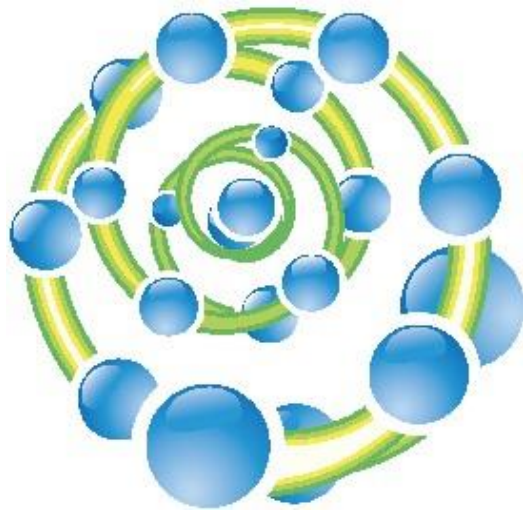


## Innovation in VET

### Spain



This article on Innovation in VET is part of a set of articles prepared within Cedefop's ReferNet network. It complements general information on VET systems available online at <http://www.cedefop.europa.eu/EN/Information-services/vet-in-europe-country-reports.aspx>. ReferNet is a European network of national partner institutions providing information and analysis on national VET to Cedefop and disseminating information on European VET and Cedefop work to stakeholders in the EU Member States, Norway and Iceland. The opinions expressed in this article are not necessarily those of Cedefop. The article is based on a common template prepared by Cedefop for all ReferNet partners. The preparation of this article has been co-financed by the European Union.

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## A. Virtual learning environments: basic information and rationale

Information and communications technologies (ICT), especially internet have opened up new perspectives in the field of vocational and education training (VET) in the 21<sup>st</sup> century.

The implementation of e-learning is becoming important for public administration and formal (including higher) VET. In this context the challenge for the labour authorities is to create **virtual learning environments (VLE)** within the national system of training for employment with guarantee of quality of vocational training standards.

The labour administration awards formal professional certificates that are equivalent to VET diplomas. It has proposed to change the traditional distance learning approach and to develop VLE satisfying the training needs of employees and unemployed. E-learning is not only a strategy of the labour authorities but is part of a VET modernisation strategy as education authorities also promote VLE in VET.

Since 2007, the labour administration has integrated ICT in vocational training programmes for employment. However, in 2014, the contribution of public employment service (SEPE) to the development of e-learning (*teleformación*) was based on innovative regulation <sup>(1)</sup> and methodology, presented in this article <sup>(2)</sup>.

In 2012, the Communication from the European Commission to the European Parliament (COM) 669 final, 'Rethinking Education: Investing on skills for better socio-economic outcomes' urged Member States to stimulate open and flexible learning which takes advantage of the potential of ICT and open educational resources (OER) for learning. The Commission drew attention to the opportunities offered by the digital revolution. It aims at better use of these technologies for learning and at its assessment, since there are already disparities in the availability of ICT-based educational tools and content. The number of non-commercial OER providers is growing, and technological advances such as free access, shared Internet files and open source are proliferating; educational publishers and the entire sector are continually adapting to these changes <sup>(3)</sup>. Economic models in the education sector are being revised to take advantage of the new business opportunities <sup>(4)</sup>. SEPE is responsible for ensuring the quality of the accredited platforms to issue qualifications (Professional Certificates accredited by the labour authorities). Thus, SEPE

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<sup>(1)</sup> [Order ESS/1897/2013 of 10 October, developing Royal Decree 34/2008 of 18 January, regulating Professional Certificates and the Royal Decrees setting out Professional Certificates and their applications](#)

<sup>(2)</sup> The Spanish education system also has a strategy for developing virtual training environments for VET qualifications. Further information: <http://www.mecd.gob.es/fponline/en/>

<sup>(3)</sup> See <http://www.openeducationeuropa.eu/>

<sup>(4)</sup> Communication from the Commission to the European Parliament, the Council, the European economic and social committee and the committee of the regions Rethinking Education: Investing in skills for better socio-economic outcomes COM (2012) 669 final.

has implemented a specific methodology to ensure the development of VLE. Based on this methodology, the online training process allows students to achieve the required learning outcomes for each Professional Certificate. The accreditation of the online training providers specifically for Professional Certificates (formal accreditation by the labour authorities) has enabled the national implementation of quality assurance and the fulfilment of appropriate technological, educational and organisational requirements <sup>(5)</sup>. On the one hand, VLE allow trainers to assess their scope during the training process, and on the other hand they allow students to achieve the targeted skills and knowledge, with quality assurance and validated equivalence to traditional classroom training methods.

This commitment to e-learning aims to promote three areas of innovation:

- **Teaching methodology:** developing high-quality virtual learning materials ensure skills-based training. By using such materials the development of virtual content as well as the type and complexity of the involved learning activities and assessments correspond to the targeted learning outcomes and conform to the established level of qualification.
- **Technological tools and infrastructures:** their integration in education encourages the effective student participation and learning through action. This emphasis on interactivity aims to promote new more personalised (defined by user preferences) and contextual (both in virtual and mobile classroom environments) virtual training activities. It also aims to link e-learning to employability and generate confidence and credibility supported by effective proposals for access to and permanence in the workplace.
- **Training organisation:** this is designed by online learning providers, whereby they become service providers rather than producers.

## B. VLE accreditation of professional certificates

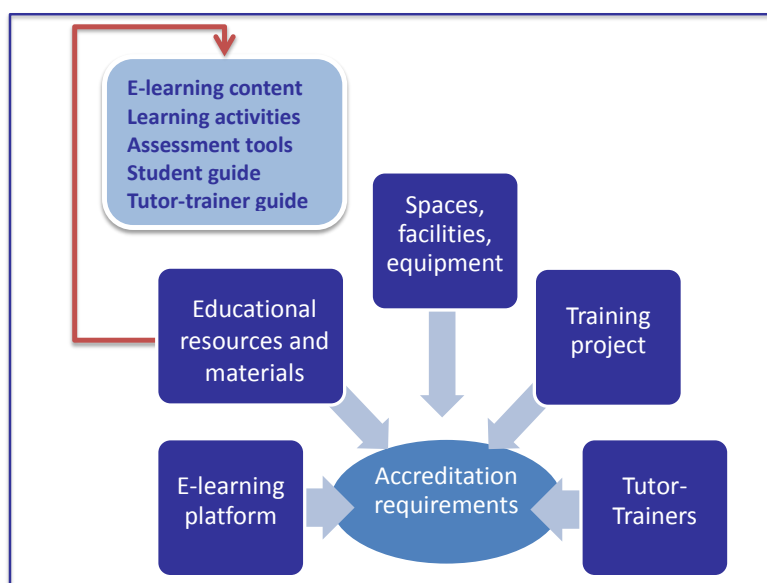
Whether financed through public funds or private initiatives, e-learning must be delivered by training providers who have been accredited for carrying out e-learning training activities. This is necessary to be recognised by the SEPE. Interested training centres must submit their application electronically by registering in the SEPE's electronic platform, and also upload a documentation showing their compliance with the accreditation requirements. Accreditation is an administrative measure which SEPE includes in the **State Register of**

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<sup>(5)</sup> Resolution of May 26, 2014, the Public Service of Employment, by the accreditation and registration centres and institutions imparting training in the form of e-learning, training for employment in the field of management is regulated Public State Employment Service.

**Training Centres** <sup>(6)</sup>. These are training centres that meet the requirements for e-learning provision of training for obtaining Professional Certificates, within the framework of vocational training for employment <sup>(7)</sup>. These requirements are set out in the application for accreditation and are shown in the following figure:

Figure 1. **Requirements for VLE platforms elements**



From the 583 Professional Certificates included in the National Repertoire of Professional Certificates (RNCP), 354 were suitable to be offered through e-learning (60% of the RNCP with at least 80% of its content suitable for e-learning modality). After analysed by online education experts, these training programmes meet the following conditions:

- The nature of knowledge and related production processes, and the current development of e-learning materials and methodologies must ensure that the learning outcomes are set out in the relevant royal decrees governing Professional Certificates.
- The duration of classroom training, face-to-face tutorials (hours of student attendance) in the modules and, where appropriate, their constituent training units (excepting modules on practical training in the workplace) must not exceed 20% of the total duration of the associated training.

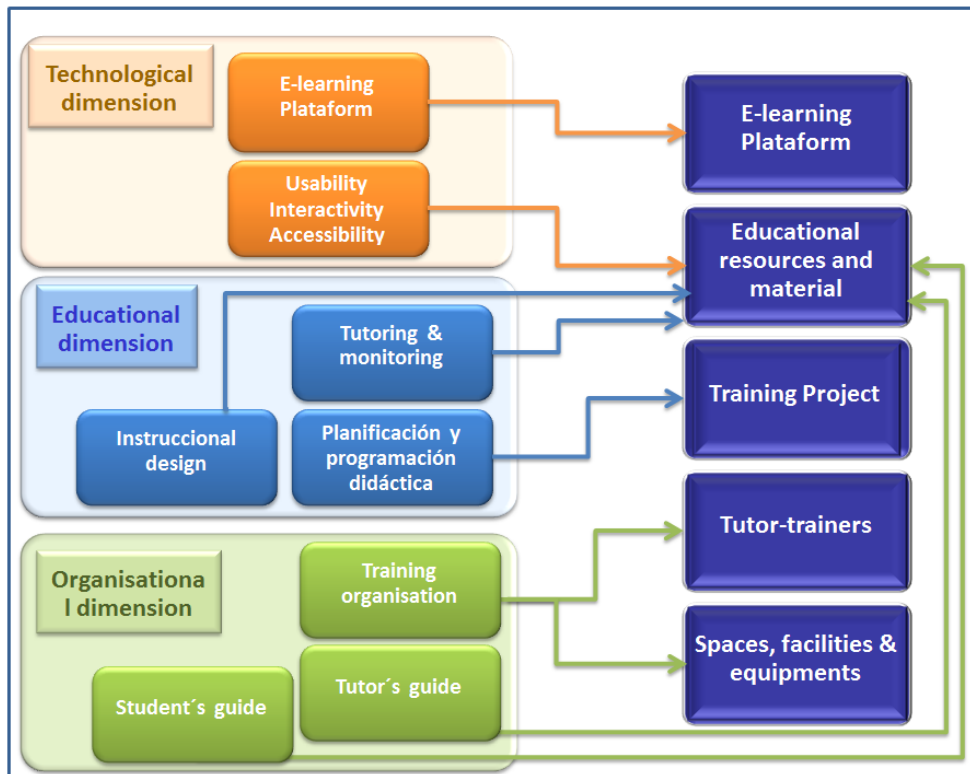
SEPE has been positively assessed by accredited e-learning providers, based on a three-dimensional evaluation framework. This framework is based on the coherent and necessary

<sup>(6)</sup> The Employment Act 56/2003 of 16 of December establishes for the country a common data structure for accreditation and / or registration of vocational training for employment.

<sup>(7)</sup> Articles 13-16 of Order ESS/1897/2013 of 10 October.

relationship between the learning dimension and the assessment of the targeted learning outcomes, the technological dimension and the available resources for achieving these outcomes within the e-learning context, and finally the organisational dimension of the training providers in order to make this possible.

Figure 2. **Dimensions for the VLE assessment**



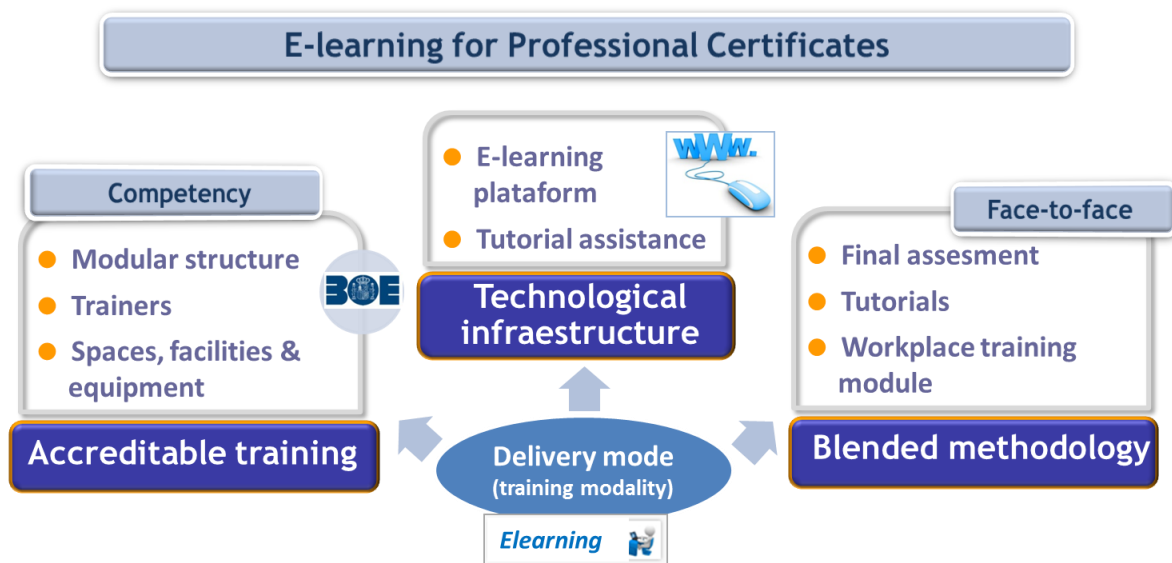
To be included in the National Register of Centres Compliance, e-learning providers must be accredited and verified through a set of quality indicators. Also,, the VLE platform must meet the regulation technical requirements for providing e-learning, as regards infrastructure, software and other support services. The factors taken into consideration for this accreditation of training providers are directly related to the educational demands of society and vocational training. The case for applying these criteria for delivering open training related to Professional Certificates is as follows:

- It leads to an official award (either a complete Professional Certificate or partial cumulative accreditation of competence), valid throughout the whole country, and legally regulated in terms of its modular structure, duration of the learning programme and, when applicable, learning outcomes, skills, assessment criteria and content.
- It is taught by means of ICT, enabling students' interactivity, monitoring the learning process, using open access resources located in different places and providing a

systematic learning process for the participant via a VLE complemented with tutorial assistance.

- It is based on a blended methodology <sup>(8)</sup>, so that the final assessment of each training module always involves personal attendance, as well as face-to-face tutorials for each module (where relevant), in accordance with the legally established requirements for each Professional Certificate. These tutorials require the physical presence of students in places with specialised equipment (workshops, laboratories, etc.) where they carry out planned and supervised practical training. Additionally, practical training modules are always provided in the workplace.

Figure 3. **VLE for training for professional certificates**



The verification of compliance with accreditation requirements is carried out by means of a **checklist**, used to perform a **guided and systematic validation of the set of accreditation requirements**. This procedure includes noting monitored characteristics and, where appropriate, identifying failures, deficiencies or improvements, and specifying whether the quality level has been achieved by the VLE's provider. The checklist is organised in the already mentioned three dimensions -technological, educational and organisational - each of which is clustered into a set of factors. Each factor is a benchmark representing a condition which a particular accreditation application that must be met by the VLE provider to be considered of sufficient quality. Each factor is described by means of a general standard or declaration which indicates the factor's degree of required compliance, i.e. the level of quality that is considered acceptable. At the same time, based on its scope and complexity, each factor is divided into **199 indicators** (or more specific standards)

<sup>(8)</sup> Blended learning refers to a training process mixing virtual and classroom resources.



whose measurement or quantification enables the determination of the level of quality reached by the application for accreditation with respect to the accreditation condition or requirement associated with each factor. The indicators encapsulate the requirements that must be met to obtain accreditation.

The indicators making up the checklist are grouped into two types:

1. **Mandatory compliance indicators** (161), which indicate the absolute minimum for declaring conformity or compliance with the criterion or benchmark.
2. **Recommended compliance indicators** (38), which provide added value to the relevant factor or condition.

In both cases, the indicator is formulated categorically and can be measured in one of two ways:

- Dichotomously, by means of YES/NO options.
- Scale-based, by means of a scale graded in three levels: appropriate (3), partially appropriate (2) and inappropriate (1), depending on whether there is 80%, between 80-20% or less than 20% compliance with the set specifications.

The assigned value represents the degree of compliance with respect to the factor or the benchmark measured. Thus, the checklist for verification of the accreditation requirements consists of a set of standards broken down into indicators which must be evaluated one by one.

The analysis of indicators enables the appreciation of the relative importance of the aspects taken into account in the evaluation, as well as the consideration of mandatory and recommended aspects by the VLE evaluators. The educational dimension - involving the virtual material and instructional design of the training, resources, activities, assessment of the student's progress and their tutoring during training, monitoring of the student and the planning and programming of the teaching and assessment procedures - covers 52% of the total indicators and 48% of the mandatory indicators for accreditation.

The negative evaluation of any mandatory compliance indicator entails non-approval or rejection of the benchmark factor and consequent corrective requirements. The negative assessment of any recommended compliance indicator, even with notification and warning, does not entail rejection or non-approval.

The lack of rectification of any of the mandatory compliance indicators entails the refusal of accreditation.

Table 1. **Evaluation factors for VLE**

Dimensions of evaluation	Accreditation requirements	Evaluation factors	Indicators			
			TOTAL	Mandatory compliance	Recommended compliance	
<b>Technological dimension</b>	E-learning platform	LMS	14	13	1	
	Virtual learning materials	Usability	12	9	3	
		Interactivity	7	3	4	
		Accessibility	14	14	0	
<b>Educational dimension</b>	Virtual learning materials: instructional design	Learning objectives	2	2	0	
		Content	10	10	0	
		Teaching strategies	6	4	2	
		Learning activities	8	4	4	
		Resources	11	3	8	
		Diagnostic evaluation	3	0	3	
		Assessment during the training process	5	3	2	
		Monitoring tutoring	10	3	7	
	Training project	Teaching planning	8	8	0	
		Teaching programming	17	17	0	
		Assessment planning	23	23	0	
	<b>Organisational dimension</b>	Training project	Organisation of training	15	15	0
		Student guide	Action information	14	10	4
Tutor-trainer guide		Tutor activity planning	20	20	0	
			199	161	38	

### C. Assessment outcomes of the VLE for professional certificates

Since November 2014, nine VLE (<sup>9, 10</sup>) have been accredited to issue professional certificates. These VLE were evaluated by applying the checklist and initially obtaining a number of aspects to be rectified. These aspects were mostly related to VLE educational dimension. The evaluation was made by the SEPE personnel following the 199 checklist factors. The certificates from accredited VLE platforms are related to the sectors of

(<sup>9</sup>) The VLE platforms already accredited are permanently updated in [http://www.sepe.es/contenidos/personas/formacion/centros\\_formacion/inscripcion\\_teleformacion.html](http://www.sepe.es/contenidos/personas/formacion/centros_formacion/inscripcion_teleformacion.html)

(<sup>10</sup>) See the last VLE accredited platforms: [http://www.sepe.es/contenidos/personas/formacion/centros\\_formacion/pdf/ENTIDADES\\_FORMACION\\_ACREDITADAS\\_MODALIDAD\\_TELEFORMACION.pdf](http://www.sepe.es/contenidos/personas/formacion/centros_formacion/pdf/ENTIDADES_FORMACION_ACREDITADAS_MODALIDAD_TELEFORMACION.pdf)

business administration, trade, catering and hotel management, and social services in the community.

The process of accreditation was initiated at the end of 2013 and in 2014-15 several providers have been accredited. However, the e-learning VET programmes need further investment since they are mainly focused on the management of learning outcomes that are easier to implement in VLE.

**Table 2. Professional Certificates which VLE (e-learning platforms) have been validated by SEPE**

<b>ACCREDITED PROFESSIONAL CERTIFICATES</b>
ADGD0108 - ACCOUNTING MANAGEMENT AND ADMINISTRATIVE MANAGEMENT FOR AUDITING
ADGD0210 - CREATION AND MANAGEMENT OF MICRO-ENTERPRISES
ADGG0208 - ADMINISTRATIVE ACTIVITIES IN CLIENT RELATIONSHIPS
ADGG0508 - REGISTERING AND PROCESSING DATA AND DOCUMENTS
ADGN0108 - BUSINESS FINANCING
COMT0211 - ANCILLARY TRADE ACTIVITIES
HOTA0208 - HOUSEKEEPING AND CLEANING IN ACCOMMODATION
HOTR0108 - BASIC COOKING ACTIVITIES
HOTR0308 - BASIC CATERING ACTIVITIES
SSCM0108 - CLEANING OF FURNITURE AND AREAS IN BUILDINGS AND PREMISES
SSCS0108 - HEALTH AND SOCIAL CARE FOR PEOPLE AT HOME
SSCS0208 - HEALTH AND SOCIAL CARE FOR PEOPLE DEPENDENT ON SOCIAL INSTITUTIONS

The training provision for these programmes will begin in 2015, and it has already been approved through an initial evaluation process. The initial VLE-proposals submitted by training providers presented certain deficiencies that were subsequently rectified, based on elements identified by the afore-mentioned methodology. The collaboration between the training providers and the awarding body (SEPE) has permitted the improvement and identification of these deficiencies. Figure 6 summarises the initial and subsequent assessment outcomes for the approved VLE. The numbers refer to the non-compliance with the indicators comprising each factor and are distinguished between mandatory compliance and recommended compliance indicators. It can be seen that deficiencies in aspects related to the proposals' educational dimension were most frequently identified although finally resolved. However, there is a margin of an improvement that will be evaluated once the training programme is developed.

After notification and rectification, the nine accredited VLE produced new outcomes, totally complying with the mandatory requirements. Nevertheless, some of the recommended

indicators related specifically to learning activities and the diagnostic evaluation of students' prior knowledge remain to be addressed.

Table 3. Dimensions considered in the 9 approved VLE

ASSESSMENT DIMENSIONS AND FACTORS	Initial assessment of proposal		Following approval	
	Mandatory indicators	Recommended indicators	Mandatory indicators	Recommended indicators
<b>TECHNOLOGICAL DIMENSION</b>	<b>✗ 40</b>	<b>✗ 9</b>	<b>✓ 0</b>	<b>✗ 6</b>
E-LEARNING PLATFORM	18	--	0	--
LMS	18	--	0	--
VIRTUAL LEARNING CONTENT	22	9	0	6
USABILITY	5	4	0	2
INTERACTIVITY	11	5	0	4
ACCESSIBILITY	6	----	0	----
<b>EDUCATIONAL DIMENSION</b>	<b>✗ 59</b>	<b>✗ 77</b>	<b>✓ 0</b>	<b>✗ 46</b>
INSTRUCTIONAL DESIGN	32	77	0	46
LEARNING OBJECTIVES	5	----	0	----
CONTENT	28	----	0	----
TEACHING STRATEGIES	16	5	0	4
LEARNING ACTIVITIES	25	20	0	10
RESOURCES	18	10	0	8
DIAGNOSTIC EVALUATION	-----	18	-----	14
ASSESSMENT DURING THE TRAINING PROCESS	18	6	0	1
MONITORING TUTORING	14	18	0	9
TRAINING PROJECT	27	-----	0	-----
TEACHING PLANNING	4	-----	0	-----
TEACHING PROGRAMMING	12	-----	0	-----
ASSESSMENT PLANNING	11	-----	0	-----
<b>ORGANISATIONAL DIMENSION</b>	<b>✗ 36</b>	<b>✗ 18</b>	<b>✓ 0</b>	<b>✓ 0</b>
TRAINING PROJECT	13	-----	0	-----
STUDENT GUIDE	7	18	0	0
TUTOR-TRAINER GUIDE	16	-----	0	-----

## Conclusions

The assessment procedure for the accreditation of VLE platforms with regard to Professional Certificates has enabled the following:

- Commitment to offer formal VET qualifications through e-learning ensuring quality and control for essential aspects of training in a lifelong learning perspective, in any personal circumstance and age.
- Establishment of a quality and control procedure for e-learning providers with respect to VLE aspects.

- Boosting development of high-quality virtual learning materials, ensuring skills-based training and development of content.
- Reconsideration of activities that enable the student to become qualified and the trainer to assess the extent of capabilities and targeted learning outcomes, in accordance with the level of qualification.
- Reconsideration of the assessment activities, ensuring the verification of skills acquisition and established learning outcomes for the subsequent accreditation of the student with a full Professional Certificate or for partial cumulative accreditation.
- Integration of infrastructures and technological tools to elevate students' interaction, facilitate effective student participation and learning through action and collaboration in blogs and digital communication via virtual classrooms, skype, or other means during the learning process.

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Employment Act 56/2003 of 16 of December establishes for the country a common data structure for accreditation and / or registration of vocational training for employment.

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Resolution of May 26, 2014, the Public Service of Employment, by the accreditation and registration centres and institutions imparting training in the form of e-learning, training for employment in the field of management is regulated Public State Employment Service.

[https://www.sepe.es/contenidos/personas/formacion/centros\\_formacion/pdf/Resolucion\\_26\\_mayo\\_2014\\_Acreditacion-InscripcionTeleformacion.pdf](https://www.sepe.es/contenidos/personas/formacion/centros_formacion/pdf/Resolucion_26_mayo_2014_Acreditacion-InscripcionTeleformacion.pdf)

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