
TEACHERS AND TRAINERS IN A CHANGING WORLD

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

SPAIN



Teachers and trainers in a changing world

Spain

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.

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Table of contents

TABLE OF CONTENTS.....	4
LIST OF BOXES.....	6
CHAPTER 1. INTRODUCTION.....	7
CHAPTER 2. TYPES OF TEACHING AND TRAINING PROFESSIONALS	8
2.1. Main types.....	8
2.2. VET schools.....	9
2.3. Teaching and training professionals by type of VET school.....	10
CHAPTER 3. TEACHING AND TRAINING PROFESSIONALS IN SCHOOL- BASED SETTINGS.....	11
3.1. Legislation.....	11
3.2. Qualification and competence requirements.....	11
3.3. Initial training programmes	13
3.4. Requirements for continuous professional development	13
3.5. Data on teachers and trainers in school-based settings	14
CHAPTER 4. TRAINING PROFESSIONALS IN WORK-BASED SETTINGS	15
4.1. Definitions	15
4.2. Legislation.....	15
4.3. Provisions for continuous professional development.....	15
4.4. Data on trainers in work-based settings	16
CHAPTER 5. PARTNERSHIPS BETWEEN SCHOOLS AND COMPANIES .	17
5.1. Examples of practice.....	17
5.2. Cooperation between VET schools and companies	19
5.3. Hybrid teachers and trainers	20
5.4. Data on cooperation and hybrid teachers.....	20
CHAPTER 6. NATIONAL AND EU-FUNDED PROJECTS AND INITIATIVES	21
6.1. Digital skills for remote and blended teaching	21
6.2. Green skills for sustainability	23
6.3. Preventing early leaving from VET	24
CHAPTER 7. NATIONAL SURVEYS OF TEACHING AND TRAINING POPULATIONS	26
CHAPTER 8. CONCLUSIONS	27

LIST OF ABBREVIATIONS	29
REFERENCES	31
ANNEX 1 MAIN REGULATIONS OF THE SPANISH IVET SYSTEM.....	39
ANNEX 2 VET TEACHERS' PROFILE	40
ANNEX 3 TALIS 2018. CHANGE IN TEACHERS' NEEDS FOR PROFESSIONAL DEVELOPMENT FROM 2008 TO 2018	42

List of boxes

Boxes

Box 1.	Job stability of VET teachers	12
Box 2.	Examples of international projects led by Spanish centres of excellence	18
Box 3.	Other INTEF projects related to teachers' CPD	22
Box 4.	Other actions to support sustainability	24

CHAPTER 1. Introduction

The role of teachers and trainers is evolving rapidly at all education stages, which is affecting not only their teaching skills but the performance of other professional tasks too. With varying outcomes, their initial training, new skills and competences, entry mechanisms and progression in the profession have been part of the Spanish policy debates in the last decade, amidst discussions and regulations on education and vocational training for the challenges ahead, as teachers and trainers' support is crucial to implement any educational reform.

Furthermore, vocational education and training (VET) is gradually gaining political and social relevance in Spain. Recent governments showed their support by adding vocational training to the name of the education ministry, lately unifying under this ministry all vocational training leading to an official qualification. Various reforms are on their way, both in the education and VET systems, with specific plans to modernise and promote vocational training.

Teachers, in a broad sense, have also been on the political agenda. A new teachers' statute to improve their role, the mechanisms for entry and initial support, their professional development, the evaluation of the work of teaching teams and their recognition is pending. With 2020 education act LOMLOE, VET teachers are put on an equal footing with secondary teachers, proposing the progressive disappearance of the existing differences in access and category.

CHAPTER 2. Types of teaching and training professionals

2.1. Main types

The Spanish VET system is organised according to Act 5/2002 on qualifications and vocational education and training (Head of State, 2002) ⁽¹⁾. It includes initial vocational training, which provides the necessary qualifications for the competent performance of a profession, as well as the upskilling and reskilling of the labour force.

Initial vocational education and training (IVET) refers in Spain to 2 000-hour programmes, grouped in 26 sectoral branches, for school-age learners and adults. These IVET programmes are organised in three levels: basic and intermediate levels in secondary education, and higher level in tertiary education. IVET programmes are mostly school-based at basic level; at intermediate and higher levels, more flexible learning forms are also possible (distance learning) and other alternance training models, mainly known as dual VET (*FP dual*).

Successful completion leads to diplomas with academic and professional validity in the Spanish education system.

There are other programmes, such as the specialisation courses (*cursos de especialización*) for the further upskilling of VET graduates, which are being implemented as of the academic year 2020/21. Outside the education system, the professional certificates programmes allow the formal accreditation of occupational standards to learners over 16.

Other programmes which could be considered part of the IVET system, for arts ⁽²⁾ and sports education (at levels ISCED 354 and 554), represent a low share of learners.

IVET programmes in the education system are composed of different types of modules: occupation-specific modules; common modules to ensure the acquisition of lifelong learning competences and facilitate access to employment which vary depending on the level; and the on-the-job training module (workplace training - FCT), at all three levels.

Teaching professionals in VET schools, whether in VET-only institutions or in secondary education schools, can be classified as follows:

(1) See [Annex 1](#) for major legislation related to VET.

(2) Arts Education includes music, dance, dramatic art, preservation and restoration of cultural heritage, plastic arts and design.

- (a) Secondary education teachers: they usually deliver the common modules and the more theoretical occupation specific training modules;
- (b) Technical vocational teachers: they are in charge of delivering the more practical occupation specific training modules.

Experts may be hired by VET schools in different professional sectors and in-company trainers (trainers/tutors involved in practical training modules at workplaces and apprenticeships) can participate in training delivery when needed.

2.2. VET schools

The Ministry of Education and Vocational Training (hereinafter education ministry) is in charge of proposing and setting up national VET policy, while the regions have executive and administrative powers, including teachers' continuous professional development (CPD).

Therefore, basic requirements for IVET institutions ⁽³⁾ are set at national level by the education ministry whereas regional or other authorities, within their powers, may add other specific requirements, and are also responsible for the management and relationship with education centres.

VET schools are classified according to ownership and their main source of funding. They can be:

- a) public, belonging to public authorities and fully publicly funded;
- b) private, in which case they may be:
 - i. partially publicly funded; or
 - ii. exclusively privately funded.

Two in three IVET centres (67%) are public, and most of the IVET learners (70%) attended public VET centres in school year 2019/20.

IVET programmes can be offered in VET-only institutions but most often they are provided in educational institutions that also offer compulsory secondary education and/or baccalaureate, sharing human and material resources. Some VET schools, known as 'integrated' VET centres (*centros integrados de formación profesional – CIFP*), may also deliver formal CVET programmes (i.e. professional certificate programmes).

National reference centres (Ministry of the Presidency, 2008), of which there are around 40 in operation, are public institutions specialised in the different sectoral branches, in charge of carrying out innovation and experimentation

⁽³⁾ VET institutions, schools or centres are terms used interchangeably in the article.

initiatives in vocational training and play a key role in teachers and trainers' CPD at state level.

2.3. Teaching and training professionals by type of VET school

The IVET teaching staff, regardless of whether they are in a secondary or VET-only school, consists of secondary school teachers and technical vocational teachers. In-company trainers are involved in learners' traineeships.

With the 2020 LOMLOE act, all VET technical teachers with a university degree (or equivalent) will become part of the body of secondary education teachers. For programmes with no university degree of reference, the draft of a new vocational training act, currently in the pipeline, envisages a new teaching body called 'teachers specialising in specific sectors of VET' ⁽⁴⁾.

In addition to teaching, VET teachers can also have some other responsibilities, like for example coordinating Erasmus+ mobilities in their VET school or promoting and coordinating learners' in-company work-based learning.

In-company trainers, involved in the practical training module or supporting apprentices in dual VET at workplaces, are experienced professionals who guide, monitor and assess learners/apprentices, but do not have to meet any formal teaching requirement. They are usually referred to as in-company trainers or tutors (*formadores, instructores o tutores de empresa*).

The teaching staff involved in second-chance schools in formal education, including VET programmes, must meet the same requirements as teachers in ordinary schools for the same level.

⁽⁴⁾ These teachings are related to aesthetics and beauty, carpentry, catering services, clothing, cooking and pastry, graphic arts, hairdressing, machine maintenance, vehicle maintenance and welding.

CHAPTER 3.

Teaching and training professionals in school-based settings

3.1. Legislation

The training of VET teachers is integrated in the general plans for public funded school teachers training. The LOMLOE act devotes some articles (Art. 102, 103 and 105) to their CPD, considering it to be a right and an obligation for all teachers, as well as a responsibility of the education authorities (at state and regional levels) and the schools themselves. Teachers' CPD usually comprise regular learning activities for the updating of their scientific, educational, and professional expertise. Opportunities and benefits of professional development vary among regions and type of VET school.

Participation is voluntary but training, research and innovation activities have specific effects on teachers' careers (Ministry of Education, 2011a). Apart from content matters, specific teaching methods or other skills related to coordination, guidance, tutoring, etc., the use of information and communication technologies, research and innovation programmes, collaborative work and professional and centre networks are considered as relevant areas for the improvement of the teaching activity.

Teachers in private schools can benefit from the training in employment system in the labour scope, regulated by Act 30/2015 and its further developments, which enable training free of charge like for any other worker.

3.2. Qualification and competence requirements

In secondary education each subject is taught by a specialised teacher. The initial training requirements for both teachers of secondary education and vocational training are as follows ⁽⁵⁾:

- (a) university degree or other equivalent qualifications for teaching purposes;
- (b) pedagogical and teaching training at postgraduate level (university master's degree in teacher training for secondary education, baccalaureate, vocational training and language teaching).

⁽⁵⁾ Further information on initial teachers' training at Eurydice:
https://eacea.ec.europa.eu/national-policies/eurydice/content/initial-education-teachers-working-early-childhood-and-school-education-78_en

Entry into the profession in public educational institutions requires the candidates pass a merit-based selection and a competitive examination established for each civil servant teacher body and according to the speciality for which they compete. After passing the competitive examination, the recruited candidate serves as a trainee teacher for a school year. During that period, the candidate is mentored by a school faculty member and supervised by the educational inspection.

Candidates who succeed in the competition but are not recruited are placed on a pool of candidates who can work as substitute teachers, with contracts subject to general employment legislation (Box 1).

Box 1. Job stability of VET teachers

The level of temporary contracts in Spain is high in public services, including education. Latest figures from the 2020 national labour force survey indicate an average temporary employment rate among VET teachers of 35% (Annex 2). Public authorities and social partners reached a commitment to reduce the number of staff on fixed-term contracts by 8% by increasing the number of permanent positions available in public schools (Ministry for the Treasury and Public Administration Services, 2018), but the pace at which permanent jobs have been created so far, hampered by the pandemic, has not made it possible to reach the target yet.

In privately owned schools, the selection process is carried out by the school owner and recruitment follows the general rules established for private employees.

The supply and demand of VET teachers varies according to each speciality, and public authorities may, on specific occasions, resort to hiring expert professionals, who may not meet the academic requirements but have several years of professional experience both in the field and in delivering training outside the education system. Holding the 380h professional certificate 'Teaching of vocational training for employment' (*Docencia de la formación profesional para el empleo*), which qualifies to be a trainer in non-regulated/non-formal education ⁽⁶⁾, may be an additional asset.

⁽⁶⁾ Further information on this professional certificate in English can be found in the Europass supplement:
https://www.sepe.es/SiteSepe/contenidos/personas/formacion/certificados_de_profesionalidad/pdf/europass/N3_SSCE0110_in_pub.pdf

3.3. Initial training programmes

Spain follows the consecutive model for initial teacher education, i.e., prospective teachers first undertake general undergraduate studies and then postgraduate studies required for teaching. Programmes leading to university degrees do not include any teaching-oriented subjects, leaving training in this area to the specific master's degree in teaching.

The master's degree syllabus is organised around three blocks (Ministry of Education, 2011b), and considers the specialities of secondary education teachers and VET technical teachers:

- (a) Generic block (12 ECTS): it aims to provide future teachers with psycho-pedagogical knowledge they will need in their future profession;
- (b) Specific block (24 ECTS): its aim is to provide complementary training and didactic preparation appropriate to their teaching speciality; and
- (c) Practicum: it includes the specialisation internship (12 ECTS) in a secondary education centre and the master's thesis (6 ECTS).

The education ministry sets the requirements for verifying the official university degrees (Bachelor and Master). Universities, on the other hand, establish the study programmes autonomously ⁽⁷⁾.

3.4. Requirements for continuous professional development

CPD activities address the improvement and updating of teachers' technical, pedagogical/didactic and transversal competences. Their participation is voluntary and encouraged with different economic and career incentives ⁽⁸⁾; these training activities have to be previously endorsed by the authorities, as validation and recognition of competences outside the approved training activities is not possible.

There are several entities - at state, regional and school level - that support teachers and trainers upskilling. The main provider of teachers training at state level is the National Institute of Educational Technologies and Teacher Training (INTEF).

⁽⁷⁾ The skills that must be covered in the master programmes are specified in Order ECI/3858/2007. A translation into English of the skills included in this order at: https://eacea.ec.europa.eu/national-policies/eurydice/content/initial-education-teachers-working-early-childhood-and-school-education-78_en, section All specialisations.

⁽⁸⁾ A minimum of 100 hours of training must be completed within six years in order to be eligible for a salary supplement. Recognition of this training is given for every 10 hours in activities approved by educational authorities.

Education authorities may also establish collaboration agreements on teacher training with other public authorities and universities, as well as with public and private non-profit institutions to guarantee a diversified training offer.

Regional education authorities devise their own territorial CPD plans. These plans are developed with due regard for the demands expressed by schools, gathered by the training and resource centres, as well as national and European policies. The needs of teachers are also taken into account, either on their own initiative, as in the case of specific training needs, or through the action of school CPD coordinators, who usually inform the training and resource centres.

Teacher training activities can take multiple forms, from in-person or online courses, seminars to working groups or training projects in educational institutions. They can take part in these activities outside their teaching hours, during the compulsory time of permanence at school or during working hours if they are carried out outside the educational institution.

CPD of teachers at privately owned VET institutions might also lead to additional payments to stimulate their initiative in improving their training and quality in the provision of services.

The National Reference Centres, with the participation of the educational authorities, have also been drawing up plans to upskill the VET teaching staff. The aim of these plans is to schedule, deliver and evaluate training for the updating and technical improvement of VET teachers. The drafting of these plans takes into account the proposals of the educational administrations, the identification of new trends in vocational training, or those involving new technologies, tools, industrial processes, didactic resources, contents and methodologies, as well as EU guidelines.

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

The responsibility for teachers' CPD lies with the regional authorities and there is no state register of the activities carried out in this area.

According to the latest TALIS ⁽⁹⁾ data (OECD, 2019), the level of teachers' participation in training and professional development activities in Spain was high, comprising 91.8%, close to the total EU (92.5%), although lower than the OECD average (94.5%) (Annex 3).

(9) OECD Teaching and Learning International Survey.
<https://www.educacionyfp.gob.es/inee/evaluaciones-internacionales/talis/talis-2018/informes-espanoles.html>

CHAPTER 4. Training professionals in work-based settings

4.1. Definitions

All programmes leading to VET qualifications are work-based, usually in school settings, but including a training period at a workplace: the specific on-the-job training module. In addition to this module, apprenticeship programmes (*FP dual*) involve longer periods of learning in real work environments. Both implementation models require the involvement of VET school staff (tutor/teacher) and a trainer/tutor from the organisation where the learner/apprentice is placed, usually referred to as in-company tutor (*tutor de empresa*).

The in-company tutor role is to guide the learners/apprentices' learning process and to monitor and assess them while in the company, though the learners' final marks and evaluation are given by the tutors/teachers of the VET training centre, based on the information given by the in-company tutors.

There are no official regulations setting requirements in terms of teaching qualifications for in-company tutors, an issue which may be hampering the implementation of dual VET in Spain (European Commission, 2015). It is up to the companies to assign or offer incentives to their employees to assume this role.

Apart from the in-company tutor, new roles are emerging in the implementation of dual VET programmes, for example the external coordinator of in-company tutors (Brandt H.; Carrasco A.; Salvans, G., 2021), an intermediary figure to facilitate an effective and quality participation of small and micro companies during the dual VET programme implementation in the companies, and at the same time, to centralise the communication of all of them with the educational centre.

4.2. Legislation

There are no legal provisions stating the requirements to be an in-company tutor.

4.3. Provisions for continuous professional development

There are no specific CPD provisions for trainers/tutors at workplaces. These professionals may receive, free of charge, specific training funded within the

vocational training for employment system. Under this umbrella, VET teachers can participate in training activities organised by their own VET school; or they can participate in the subsidised training offer, addressing national and regional priorities as well as sectoral ones set by the main social partners (sectoral joint committees) in the education sector.

The Bertelsmann foundation, as part of the alliance for dual VET ⁽¹⁰⁾, has developed a guide for dual VET in-company tutors (Caballero, Lozano, 2016). In collaboration with other entities, this foundation piloted courses for dual VET tutors which have become more widespread by now and are available also online from different providers, some of them free of charge, with the collaboration of education authorities and/or chambers of commerce.

4.4. Data on trainers in work-based settings

Information is not available.

⁽¹⁰⁾ A state-wide network of companies, research centres and institutions to support the development of dual VET and improve young people's employability.

CHAPTER 5. Partnerships between schools and companies

5.1. Examples of practice

The action plans of the education ministry, such as the first strategic plan for vocational training (MEFP, 2019d) and the plan for the modernisation of vocational training (MEFP, 2020b), include measures to enhance public-private collaboration between the educational centres and enterprises, extending the field of interaction beyond the on-the-job training module.

One of these lines of collaboration is the development of innovation projects, led by a VET centre in partnership with companies and other entities, with the aim to foster cooperation through dual education, collaborative work and even the development of R&D&I projects.

In this sense, at the end of 2019, 19 projects were approved ⁽¹¹⁾ to be developed until March 2021 ⁽¹²⁾, with a budget of 6 million euros.

New innovation and knowledge transfer projects in VET centres have been called in June 2021 ⁽¹³⁾, as part of the modernisation plan, to promote permanent links and build networks among institutions, educational centres, and companies that allow the generation, sharing and mobilisation of knowledge among the different parties, applicable to the educational context.

In addition, the modernisation plan envisages the joint training of professionals and teachers from each sectoral branch in the network of national reference centres.

Different courses related to the updating and acquisition of digitalisation competences for VET teachers have been designed at national level with participating companies. For example, thanks to the agreement between the education ministry and Siemens S.A. (MEFP, 2019a), IVET teachers were

(11) Further information on funding support for the implementation of applied innovation and knowledge transfer projects in vocational training in the education system: <http://www.educacionyfp.gob.es/servicios-al-ciudadano/catalogo/general/19/1931646/ficha/1931646-2019.html>

(12) The projects' period of execution and justification was extended, until the end of March 2021 due to the situation derived from Covid-19.

(13) Further information on this new call of proposals at: <https://www.educacionyfp.gob.es/servicios-al-ciudadano/catalogo/centros-docentes/becas-ayudas-subvenciones/no-universitarios/innovacion-transferencia-conocimiento.html>

upskilled (online) in smart manufacturing and the digitalisation of industrial maintenance for the new specialisation courses ⁽¹⁴⁾.

Online training courses have been called again in 2021, in this case with the collaboration of the Spanish School of Industrial Organisation (*Escuela de Organización Industrial – EOI*), which, as national reference centre in E-Commerce and Digital Marketing for VET, is developing training courses aimed at teachers of VET specialisation courses on Cybersecurity in information technology environments and Cybersecurity in operating technology environments.

The 1st strategic plan for vocational training highlights the need to increase the training of teachers and trainers through work placements in companies. This initiative ⁽¹⁵⁾, which is already being implemented at national and regional levels, aims to promote the scientific and technical improvement of VET teachers; and to enable them to learn new methods of work organisation and be updated in certain technological, scientific, organisational, procedural or methodological aspects. In this way, cooperation between educational centres and their production environment can also be strengthened.

This work placement initiative allows teaching staff being trained where technology or the provision of services are more advanced in a specific sector and fosters national and international teaching mobility and participation in international projects (Box 2). The goal is to raise the figure of nearly 7 000 VET staff mobilities recorded in the latest Erasmus+ programme.

Box 2. Examples of international projects led by Spanish centres of excellence

Two centres of excellence (CoVe) are led by Spanish institutions:

(a) The innovation and applied research centre TKNIKA (Basque Country) will coordinate, together with other six EU countries, the Excellent Advanced Manufacturing 4.0 project. The project has within its objectives to enhance the continuous professional development of teachers and trainers by providing pedagogical and technical skills and facilitating their participation in joint research projects.

(b) The business research association of the technological centre for furniture and wood (CETEM) (Region of Murcia) considers the mobility of learners and teachers among countries, the implementation of training placements in different companies,

⁽¹⁴⁾ Further information on these courses at:
<http://www.educacionyfp.gob.es/servicios-al-ciudadano/catalogo/general/23/2310048/ficha/2310048-2020.html>

⁽¹⁵⁾ Further information on the state calls for in-company placements for teachers at:
<http://www.educacionyfp.gob.es/gl/servicios-al-ciudadano/catalogo/profesorado/profesorado-no-universitario/becas-ayudas/formacion/estancias-en-empresas.html>

the development of ICT tools for the integral digitalisation of teaching and the design of regional policies for training that involve innovation actors (companies).

5.2. Cooperation between VET schools and companies

The relationship between training centres and companies is a co-responsibility of both parties. Cooperation between VET institutions and enterprises is carried out mainly through the on-the-job training module (FCT). This module takes place entirely in a company or public body, usually at the end of the learning programme and which, depending on the programme level, ranges from 240 to 400 hours on average.

Unlike the FCT module, in which trainees put into practice what they have learnt in the educational centre, in Dual VET programmes they actively participate in the productive process and learn in a real work environment, with a minimum of 33% of the VET programme learning hours carried out in a company.

Dual and ordinary VET programmes coexist and, in fact, learners from both modalities are mixed in many classrooms.

The FCT/dual coordinators, assigned by each school from among its own teaching staff are in charge of planning, monitoring, and assessing the FCT module/dual programmes. Their responsibilities comprise locating training positions, including Erasmus+ mobility actions; drawing up and specifying the training programme with the company representative; counselling learners, in collaboration with the training and career guidance module teacher, etc. Teachers assigned for tutoring from the school side can be any teacher with teaching responsibilities in the learning programme. In public VET institutions, they belong to the body of secondary education teachers and/or the body of technical teachers of vocational training ⁽¹⁶⁾.

The relationship between training centres and companies is governed by the signing of collaboration agreements, which details the learning programme agreed. The company appoints a person responsible for the coordination of the training activities to be carried out at the workplace (the company coordinator/tutor), who will support the trainee, facilitate relations with the teacher/tutor at the educational

⁽¹⁶⁾ In the education ministry webpage specific for VET (*TodoFP*), one can consult the various VET programmes by sectoral branch and levels and the assignment of modules to a speciality (*atribución docente*):

<https://www.todofp.es/que-como-y-donde-estudiar/que-estudiar/familia/loe.html>

centre and provide the assessment reports that contribute to the trainee assessment.

Educational centres are usually the ones responsible for promoting and generating dual vocational training projects with companies. To facilitate this task, some regions are developing a new figure, the dual VET prospector, i.e., dedicated to connecting VET centres and companies to promote new collaboration agreements for dual VET programmes (and FCT modules). Training for teachers to perform this job is now in place. It may also imply a salary complement ⁽¹⁷⁾.

Beyond their essential collaboration for the development of the on-the-job training modules, there is a wide range of other activities on which both parties can cooperate, which helps to strengthen their links and contribute to the development of VET. Agreements signed between education authorities/VET schools and companies facilitate carrying out studies to know the state of the art in a given sector branch, the specific equipment necessary for a VET programme, or the future training demands in the surrounding area. They also facilitate the development of innovation projects, the adaptation of the didactic programming of the modules to the needs of companies, the organisation of briefing sessions for students and teachers, etc.

Positive personal relationships and a sounding understanding between the different actors involved smooth this collaboration, fostering its success and the undertaking of new shared projects.

5.3. Hybrid teachers and trainers

Not applicable.

5.4. Data on cooperation and hybrid teachers

Not available.

⁽¹⁷⁾ Regulations regarding VET prospectors can be found, for example, in the following autonomous communities: [Andalucía](#), [Aragón](#), [Region de Murcia](#)

CHAPTER 6. National and EU-funded projects and initiatives

6.1. Digital skills for remote and blended teaching

The plan for the modernisation of VET (MEFP, 2020b) comprises different lines of action addressing the digital competences of teachers and sets the objective of upskilling all VET teachers with a 30-hour training module.

The National Institute of Educational Technologies and Teacher Training (INTEF) provides continuing pedagogical development on digital education through tutored courses, and massive, nano and self-paced open online courses (MOOCs, NOOCs, and SPOOCs respectively) ⁽¹⁸⁾. It is also in charge of fostering the exchange of experiences and resources among teachers through professional networks; the development and dissemination of curricular materials and other support documents for teachers; the design of teacher training models; and the design and implementation of specific programmes, in collaboration with the Autonomous Communities.

INTEF has developed different initiatives for teachers' CPD (Box 3), in line with European Union policies on education and training, and with the collaboration of the regions and groups of experts and teachers. One of these initiatives has been the development of the Spanish digital competence reference framework for teachers (INTEF, 2017), based on the European Framework for Digital Competence for Citizens - DigComp 2.1. This framework serves as a coordination mechanism for the mutual recognition of the certifications issued by the regional authorities and as an instrument for policymaking to increase teachers' digital competence. It is currently under revision, among other reasons, to align it with new national and European policies.

⁽¹⁸⁾ Further information at <https://enlinea.intef.es/>

Box 3. Other INTEF projects related to teachers' CPD

1. A new Teachers' Professional Competences model is being developed as a basis for training plans and other policies throughout the education system.
2. Online tutored courses, combining experts' support and follow-up with peer-to-peer exchange, teamwork and peer assessment, leading to an official digital certification ⁽¹⁹⁾.
3. Massive open courses of varying duration: MOOCs (around 25 hours) and NOOCs (around 3 hours) with a course facilitator. Participants themselves assess each other and, after passing, receive a digital badge ⁽²⁰⁾.
4. EduPills, an application for mobile devices with micro-training cards to develop digital skills ⁽²¹⁾.
5. Blended summer courses.
6. Experimentation projects that combine online training periods with those of application in the classroom, like the School for Computational Thinking and AI ⁽²²⁾ or the Samsung Smart School Project ⁽²³⁾.
7. Aula del Futuro. This project consists of the implementation of active methodologies, along with digital technologies and the exploitation of learning spaces. Teachers are required to produce a learning activity that needs to be put into practice, evaluated and improved with the results of real practice.
8. The *Procomún* Portal ⁽²⁴⁾ offers a repository of Open Educational Resources (OER) ⁽²⁵⁾ and as well as articles where the educational community can find and share structured teaching material ready to be downloaded and used by teachers and learners.
9. A new website for resources for online learning (*Recursos para el aprendizaje en línea*) ⁽²⁶⁾ was published to meet the special needs that arose due to the suspension of on-site educational activity in 2020 due to the pandemic crisis. Its aim was to provide teachers, as well as families and learners, with information and support on different types of resources (materials, training courses, platforms, tools, etc.) available for online use.

⁽¹⁹⁾ Further info at: https://formacion.intef.es/tutorizados_2021/

⁽²⁰⁾ Further information at: <https://enlinea.intef.es/>

⁽²¹⁾ EduPills: <https://edupills.intef.es/>

⁽²²⁾ INTEF. School of Computational Thinking: <https://intef.es/tecnologia-educativa/pensamiento-computacional/>

⁽²³⁾ INTEF. CodeIntef: <http://code.intef.es/>

⁽²⁴⁾ <http://procomun.educalab.es/es>

⁽²⁵⁾ VET OER in Procomún: <http://procomun.educalab.es/es>

⁽²⁶⁾ <https://intef.es/recursos-educativos/recursos-para-el-aprendizaje-en-linea/>

Furthermore, INTEF, in collaboration with the Seville Joint Research Centre of the European Commission, is fostering the use of the SELFIE ⁽²⁷⁾ tool since 2017. A pilot project was carried out to obtain national indicators in all SELFIE areas. Its results ⁽²⁸⁾ provide an accurate picture of the integration of digital technologies in Spanish schools and are useful for the development of national policies to improve the digital capacity of schools, teachers and learners.

INTEF is also running the Spanish National Support Service eTwinning actions to promote collaboration and exchanges between teachers and learners from different countries, as well as at national level, and to offer more digital resources and professional development activities for teachers (including support for teachers, dissemination actions, etc.).

The EDIA Project (educational, digital, innovative and open) of the National Centre for Curriculum Development in Non-proprietary Systems (*Centro Nacional de Desarrollo Curricular en Sistemas no Proprietarios – CEDEC*) offers an educational content bank to foster the creation of networks of teachers interested in innovation in the classroom. As part of the EDIA project, some open educational resources have been published aimed specifically at some of the vocational training modules.

6.2. Green skills for sustainability

The LOMLOE act states that vocational training must promote the commitment to sustainable development (Art. 42.3) as a skill. It also states that each school educational project must include a transversal and cross curricular approach for sustainable development, together with other values (Art. 121).

The environmental education action plan for sustainability (MITECO, 2021) is at the time of writing in the pipeline. Its aim is to define the strategic lines of environmental and sustainable education in Spain for the next five years. Among other proposals, it calls for adding environmental and sustainable education as a basic principle for initial teachers training and in their lifelong learning annual plans, and the development of environmental education for sustainability projects. There are other initiatives supporting sustainability in the education and vocational systems (Box 4).

⁽²⁷⁾ SELFIE (Self-reflection on Effective Learning by Fostering the use of Innovative Educational technologies) is a free tool designed to help schools embed digital technologies into teaching, learning and assessment.
https://ec.europa.eu/education/schools-go-digital_en

⁽²⁸⁾ Further info at: <https://ec.europa.eu/newsroom/selfie/items/663900>

Box 4. Other actions to support sustainability

Recently, the education ministry held a series of seminars ⁽²⁹⁾ about educational strategies addressing sustainability. The aim was to offer an exchange of ideas among the different agents involved in sustainability and disseminate good practices, some of them carried out by VET centres.

The new Erasmus+ dissemination event held in April 2021 served also to disseminate experiences carried out by different educational centres related to sustainability, like the EUmob “Electric Urban Mobility” project ⁽³⁰⁾, led by a Basque VET centre, with two other EU VET centres, and a private company as strategic partner.

New qualifications related to sustainability and digitalisation are being developed, both issues being very much interlinked and training for future teachers of these qualifications has already started.

Different centres and teachers’ networks promote and support activities for environmental education and sustainability, for example, at state level, ESenRED (*Escuelas hacia la Sostenibilidad en Red*) ⁽³¹⁾, the national network of networks of non-university sustainable educational centres promoted at the initiative of public authorities; or regional initiatives like educational centres towards sustainability (*centros educativos hacia la sostenibilidad*) ⁽³²⁾, an environmental education project developed by the Government of La Rioja.

6.3. Preventing early leaving from VET

All general education and vocational schools have a school counsellor on their teaching staff to identify learning difficulties and possible causes of learners’ underachievement or signs of early school leaving, in collaboration with the other teachers.

The rate of early school leaving in Spain, unevenly distributed in the different regions, has decreased significantly over the last decade, but it is still among the highest in the EU. It represents a major challenge for the education system which the different education laws and authorities have tried to address, with measures such as establishing the basic VET level or developing dual VET.

The aim of the programme for educational guidance, advancement and enrichment (PROA +) ⁽³³⁾, endowed with 40 million euros, is to support educational centres to improve the quality of education and school results, avoid early school

⁽²⁹⁾ <http://www.educacionyfp.gob.es/mc/sgctie/comunicacion/blog/marzo2021/seminario-sostenibilidad.html>.

⁽³⁰⁾ <http://eumob.sde.dk/media/eumob-folder.pdf>

⁽³¹⁾ <https://esenred.blogspot.com/p/que-es-esenred.html>

⁽³²⁾ http://centrosostenible.blogspot.com/p/blog-page_25.html

⁽³³⁾ Further information at: <https://www.educacionyfp.gob.es/mc/sgctie/cooperacion-territorial/programas-cooperacion/proa/proa-20-21.html>

leaving and reduce social exclusion, supporting public primary and compulsory secondary education schools in vulnerable socio-economic environments.

PROA involves teaching and guidance staff training to enable them to respond to different educational needs, in the form of training courses and seminars, addressing cooperative methodologies focused on intervention programmes.

Making VET studies more attractive and linked to the labour market is another initiative to prevent early school leaving, addressed by the VET strategic and modernisation plans from a systemic approach.

Different kinds of schemes exist to allow and encourage early school leavers either to return to education, acquire a qualification and/or enter the labour market. These schemes usually have a strong work-based component, such as the apprenticeship schemes in workshop-laboratories and craft laboratories (Refernet Cedefop, 2021).

There are other programmes intended to give continuity to the schooling of learners with special educational needs, as well as to other groups with specific needs. They may include vocational modules and other appropriate training modules. Though these programmes do not lead to an official degree from the education system, the modules passed may be recognised for the purpose of continuing studies.

CHAPTER 7. National surveys of teaching and training populations

No national surveys on this topic.

CHAPTER 8. Conclusions

The LOMLOE education act presents the role of teachers as an essential factor in the quality of education. Priority attention is given to initial and ongoing training, the reform of which must be carried out in the coming years, in the context of the new European Higher Education Area and with the aim of responding to the needs and new demands of the education system. The LOMLOE act also addresses the improvement of the conditions in which teachers carry out their job, as well as the recognition, support, and social appreciation of their work.

With a focus on modernising VET in Spain and the perspective of creating a collaborative and specialised VET ecosystem, educational authorities pay special attention to teachers and trainers as channels of communication between the business world and the education and labour spheres, in which their ongoing development is a key component.

On the other hand, continuous and rapid changes in production processes, affected by digitalisation, the solid commitment to sustainability and technological progress, among others, make upskilling and reskilling the teaching staff more necessary than ever, both in pedagogical aspects and, especially, in the technical aspects related to their professional fields.

The participation of the business sector and the social partners is considered essential to bring cutting-edge technological aspects closer to the VET teaching staff. In this sense, the training of teachers and trainers through placements in companies will acquire a relevant weight.

The health crisis triggered by Covid-19 and schools' closure revealed great inequalities among students, from broadband services and computers to the supportive environments needed to focus on learning. Schools and teachers had to identify disconnected or inaccessible students and prepare specific support action plans. In addition to distributing alternative learning mechanisms (thousands of computers, tablets and WIFI access) to ensure equal access, the autonomous communities launched different websites and learning platforms offering online resources for teachers, students and their families. Training was provided to support teachers at all levels in the use of online platforms, as well as a selection of methodologies and didactic activities to facilitate teaching during this period of virtual educational activity.

Job stability is one of the challenges faced by the Spanish educational system in Spain to improve education quality, as there are high levels of temporary employment, unevenly distributed among territories.

Like the rest of the population, the teaching workforce is also ageing rapidly, with 44.5% of VET teachers being over 50. Plans to reduce the proportion of temporary contracts in the public sector, through the 2020 recruitment competitions, have been hampered by the pandemic. While modifying the teacher selection procedure is a political objective of recent governments, it is still on the political agenda.

The various (small-scale private) surveys carried out following the lockdown show that teachers suffered a great emotional burden during that period because although they received support from their schools and peers, they had to put a great deal of effort, both in terms of time and dedication, to provide an adequate educational response to their students during the last year.

Finally, the role and requirements of in-company tutors involved in IVET programmes have not been formally established yet while new roles associated with the implementation of dual VET are emerging (i.e. dual VET prospector or external coordinator of in-company tutors).

List of abbreviations

BOE	Boletín Oficial del Estado [Official State Gazette]
CNIE	Centro Nacional de Innovación e Investigación Educativa (National Centre for Educational Research and Innovation)
CNCP	catálogo nacional de cualificaciones profesionales [national catalogue of occupational standards]
CPD	Continuous professional development
ECTS	European credits transfer system
EOI	Escuela de Organización Industrial (Spanish School of Industrial Organisation)
FCT	Formación en centros de trabajo (On-the-job-training module)
ICT	Information and communication technologies
INCUAL	Instituto Nacional de las Cualificaciones [National Institute of Qualifications]
INE	Instituto Nacional de Estadística [National Statistics Institute]
INEE	Instituto Nacional de Evaluación Educativa [National Institute of Educational Evaluation]
INTEF	Instituto Nacional de Tecnologías Educativas y Formación del Profesorado [National Institute of Educational Technologies and Teacher Training]
ISCED	International Standard Classification of Education
IVET	Initial vocational education and training
LOE	Ley Orgánica 2/2006 de Educación [Organic Act 2/2006 on Education]
LOMCE	Ley Orgánica /2013 para la mejora de la calidad educativa [Organic Act 8/2013 for the improvement of educational quality]
LOMLOE	Ley Orgánica 3/2020 por la que se modifica la Ley Orgánica 2/2006, de Educación [Organic Act 3/2020 amending Organic Act 2/2006 on Education]
MEC	Ministerio de Educación y Ciencia (1981-96, 2004-08)
MECD	Ministerio de Educación, Cultura y Deporte (2000-04, 2011-18)
MEFP	Ministerio de Educación y Formación Profesional (as of 2018)
MEYSS	Ministerio de Empleo y Seguridad Social [Ministry of Employment and Social Security]
MITECO	Ministerio para la Transición Ecológica y el Reto Demográfico [Ministry for the Ecological Transition and the Demographic Challenge]
MITRAMISS	Ministerio de Trabajo, Migraciones y Seguridad Social
MTES	Ministerio de Trabajo y Economía Social
OECD	Organisation for Economic Co-operation and Development
PES	Public Employment Services
SC	Specialisation course (Curso de especialización)

SELFIE	Self-reflection on Effective Learning by Fostering the use of Innovative Educational technologies
SEPE	Servicio Público de Empleo Estatal [State Public Employment Service]
SEPIE	Servicio Español para la Internacionalización de la Educación [Spanish Service for Internationalization of Education]
SNCP	Sistema nacional de cualificaciones y formación profesional [national system of qualifications and vocational training]
TALIS	Teaching and Learning International Survey
VET	Vocational education and training

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Annex 1 Main regulations of the Spanish IVET system

Regulations (in English)	Normativa (en Español)
Organic Act 5/2002 on qualifications and vocational training (Head of State, 2002)	<i>Ley Orgánica 5/2002 de las cualificaciones y la formación profesional (Jefatura del Estado, 2002)</i>
Organic Act 2/2006 on Education ((Head of State, 2006)	<i>Ley Orgánica de Educación 2/2006 – LOE (Jefatura del Estado, 2006)</i>
Organic Act 8/2013 for the improvement of educational quality (Head of State, 2013)	<i>Ley Orgánica 8/2013 para la mejora de la calidad educativa – LOMCE (Jefatura del Estado, 2013)</i>
Organic Act 3/2020 amending Organic Act 2/2006 on Education and repealing LOMCE (Head of State, 2020)	<i>Ley Orgánica 3/2020 por la que se modifica la Ley Orgánica 2/2006, de Educación – LOMLOE (Jefatura del Estado, 2020)</i>

Annex 2 VET teachers' profile

ISCO 2320 Teacher secondary education/vocational training (*)

Features	Total	Percentage
Gender		
Men	33 358	57.9
Women	24 228	42.1
Total	57 587	100.0
Age range		
Below 30	2 738	4.8
30-39	10 241	17.8
40-49	18 986	33.0
50-59	19 453	33.8
60 and over	6 169	10.7
Total	57 587	100.0
Type of contract		
Permanent	35 554	61.7
Temporal	20 311	35.3
Total	55 865	97.0
No data	1 722	3.0
Working hours		
Full time	49 887	86.6
Part time	7 700	13.4
Total	57 587	100.0
Socio-economic status		
Self-employed with or without employees	1 722	3.0
Employed persons	55 865	97.0
Total	57 587	100.0

(*) Data comprises vocational education teachers (subject specific) teaching one or more specialisations of technical or vocational content in secondary education and vocational education. Teachers who teach at secondary level subjects such as mathematics and who do not prepare students for employment in a specific occupational area are classified in another group. According

to the national classification of occupations (CNO as in Spanish), VET teachers are classified in the 2220 primary group (*Profesores de formación profesional (materias específicas)*).

Source: Prepared by the author with data from the national labour force survey (2020 average) produced by the national statistics institute (INE).

Annex 3 TALIS 2018. Change in teachers' needs for professional development from 2008 to 2018

Table 1. **Percentage of teachers reporting a high level of need for professional development in the following areas. Results based on responses of lower secondary teachers (Table I.5.28)**

	Student assessment practices			ICT ¹ skills for teaching			School management and administration			Teaching students with special needs ^{2,3}			Teaching in a multicultural or multilingual setting ⁴		
	TALIS 2008	TALIS 2013	TALIS 2018	TALIS 2008	TALIS 2013	TALIS 2018	TALIS 2008	TALIS 2013	TALIS 2018	TALIS 2008	TALIS 2013	TALIS 2018	TALIS 2008	TALIS 2013	TALIS 2018
Austria	12.2	a	11,3	23,8	a	15,5	3,9	a	4,4	30,3	a	16,0	10,0	a	13,8
Bulgaria	16.1	13.4	16.8	26.9	20.3	22.6	8.5	9.1	10.6	24.4	22.8	27.2	15.5	16.6	21.2
Croatia	a	13.5	16.1	a	19.7	26.2	a	5.8	6.4	a	32.7	36.3	a	11.3	14.3
Cyprus	a	4.8	6.2	a	12.5	10.8	a	11.7	9.3	a	27.0	27.4	a	17.5	19.6
Czech Republic	a	5.3	6.5	a	14.8	13.0	a	4.0	4.3	a	8.0	14.6	a	5.1	6.5
Denmark	13.6	7.5	7.0	20.1	18.7	11.2	3.9	3.1	3.0	24.6	27.7	18.7	7.1	6.8	10.7
England (UK)	a	2.4	4.2	a	7.7	5.3	a	3.5	4.0	a	6.4	5.9	a	6.9	4.9
Estonia	10.4	13.8	11.0	27.9	24.1	19.2	4.6	3.5	4.3	28.1	19.7	26.5	9.7	9.2	10.5
Finland	a	3.9	14.0	a	17.5	19.0	a	1.9	2.3	a	12.6	12.4	a	5.4	6.9
Flemish Comm. (Belgium)	15.6	6.9	10.3	14.8	10.5	9.4	2.4	1.8	2.9	12.8	5.3	12.9	3.7	3.1	8.4
France	a	13.6	15.1	a	25.1	22.9	a	4.2	4.7	a	27.4	33.7	a	11.4	16.7
Hungary	5.9	a	6.8	23.0	a	20.5	3.4	a	4.4	42.0	a	22.0	10.7	a	12.6
Iceland	14.3	18.2	18.8	17.3	28.6	21.1	7.9	4.9	4.2	23.2	16.1	17.4	14.0	8.9	19.4
Italy	24.0	22.9	9.0	25.8	35.9	16.6	8.6	9.9	5.4	35.3	32.3	14.9	25.3	27.4	14.4
Latvia	a	6.3	16.6	a	19.4	22.6	a	4.3	6.1	a	12.1	19.6	a	4.8	11.1
Lithuania	37.3	a	20.1	36.1	a	23.6	9.8	a	6.2	25.4	a	20.8	9.8	a	9.5
Malta	7.2	a	14.9	22.8	a	14.0	12.9	a	9.1	34.4	a	20.4	14.0	a	20.4

	Student assessment practices			ICT ¹ skills for teaching			School management and administration			Teaching students with special needs ^{2,3}			Teaching in a multicultural or multilingual setting ⁴		
	TALIS 2008	TALIS 2013	TALIS 2018	TALIS 2008	TALIS 2013	TALIS 2018	TALIS 2008	TALIS 2013	TALIS 2018	TALIS 2008	TALIS 2013	TALIS 2018	TALIS 2008	TALIS 2013	TALIS 2018
Netherlands	p	6.6	9.9	p	14.9	16.0	p	4.2	4.4	p	10.7	11.7	p	3.1	3.6
Norway	21.9	12.4	12.0	28.1	18.3	22.2	5.8	2.5	3.8	29.2	12.4	17.7	8.3	7.4	12.6
Portugal	6.9	4.8	8.5	24.2	9.2	12.0	18.2	14.1	9.9	50.0	26.5	27.0	17.0	16.8	21.6
Romania	a	7.5	13.4	a	18.6	21.2	a	18.2	14.3	a	27.0	35.1	a	19.7	27.1
Slovak Republic	9.0	9.3	11.3	14.8	18.6	16.6	4.8	7.9	8.2	20.1	18.8	26.5	4.6	7.8	9.3
Slovenia	22.3	a	7.2	25.1	a	8.5	7.0	a	3.6	40.4	a	23.2	9.9	a	14.3
Spain	5.8	4.3	8.9	26.2	14.1	15.0	14.2	10.2	10.8	35.8	21.8	28.2	17.5	19.0	17.6
Sweden	a	26.4	9.1	a	25.5	22.2	a	3.1	4.0	a	19.8	18.0	a	11.3	14.8

Source: OECD. TALIS 2008, TALIS 2013 and TALIS 2018 Databases. 1. ICT: Information and communication technology. 2. "Students with special needs" are those for whom a special learning need has been formally identified because they are mentally, physically, or emotionally disadvantaged. 3. Worded as "Teaching students with special learning needs" in 2008. 4. Worded as "Teaching in multicultural setting" in 2008.

Table 2. Positive impact of feedback on teaching practices

	Among (a). percentage of teachers who report that the feedback they received in the 12 months prior to the survey led to a positive change in the following teaching practices						
	Percentage of teachers who have received feedback in their school (a)	Knowledge and understanding of my main subject field(s)	Pedagogical competencies in teaching the teacher's subject	Use of student assessments to improve student learning	Classroom management	Methods for teaching students with special needs	Methods for teaching in a multicultural or multilingual setting
		%	%	%	%	%	%
Austria	92.2	35.4	52.9	31.9	36.8	18.6	13.8
Belgium	88.9	21.8	36.2	29.1	26.3	19.9	8.3
- Flemish Comm. (Belgium)	92.4	27.4	43.9	33.8	32.6	22.9	11.1
- French Comm. (Belgium)	84.9	14.7	26.6	23.2	18.4	16.3	4.9
Bulgaria	98.1	48.0	53.8	55.6	58.9	37.0	33.7
Croatia	94.6	46.3	59.9	56.5	47.8	45.1	15.3
Cyprus*	91.8	48.3	62.4	56.1	50.4	29.0	29.8
Czech Republic	99.1	37.3	56.4	51.1	43.6	40.4	11.4
Denmark	85.5	32.1	43.6	29.0	30.6	22.2	9.7
England (UK)	99.6	35.8	50.9	50.7	38.0	29.4	14.1
Estonia	94.5	47.6	55.7	52.7	45.4	35.1	16.4
Finland	60.1	35.5	37.6	30.0	30.1	26.5	11.9
France	85.6	22.0	45.8	30.5	25.0	24.1	7.2
Hungary	95.5	68.3	74.0	59.8	64.8	44.3	16.4
Iceland	61.5	37.3	41.7	43.9	34.9	31.7	18.1
Italy	72.9	40.6	45.0	51.8	45.0	51.0	24.2

	Among (a). percentage of teachers who report that the feedback they received in the 12 months prior to the survey led to a positive change in the following teaching practices						
	Percentage of teachers who have received feedback in their school (a)	Knowledge and understanding of my main subject field(s)	Pedagogical competencies in teaching the teacher's subject	Use of student assessments to improve student learning	Classroom management	Methods for teaching students with special needs	Methods for teaching in a multicultural or multilingual setting
		%	%	%	%	%	%
Latvia	98.1	71.3	77.4	74.6	52.3	45.6	26.4
Lithuania	98.2	55.2	63.4	64.2	47.8	37.7	16.2
Malta	95.0	42.2	57.5	50.0	41.5	26.4	19.5
Netherlands	99.0	30.0	56.2	29.7	42.3	21.1	6.1
Norway	88.0	43.8	47.9	33.5	49.0	33.6	12.2
Portugal	76.0	24.5	43.4	47.8	46.4	33.4	13.5
Romania	96.7	61.5	72.3	75.7	74.1	53.4	33.1
Slovak Republic	97.2	50.0	61.4	62.1	46.7	47.4	18.2
Slovenia	98.4	57.1	63.2	59.5	49.0	46.8	18.9
Spain	82.6	24.0	41.7	40.8	39.1	28.9	17.3
Sweden	86.2	34.5	43.8	36.2	48.7	35.8	16.5
OECD average-31	90.2	45.0	55.4	50.1	45.4	34.6	17.9
EU total-23	88.1	35.5	50.1	45.4	41.3	33.9	16.0
TALIS average-48	92.1	52.4	61.4	57.4	52.8	37.2	23.5

Source: OECD. TALIS 2018 Database.