional activity in companies also exist, but there are no data which can enlighten us regarding its prevalence.

In the various types of schools (private professional schools or public-school clusters) there are psychologists who provide vocational guidance and psychological or psycho-pedagogical support to students.

Second chance is a separate educational form, with links with schools and VET centres. The pathways are yearly authorised by the Ministry of Education, framed in Adult Education and Training programmes for adult learners and PIEF programmes ([10]), with the necessary adaptations, for underage learners (15 to 18 years). In the case of young adults, second chance education offers vocational training modules/itineraries, complementary to the Adult Education and Training programmes in articulation with the IEFP, including experiences and internships in work contexts, in Portugal and Europe. Professionals working in these schools (there are only two in Portugal, but plans are to open six new schools this year) have diverse profiles: they include teachers of scientific subjects, such as Mathematics, ICT, English, Portuguese, Natural Sciences; teachers of sociocultural subjects, such as specialist artistic teachers, Music, Dance, Theatre, Visual Arts; and Psychologists, Social Educators and other Support Workers.

([10]) "Integrated Programme for Education and Training", a temporary and exceptional socio-educational measure to be adopted after all other school integration measures have been exhausted, and which aims to favour social inclusion and the fulfilment of compulsory schooling, conferring an ISCED 1 or 2 school qualification.

CHAPTER 3. Teaching and training professionals in school-based settings

3.1. Legislation

National legislation regarding regulation and guidance of professional development of teachers and trainers does not distinguish teachers according to settings, but according to the nature of the institution - private or public, under the Ministry of Education or Ministry of Labour, Solidarity and Social Security - where they teach. Different diplomas and guidelines also guide teacher and trainer profession.

The "Career Statute for Childhood Educators and Primary and Secondary School Teachers" ([11]), applies to career teachers at public school establishments, whatever the education level, disciplinary group, training area or modality of public non-higher education, as long as they are under the jurisdiction of the Ministry of Education.

Teachers or trainers who work in private schools (general or professional) are either governed by individual employment contracts or are under the collective bargaining agreement ([12]) (Bulletin of Labour and Employment, no. 32, of 29 August 2020) which sets a value of 40 hours of CPD per year applicable to different typologies of teachers and trainers ([13]): 1) professionalised teachers ([14]); 2) teachers in professional education; 3) trainers in professional education; 4) teachers of specialised artistic education who do not have a degree or are not professionalised; 5) teachers of activities not included in the compulsory curriculum. Also, in accordance with the Portuguese Employment and Labour Code, which is applicable to all employment contracts, each worker has an individual right to a minimum annual number of 40 hours of training.

([11]) Decree-Law No 139-A/90 of 28 April, revised by subsequent legislation 11 times. Last revision was Decree-Law No 41/2012 of 21 February.

([12]) Negotiated between the federation of education workers unions and the national confederation of education training, it establishes rights and duties and rules of access to the profession and professional development, covering about thirty-five thousand teachers and twenty-three thousand non-teaching staff.

([13]) With wage differences.

([14]) To be a professionalised teacher, candidates must hold a teaching qualification (i.e. have a higher education degree included on a list published by the Ministry of Education), have five full years of teaching service and a master's degree with a pedagogical component in the specific subject area.

Order No 214/2011 of 30 May defines the requirements and access routes for the certification of pedagogical skills, necessary to work as a trainer within the National Qualifications System. Pedagogical training and pedagogical certification of trainers is provided by the IEFP, by higher education institutions and certified training providers with signed protocols with the IEFP for this purpose. The IEFP, through the National Centre for Trainer Qualification (CNQF), is the training certifying entity, granting authorisation for the operation of initial pedagogical training courses for trainers and issuing the Certificate of Pedagogical Competences (CCP), which is lifelong.

In 2014, the legal framework for continuous teacher education was changed. Decree-Law No 22/2014 of 11 February established the legal regime for teachers' continuous training and defined the respective system for coordination, administration, and support. This change focused on structuring the system for CPD of teachers, making it more responsive to the needs of schools and training centres. By this decree, annual analysis of training needs, aimed at identifying short-term priorities assumes a critical role in the definition of annual or multi-annual training plans of the School's Association Training Centres (CFAE). It also defined that to apply to performance evaluation and career progression, teachers working in non-higher education institutions, the continuous training component should focus at least 50% on the scientific and pedagogical dimension and that, at least, four fifths of the training should be accredited.

Order No 779/2019 of 18 January defined the current priorities for continuous training of teachers: planning the implementation and evaluation of learning; teaching of citizenship education contents; inclusive education; implementation of teaching and active learning strategies, aimed at promoting academic success.

3.2. Qualification and competence requirements

The entry requirements for the teaching profession are identical for teachers whether they teach general education or IVET general subjects in public schools or in IEFP VET centres: an initial teacher training programme at tertiary level, and a Postgraduate Certificate of Education (EQF level 7). To be professionalised teachers must also undergo subsequent supervised practice. In public schools, placement is through a nationwide public recruitment procedure, based on academic qualifications and work experience. In private schools - general or VET - the recruitment is not subject to special requirements, other than those relating to the candidates' initial qualification.

To work as a trainer (a teacher in the technical or technological area), both in private schools and in direct or participated management IEFP VET centres, the

requirements - except for professionalised teachers and teachers of tertiary education - are to have a certificate of pedagogical competences and a EQF level 6 qualification or higher ([15]). The certification of pedagogical competences can be acquired through an initial pedagogical training of trainers, through recognition, validation, and certification of competences (RVCC) process or through equivalence of diplomas or certificates of higher education qualification which confer pedagogical competences.

Professional schools try to attract professionals from the labour market to, simultaneously, work as trainers in their programmes, adapting timetables as to push technical subjects for before or after work hours. However, this is not always possible, especially in professions where there is a high demand. In those situations, the articulation is mainly done through protocols with companies that regularly collaborate with teachers and trainers to promote frequent field visits to workplaces all year long, and through events, such as conferences and talks.

IEFP has a "Network of Excellence Partners for Apprenticeships" composed of entities that collaborate systematically in the development of apprenticeship programmes and WBL with which IEFP trainers collaborate.

3.3. Initial training programmes

There are no specific initial training programmes to prepare teachers of general or theoretical subjects to teach in VET schools/centres. General Initial teacher Education is extensive, demanding ([16]) and it is sought to prepare teachers to teach both in general education and in VET. One of ITE goals is to develop pedagogical and didactic capacities to enable teachers to work with different types of students and to adapt to different teaching/training objectives. Induction for newly qualified teachers is compulsory and includes peer-to-peer mentoring. There are no alternative pathways to a teaching qualification.

The quality of the initial training of teachers in schools and VET centres is gauged from the inspections carried out by the school inspection authority (Inspectorate-General of Education) and the external evaluation implemented in EQAVET.

([15]) Exceptionally - a qualification higher than that of the learners and, at least 5 years of professional experience.

([16]) Initial Teacher Education programmes lead to a bachelor's degree and includes subject content, general and subject related pedagogy, and classroom practice. Initial Teacher Education (ITE) totals 300 ECTS, of which 120 ECTS are of professional training, 42 ECTS achieved through in-school placement. (Eurydice, 2021)

3.4. Requirements for continuous professional development

CPD for teachers is composed of continuing education and specialised training and is applicable both to general education teachers and those teaching general subjects in VET programmes. Mentoring is only available for novice teachers and takes place in the induction period. There is no validation and recognition of competences acquired on the job and in non-formal settings.

Continuous training is established in legislation as both a right and a duty, aimed at updating teachers' professional knowledge and skills, promoting their professional mobility, and career advancement. For career progress, teachers must attend and pass 25 hours at the first stages of progression (5th stage) and 50 at the remaining stages of continuous training or specialised training courses.

There are various types of continuing education: education and training programmes, training workshops, Short-term Training Actions or, at the request of the Continuing Education Scientific-Pedagogical Council ([17]), based on a needs assessment, also internships and projects. These offers may be organised by 1) higher education institutions; 2) municipal and intermunicipal-based school association training centres (CFAE); 3) not-for-profit professional or scientific association training centres; 4) Ministry of education central services; 5) and other relevant institutions in this domain. The accreditation of training bodies, teacher trainers and training courses is the responsibility of the Continuing Education Scientific-Pedagogical Council.

Between 2016 and 2017, the Directorate General for School Administration (*Direção-Geral da Administração Escolar* - DGAE) focussed on training directors of training centres, as well as staff working in teacher training. Subsequently, the role of the School Association Training Centres (CFAE) became more relevant as the main provider of recognised and certified training courses. The Short-term Training Actions offered in CFAE last a minimum of three hours and a maximum of six hours, operate on a mentoring scheme, and, more recently, mainly in e-learning. This applies to all teachers working in state schools (whether teachers of scientific or vocational subjects), in Portuguese schools abroad and private and cooperative schools (either VET or general) registered in the CFAE.

Themes are defined according to a needs assessment conducted at a school level, based on teacher responses to an annual inquiry. The School Association

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([17]) Collegial body, appointed by the ministry of education, composed by experts coming from different universities where initial teacher training takes place and whose functions are the accreditation of the training entities and the continuous teacher training actions, as well as the monitoring of the evaluation process of the continuous training system.

Training Centre (CFAE) draws up an annual or multiannual training plan, considering the needs analysis and policy priorities set at a national level and these are submitted for accreditation by the Continuing Education Scientific-Pedagogical Council. This training is free for teachers. Time away from school to attend continuous professional development (CPD) is deemed work time and, as such, is remunerated. Leave of absence taken to attend training may be obtained for not more than five consecutive or eight random working days per year.

In 2020, about 750 public school clusters enrolled in training for "Digital and Network Teaching", guided by the Directorate General of Education (DGE), in partnership with the Portuguese Open University. Directed to school directors, but extendable to two more teachers per school, these were accredited courses, of asynchronous training in theoretical and practical subjects, of a total of 25 hours, focusing on three themes: "Education and Online Communication and Virtual Pedagogical Models", "Online Platforms and Digital Technologies" and "Learning Activities and Digital Assessment". Subjects were aligned with Future Classroom Lab training courses (FCL) of the European Schoolnet (EUN).

Under the NAU Project ([18]) a technical and operational infrastructure was created to promote distance and asynchronous training, accessible to every citizen. During the last two years, several Massive Open Online Courses (MOOC) have been promoted, aiming transversal themes: bullying, cyber bullying, active learning; e-twinning projects ([19]), just to name a few. The MOOC about Collaborative work in eTwinning had two editions, with a total of 1 690 teachers, having completed 428 (INCoDe.2030, 2018).

Regarding specialised training, seven training areas are defined in the legal framework: a) Teaching, that is, areas of knowledge that constitute curricular subjects at the various levels of education; b) Pedagogical and didactic practice in teaching, namely training in the organisation and management of the classroom; c) General educational training and educational organisations; d) School administration and educational administration; e) Pedagogical leadership, coordination and supervision; f) Ethical and deontological training; g) Information and communication technologies applied to specific didactics or school management". There are training actions that cover technical, pedagogical/didactic and transversal competences. To apply for the performance evaluation and career progression 50% of the CPD must focus on the scientific and pedagogical subjects.

([18]) Public Administration Distance Learning for Large Audiences - a partnership of several public entities (IEFP and DGE included).

([19]) Until 2018, 3 classes, on "Collaborative work in eTwinning", involving 220 teachers (INCoDe.2030, 2018).

As for trainers, Ordinance No 214/2011 of 30 May, removed the need for renewal of the Certificate of Pedagogical Aptitude (CAP), through attendance of a continuous training action every five years and defined its lifetime validity. This was not, however, a consensual decision. Although some criticised the costly and bureaucratic nature of the obligation, others contend that this devaluated continuous training and contributed for the devaluation of the trainer profession.

Needs for recognition and certification of the teaching skills and the professional development of trainers is monitored by the National Centre for Trainer Qualification, a service within IEFP. The IEFP also develops standards for school-based trainer continuous professional development. In recent years, the IEFP has developed and put in effect a series of standards for initial and continuing training of trainers and tutors, in the light of the new pedagogical approaches and technical developments brought by the implementation of the NQF.

The employment contract of trainers working in private vocational schools or in IEFP VET centres is not always permanent, and some work as service providers, accumulating with other professional activities or providing services in more than one training entity, especially amongst trainers and teachers of technological subjects and practical education. According to the representative of the National Association of Trainers and to the president of the National Association for Vocational Education and Training "Forma-te", interviewed within the scope of this study, those professionals are very active in the independent search for training, since the market is competitive, and they systematically need to present adequate and updated qualifications.

3.5. Data on teachers and trainers in school-based settings

The statistics collected annually on teachers, which outline their profile in terms of age, gender, qualifications, length of service, contractual relationship, among others, and which focus on teachers teaching in public schools, do not distinguish in relation to the type of programmes they teach and do not allow a breakdown between teachers teaching general education or VET.

Data collected by IEFP through NetForce statistical database does not allow to distinguish those involved in IVET or CVET or according to the institutional setting in which training takes place.

In 2010, an IEFP commissioned study (Quaternaire, 2010) aimed to characterise the profile of trainers, carrying out a social characterisation, analysing their qualifications, professional bonds and earnings and defining the core set of competences they should have in order to support the Benchmark for the Initial

Pedagogical Training of Trainers (IESE, 2012). This research was the base to set training benchmarks developed at that time. Since then, the updating and deepening of data has been made through research projects where some characterisation of teachers and trainers is relevant (e.g. Martins, 2021).

CHAPTER 4. Training professionals in work-based settings

4.1. Definitions

Trainers who work in work-based settings are mainly involved in in-service training for employees (CVET). They may be company employees qualified to provide training, independent consultants hired for the task, or trainers belonging to a training centre hired to implement an action or training plan. In most cases, companies opt for ad-hoc combinations of the various arrangements to implement their annual training plans. In a formative work-based setting of IVET you find in-company tutors. However, as previously mentioned (see 2.1.), in-company tutors are not trainers but company employees who are assigned the task of accompanying a trainee on his WBL.

4.2. Legislation

Decree-Law No 205/96 of 25 October which establishes the legal framework for apprenticeship (work-linked initial vocational training), as part of vocational training on the employment market defines "tutor" (workplace training tutor or in-company tutor) as "the one who ensures pedagogical functions in direct relation with one or more learners, accompanying and guiding the training activities carried out in a work situation". In-company tutors in Portugal are not required by legislation to have any specific qualification or undergo any specific training.

4.3. Provisions for continuous professional development

Even though no training or CPD initiatives are required to perform this role, since 2004 IEFP develops training for in-company tutors and has made available a set of open manuals and contents to promote active learning and guide company professionals in these functions (IEFP, 2004) [20]. In 2015, with the support of the European Commission and the Lifelong Learning Programme, the handbook produced by the Chamber of Commerce of Spain [21] was translated to

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[20] https://elearning.iefp.pt/course/view.php?id=925.

[21] https://www.dualvet.eu/docs/productos/Dualvet_EN.pdf.

Portuguese, aiming to be a training manual for the successful transfer of methodologies for implementation of the apprenticeship system. More recently, the Vocational Training Department of the German-Portuguese Chamber of Commerce and Industry (DUAL) [22], designed guidelines for tutors, and IEFP has developed two programmes dedicated to the training of trainers: one for the trainers themselves and the other for those lecturers who train the trainers. They each consist of four 10-hour modules, resulting in a total of 40 hours of training. Materials and contents were also made available online. These materials focus mainly on the expected functions of an in-company tutor, pedagogical contents, motivational issues, conflict management, feedback, amongst others. There seems to be a preference for flexible and adaptable models, based more on the definition of expectations and sharing of information than on certified training. There is no conduction of needs analysis and no possibilities for validation and recognition of competences acquired on the job and in non-formal settings, although experience in the function is a criterion considered when defining who is assigned the task of accompanying trainees in their WBL.

VET schools work closely with companies, with which they collaborate in WBL. Learners visit and contact companies throughout the year and the preparation of the activity plan to be developed in a work context involves the workplace training supervisor and the in-company tutor. Through a succession of these experiences, a tripartite relationship is established between the workplace training supervisor, the trainee, and the in-company tutor, enabling WBL for all three parties.

4.4. Data on trainers in work-based settings

Every year Portuguese employers must submit the "Annual Continuing Training Report", demonstrating compliance with the rule of providing their workers with 40 hours of training per year [23]. Based on this data IEFP prepares the annual report on continuous training (GEP_MTSSS, 2021). The data of the latest report is from 2019 and reveals that CPD was mostly carried out during working hours (on-the-job) and using internal trainers. There is no data regarding the training of training professionals in work-based settings.

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[22] https://www.dual.pt/private/flippingbooks/linhas-orientacao-tutores/index.html

[23] Law No 93/2019 of 4 September increased this threshold from 35 to 40 hours.

CHAPTER 5. Partnerships between schools and companies

5.1. Examples of practice

There are several examples of co-operation initiatives between schools and enterprises. In IVET, as already mentioned, the contacts with companies and entrepreneurs who collaborate in WBL goes on throughout the year and for several years: there are frequent study visits to companies, and it is also common that in-company tutors and other responsible people be invited to give lectures in schools on current issues. Company professionals are always involved in the final evaluation of the learners they receive for WBL and take part in the internal and external evaluation of programmes and of schools/VET centres, assessing whether the training provided is current and adjusted. In the context of external evaluations of EQAVET, they are necessarily called upon to give their opinion about the course and reflect on the quality of the articulation with the school/training centre.

Whenever possible, schools aim to promote, dual education experiences in which part of the training is given in enterprises.: However, micro and small enterprises that compose the business structure in Portugal are frequently reluctant to engage in training apprentices.

Another way to strengthen the connection with companies, identify new partners and training needs is the work of Professional Development Offices, which organise training for companies within schools manly devoted to IVET.

IEFP has a protocol with a number of companies that constitute a "Network of Partners of Excellence for Apprenticeships", giving a certificate of recognition to the entities that collaborate with VET centres, within the framework of apprenticeship programmes and which develop high quality practical training in a work context. Company representatives collaborate in the definition and revision of the training benchmarks adopted.

5.2. Cooperation between VET schools and companies

The establishment of a close relationship with enterprises is, for schools and VET centres, a fundamental element to guarantee quality, recognition, and the existence of enough vacancies to ensure WBL. For this reason, schools and

training centres invite and establish protocols with companies that are their most frequent partners. Representatives of partner companies are members of the pedagogical council of schools and VET centres, of its advisory boards and are necessarily involved in the internal and external school/ VET centre evaluation activities. The definition of criteria and evaluation of learners' performance in work-related training is carried out jointly between the workplace training tutor (i.e. the trainer selected from amongst IVET school trainers to monitor and support the internship, see 2.1.) and the in-company tutor, who collaborate closely throughout the time the work-related training takes place, according to a pre-defined work plan which is discussed and agreed upon between the workplace training tutor, the trainee and the in-company tutor.

ATEC is an example of another type of cooperative endeavour between training centres and companies to promote IVET and CVET for active employees. The academy was born from a project promoted by Volkswagen Autoeuropa, Siemens, Bosch and the Luso-German Chamber of Commerce and Industry. It is a training centre jointly managed by IEFP and the Training Association for Industry under a Memorandum of Understanding and a Cooperation Agreement with the Portuguese State. It was born from the merger of the training structures in which Volkswagen Autoeuropa (FORMAUTO) and Siemens, S.A. (ANFEI - National Association for Industrial Electronics Training) participated and aims to promote cooperation with the industry and provide training and apprenticeships targeted for company needs.

5.3. Hybrid teachers and trainers

As mentioned in Section 2.3, schools and VET centres actively seek to have trainers with a hybrid profile, combining training with a professional activity, which happens, in some courses, with about half of the trainers. There are, however, no special entry requirements to this dual career path, their qualifications profile or working conditions. According to the interview carried out with representatives of the trainers, there are two types of hybrid trainers: those who are trainers in schools and VET centres as their main activity, and also provide independent services (consultancy, training) in companies and - more frequently - those who are professionals in the sector and accumulate some training hours in schools/VET centres as independent trainers.

5.4. Data on cooperation and hybrid teachers

There is no data regarding cooperation and partnerships and 'hybrid' teachers/ trainers.

CHAPTER 6. National and EU-funded projects and initiatives

Over the past few years, Erasmus+ has been widely used to promote exchanges with colleagues from other countries, as a way of acquiring new skills for learners, teachers and trainers.

Between 2014 and 2018, 658 KA1 applications were submitted, and 325 mobility projects were funded involving a total of 12,579 mobilities. In the same period, of the 292 KA2 applications submitted, 46 projects coordinated by national institutions were funded, involving 206 European institutions and 10,897 participants (Agência Nacional Erasmus+, n.d.). The most frequent themes of the strategic partnerships are "Curricular and Pedagogical Innovation", "Entrepreneurship", "Labour Market" and "Professional Integration".

In 2019, around 20% of the total of 419 mobility projects were directed to IVET and involved 3,112 IVET trainees, trainers and teachers. Under the strategic partnerships Portugal lead 9 projects and 55 organisations national institutions participated in projects (European Commission, 2020). The international cooperation projects have been well used by vocational education schools both at the level of training and exchange of experiences of learners and in the CPD of their trainers and teachers.

6.1. Digital skills for remote and blended teaching

The Erasmus+ project "IDC-VET - Improve Digital Competences of VET Teachers and Trainers", a partnership of TecMinho and 6 other European institutions aims to develop a series of resources to support teachers and trainers of Vocational Education and Training (VET) in the use of technologies, developing their digital skills.

The Professional School EPRAMI, also in Minho, recently (19 June 2021) held a seminar ([24]), which was attended by top level officials (including the Ministry of Education) and a number of technological companies of the region (ZENDAL, Doureca Automotive Solutions and the cross-border partnership ISQ&CTAG Automotive Technologies). It included technical-pedagogical sharing sessions of EPRAMI teachers and trainers with colleagues from all over the country. This is a

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([24]) https://transicaodigital.eprami.pt/?fbclid=IwAR1kSiZvTN26bxmUiddanZhA zu8opybGjCfT05vV-R1C-ZOe3-k1Gbw2Xxk

Microsoft Showcase School that has already established a protocol for the creation of a new course in biotechnology, aiming to train future technicians for the first Covid-19 vaccine plant that is planned for the region.

Municipalities have recently acquired more attributions regarding public education ([25]) and some have sought to capitalise on their networks to promote vocational education. This is the case of the Ponte de Lima municipality, which has created a very complete Educational Platform for Technological Education and aims to feed a network of local actors - including schools and VET centres in the development of technology-based educational actions.

The interviews conducted presented a very active and collaborative IVET sector in Portugal. Initiatives aimed at creating communities of practice and promoting peer learning are frequent. For example, Forma-te (*Associação Nacional da Formação e Ensino Profissional*) is a Learning Community, a Collaborative Learning Network directed to VET professionals, which has been established since 2005. It hosts a training media library, where thousands of files on various subjects are made available; it publishes training courses/actions; it manages a job exchange platform with opportunities for trainers. The existing forum is very dynamic and the regular webinars held on the various themes mobilise the participation of dozens of IVET and CVET trainers. This professional association also promotes the National Meeting of Trainers - which in 2020 was dedicated to the theme of "Network Learning in the Digital Age" - and the National Congress of Vocational Training which, in 2021, was about Quality Management in Education and Training.

The digital transformation of schools has been an area of strategic national investment since 2005. In 2018, the Portuguese Government established the National Initiative for Digital Competencies e.2030 (Portuguese acronym: INCoDe.2030), an integrated public policy programme aimed at promoting digital skills in schools, in learners and in teachers' trainers. The INCoDe.2030 programme foresees a wide range of actions, involving a multiplicity of public actors from different levels of governance, private, business and higher education institutions. It is organised into 5 action lines: inclusion, education, qualification, specialisation, and research. Each of these action lines has a coordinating team, both for promoting the actions that are within its scope and for reporting what has been accomplished.

Until 2018, under the Short-Term Training Actions of Action line 2 "education", over 1 000 teachers participated in ICT related actions, such as "Collaborative Work and Digital Citizenship." Over 84 formative actions of Learning Laboratories,

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([25]) Decree-Law No 21/2019, of 30 January.

involving 1 796 teachers were held and around 500 teachers participated in five Regional events of the "Programming and Robotics in Basic Education" which also included 3 classes of training trainers, involving 60 teachers (INCoDe.2030, 2018).

Under Action line 3 "qualification", IEFP has defined minimum weight of Professional Training in ICT for its VET centres activity plans. A share of 20% was set for "Apprenticeship" and "Adult Education and Training" trainers programmes in the areas of "Audio-visuals and Media Production", "Computer Science" and "Electronics and Automation". Regarding distance learning, during 2018, a framework for Continued Pedagogical Training of Trainers - "e-learning trainer (hybrid format)" was developed and three CPD programmes for trainers were implemented, aimed at providing the technical skills necessary for the development of training according to this new methodology.

Under the scope of the INCoDe.2030 initiative, a pilot project began to develop the curricula of technical higher education programmes (CTeSP) in digital skills, according to the Project-Based Learning (PBL) methodology. The first edition of CTeSP structured according to PBL started in the 2017/18 academic year and took place in five polytechnic HEIs across the country (seven programmes), which were accompanied by a set of actions: 1) awareness raising on the advantages of PBL; 2) curriculum development by the teams of each institution, with the monitoring of the scientific consultant; 3) preparation of programmes; and 4) training of teachers and trainers. This project was evaluated in 2019 and its dissemination to other institutions and programmes is planned, which constitutes an area of professional development for VET teachers and trainers (Dimas & Oliveira, 2019).

In 2019, a Memorandum of Understanding between IEFP and Cisco Systems Inc. framed the intention of disseminating the Cisco Academies program in the IEFP Centres network enabling its IT course students to gain additional technical skills and a specialised Cisco certification. In 2018 (latest available data), seven Cisco Academies were at the final phase of implementing the training / certification of trainers in accordance with established standards.

Investment in the digital transition is forecast to continue. The Portuguese Recovery and Resilience Plan has foreseen a budget of around €700 million for investment in vocational education and training.

6.2. Green skills for sustainability

In 2018, the Directorate General of Education designed the "Benchmark for Environmental Education for Sustainability for Pre-school, Primary and Secondary

Education" (²⁶) and defined its application within the subject of Education for Citizenship, a curricular unit that is developed in all basic and secondary level programmes and which now applies to IVET. This has prompt up the emergence of class projects regarding ecology and sustainability on IVET offers.

The project BuS.Trainers - Building up green Skills for Trainers from the Construction Industry - united industrial and technological partners from Portugal (LNEG - National Laboratory for Energy and Geology; CENFIC - Centre for the Professional Education and Training of Civil Construction and Public Works of the South) and from Spain (FLC - Labour Foundation for Construction) to promote the incorporation of green skills in the construction industry in Southern Europe. Supported by the Erasmus+ programme, the project aimed to identify and fill green skills gaps for trainers providing EE (Energy Efficiency) and RES (Renewable Energy Sources) training in the construction industry. The aim of the project was to develop and test a training system for professional trainers to improve teaching in applied sustainable construction. This project, which started in 2016 and had its final conference in 2020, allowed to elaborate a diagnosis of needs, create training benchmarks, and promote the dissemination of results.

Under Erasmus+, the Polytechnique HEI of Leiria, the Business Association of Leiria Region (NERLEI) and the Pombal Technological, Artistic and Professional School (ETAP) recently (November 2020) became partners of the international project GREENOVET (²⁷). This project aims to train learners and teachers in Green Innovation through regional and international projects with companies, to achieve an innovative, inclusive, and sustainable economy. To this end, GREENOVET foresees the establishment of a Centre of Vocational Excellence (CoVE) in each member region (Leiria - Portugal, Styria - Austria, Vaasa - Finland and Skopje - Republic of North Macedonia).

(²⁶) https://www.dge.mec.pt/sites/default/files/ECidadania/Educacao_Ambiental/documentos/referencial_ambiente.pdf

(²⁷) Ref. no 621114-EPP-1-2020-1-AT-EPPKA3-VET-COVE.

6.3.   Preventing early leaving from VET

The fight against failure and early school leaving is a national policy and a political priority of the current executive ([28]). The strong reduction of failure and early school leaving indicators has been associated with the expansion of VET offers and the transfer of knowledge and practices has been directed towards the dissemination of vocational education pedagogical and evaluative practices in general education.

Despite extraordinary progress in improving the image of vocational education, which led to increased recognition of its quality, IVET is still an educational pathway choice for learners after a troubled career path in general education, marked by underachievement and opposition, which forces schools and trainers to continuously look up for new solutions to support learners at risk. In public schools and VET schools or centres (public or private) there is an initial diagnosis interview. Psycho-pedagogical support to learners and vocational guidance is available in schools and VET centres, and, with the support of community funds, the number of existing school psychologists has increased. Making its way into the classroom, the Erasmus+ Quali4all project, is one of the many Erasmus+ projects that focus on capacitating teachers and trainers to deal with learners at risk. In Portugal, this project is run by the Vocational School INETE and involves partners from Denmark, Turkey and the Netherlands. It focused on debating and developing pedagogical methods to combat failure and dropout in IVET and is organised in five objectives: 1) Qualifying teachers and trainers to enhance better teaching; 2) Sharing and testing tools for school success; 3) Translating quality data to better teaching; 4) Involving learners in teaching and learning; 5) Having happy, motivated learners.

Through Dispatch no. 6954/2019 of 6 August, the Ministry of Education created an intervention programme for young people who have left the education system and are at risk of social exclusion, called *Segunda Oportunidade* (Second Chance – Programme E2O). Programme E2O is a socio-educational response designed and developed by school clusters/non-clustered schools, in conjunction with other bodies and institutions, aiming: a) to combat young people dropping out of school without jobs or qualifications, providing them with training geared towards their needs, expectations and specific interests, while aligned with the local job market; b) to closely monitor young people's developing autonomy and socio-

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([28]) Decree-Law No 54/2018 defines as a guideline the need for each school to recognise the added value of learners' diversity, adapting the teaching processes to the characteristics and individual conditions of each learner. Decree-Law 55/2018 operationalises the intentions by defining curricular flexibility, priority to project-based learning and the integration of citizenship and development subjects in all programmes, including VET.

professional integration. Attendance reports are analysed by class teachers on a quarterly basis to identify risk cases. The training is based on a personalised pedagogical model that is divided into flexible modules and aims to promote basic general skills (numeracy and literacy), personal, social and citizenship skills (group work, creativity, respect for oneself and others, social participation), professional and technological competences, artistic expressions and sport. The attendance and length of the different training modules are negotiated and customised for the learners, based on an analysis of their needs, interests and availability, so they reach an EQF level 2, 3 or 4.

CHAPTER 7. National surveys of teaching and training populations

No national surveys were conducted over the past five years, and none are planned.

CHAPTER 8. Conclusions

One of the debates that involved teachers and trainers reflecting on their career and their CPD was the creation of Ordinance No 214/2011 of 30 May, which eliminated the need for renewal of the Certificate of Pedagogical Aptitude (CAP), defining its lifetime character. And positions are still divided on this (Martins, 2021). For some, the end of the obligation to renew the CAP put an end to a bureaucratic and costly process, but for others, the end of the obligation to attend continuous training, in many cases of 60 hours over the five-year renewal period of the CAP, was the beginning of the professional devaluation of the trainer, disregarding continuous training and the need for skills updating.

A mandatory number of CPD training is defined in accordance with the "Career Statute for Childhood Educators and Primary and Secondary School Teachers Basic and Secondary School Teachers", covering public education teachers. According to the Collective Labour Agreement that governs a good part of the private provision of education and VET, a number of hours of CPD has to be provided by the contracting entity. Even according to the Portuguese Employment and Labour Code, all those with an employment contract enjoy this right and duty. However, none of these regimes applies to those who provide training services as self-employed workers in VET schools/ centres, sometimes working as long as any full-time employee in the same school. Incentives and, above all, opportunities to update their skills are fewer or costly. The application of EQAVET, confronting training providers with requirements for CPD of their teachers and trainers irrespective of their employment bond, has allowed opportunities for skills enhancement for teachers and trainers with less permanent employment contracts but there is a need for further development in the framework of improving the reputation of vocational education and the attractiveness of the training profession.

The effort to promote new pedagogies and approaches, undertaken by the Ministry of Education ([29]) given the openness and free of charge nature of the already mentioned asynchronous training courses offered (MOOC), has allowed increased access to transversal pedagogical and didactic contents. Also, the practice sharing initiatives (webinars, forums, etc) that have multiplied recently, constitute CPD opportunities - even if uncertified- for trainers and teachers involved in VET with less permanent employment links.

([29]) To implement the principles of inclusive education moulded in Decree-Law No 54/2018 of 6 July.

The current challenges for VET policies are the promotion of its visibility and recognition. Vocational offers are often considered only after experiencing failure in general education and gaps in the necessary prerequisites or problems of lack of personal and social competences occur, generating demotivation and lack of interest. Schools have tried to address this issue by reinforcing psychology support services and promoting the training for teachers and trainers on pedagogical aspects. But this movement towards the promotion of a more qualified image of vocational education places strong demands on teachers and trainers who have to ensure that learners acquire competences that are associated to a highly qualified output profile, as they need to be able to respond to the increasingly demanding needs of the labour market. The demanding nature of the work of an IVET trainer is recognised in the trainer profile designed in the "Standard of Initial Pedagogical Training for Trainers", published by IEFP in 2012, and currently in its 3rd edition (IESE, 2020). It is stated that the trainer faces a set of "drivers of change", associated with the strong and rapid societal, economic, technological and socio-professional evolution, the heterogeneity of the target audience and the diversity of the training modalities (IESE, 2012). The recent transformations brought by the digital transition, which were accelerated by Covid-19 have deepened this sense of urgency to invest in the quality of human resources associated with VET.

Portugal has been trying to qualify its teachers and trainers for the digital transition especially regarding e-learning and blended learning methodologies. Emergent has been the effort to strengthen pedagogical skills and methodologies for the collaborative work of teachers and trainers in making use of digital technologies.

There is a need to promote a diagnosis and characterisation of the human resources involved in VET education in Portugal. There are proto information systems in force (SIGO, NetForce) which allow to obtain a lot of information about existing offers and follow pathways of learners, but it is still lacking the collection and analysis of information regarding the training, labour insertion and professional practices of teachers, trainers and tutors involved in VET. A more in-depth study aiming the indentification of CPD profiles and pathways would be useful and could frame and promote the dissemination of CPD content for teachers, trainers and tutors already developed and available in Portugal and Europe.

List of abbreviations

CEF	Education and training programmes for young people
CTeSP	Higher technical professional courses
IVET	Initial Vocational Education and Training
NQF	National Qualification Framework
PBL	Project-Based Learning
VET	Vocational education and training
WBL	Work-Based Learning

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Forma-te - National Association for Vocational Training and Education platform

GREENOVET - Erasmus+ project on training learners and teachers in Green Innovation

IDC-VET Improve Digital Competences of VET Teachers and Trainers" - Erasmus+ project on development of trainers digital skills.

Lean for work and lean for life - Erasmus+ project on professional development on Lean Competences of VET trainers

NetForce - Gateway for Training and Certification of trainers

Quali4all - The Erasmus+ project on capacitating teacher and trainers to deal with learners at risk