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## eLearning in Spain

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## **Abstract**

This document presents a brief overview of the eLearning penetration in Spain. It has been made by the GRIAL Research Group of the University of Salamanca as partner in the Lifelong Learning Programme – Leonardo da Vinci VETPRO Project “ELearning in flamenco rhythm” (Ref. 872A8A24631B9423).

## Contents

<i>1. The Environment for online professional training (eLearning)</i>	<i>1</i>
<b>1.1. General overview of training and employability. Statistical data.</b>	<b>2</b>
<i>2. The Information Society in Spain. Brief overview</i>	<i>18</i>
<i>3. Good Practice in eLearning</i>	<i>22</i>
<i>4. The eLearning State of the Art in Spain.</i>	<i>26</i>
<b>4.1. Qualitative Evolution and Future Perspectives</b>	<b>26</b>
<b>4.2. Quantitative Situation</b>	<b>34</b>
<i>5. UNE 66181:2008, First Standard on eLearning, Published in Spain by AENOR</i>	<i>46</i>
<i>6. Some linguistic and cultural issues in Spanish eLearning context</i>	<i>48</i>
<b>6.1. Online tutoring styles vs. face-to-face interacting contexts</b>	<b>48</b>
<b>6.2. Netiquette for educational use. Rules to use the forums better</b>	<b>48</b>
<i>7. References</i>	<i>50</i>

# 1. The Environment for online professional training (eLearning)

Education for employment is one of the most important factors to determine how competitive countries are within the Information Society framework.

**The FIP Plan (“Training and Employability”, in Spanish).** Born in 1985 as the structuring backbone of vocational education, its aim was to improve the educational system in three main points: contents, groups with difficulties finding a job and promotion of professional change. This plan also determined that it should be led by social agents under the supervision of the Administration and private businesses.

During the 90s this plan starts being managed by the Autonomous Communities (each of the 17 regional divisions of Spain). There is also some criticism about the plan being focused on control of the unemployed rather than their actual employability. According to the report “Better training for more jobs (Gómez, 2010), carried out by Élogos Foundation and coordinated by Valeriano Gómez, “... it is inexplicable the fact that eLearning has not been incorporated in the educational plan of unemployed people, which shows that the system has little capacity of adaptation to the reality...”

**In 1992.** This year represents an important moment because social agents get involved in the signature of the National Agreements in Life-long Training with the Ministry of Employment. These agreements are negotiated by the unions. Based on them, the FORCEM, Foundation of Life-long Training, is created. This foundation deals only with the training of people already working, whereas the FIP Plan trains only unemployed people.

**In 1993.** The National Program of Professional Training is created. It has three areas: formal, occupational and life-long training. In 1998, a new program lasting till 2002 is signed again for the last time.

**In 2000.** The new agreements for Life-long Training make FORCEM the “Tripartita Foundation”, which is managed by the State General Administration.

**In 2002.** A National System of Qualifications and Vocational Training is created.

**In 2003.** This is a key moment, as it starts the On-demand Training System, organized by the companies by means of the payments they make to the Social Security. Plans oriented to self-employed people are also included.

**In 2006.** The fourth National Agreements of Life-long Training are signed. It is relevant the fact that training for employed and unemployed people is managed together and that it includes the Autonomous Communities in the management and direction. These agreements are valid until 2010, when they will have to be renegotiated.

**Currently.** The situation of life-long and vocational training in Spain includes a considerably smaller number of workers than the average of the European countries around us (32% versus 52%). SMEs have difficulties to access training and the problem gets worse in micro-enterprises, which make up for 88% to 94% of businesses in Spain, according to some sources ([Ministerio de Industria, 2010](#)). There is a considerable unbalance between training available and demand and a very low level of training offer that certifies competencies acquired. The training activity is not complemented with an information and professional orientation system. The quality of this model is hardly evaluated in aspects such as analysis of needs, elaboration of contents, didactic innovation and evaluation criteria of acquired professional competencies. The lack of institutional coordination could break up the training market into regions, putting at risk the unity of the market and, thus, increasing the cost of planning in the training sector. **As a result.** The training methods associated to eLearning allow “flexibility,

accessibility and economy of means” and they also promote participation in training, as well as a better fit to the demands of the students in terms of timetable, accessibility, etc. (Report “[Mejor formación para crear más empleo](#)”). It has been noted the increase in the number of employed people who access training by means of the Internet.

The Internet is an excellent medium for micro-companies and the rural sector to access training. These are the groups that less often take part in training plans. That is the reason why it is of absolutely necessary to pull down the restrictions on Professional Certifications applied on training programs administered through eLearning

Aspects considered of paramount importance can be controlled in a most efficient and effective way in online training:

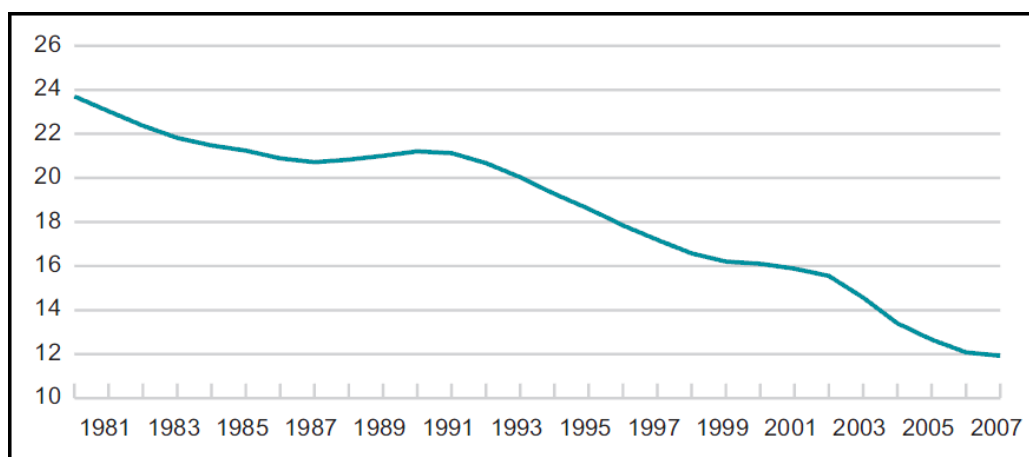
- Measurement of the effects produced in learners, as well as their online monitoring.
- Measurement of the effectiveness of activities and lessons.
- Improvement of specialized training, adapted to the learner, to the job and to the professional sector.

On the other hand, training companies are a subsector of consolidated activity, as is shown in [Report “Mejor formación para crear más empleo”](#) (Gómez, 2010). It is especially significant the fact that they provide direct jobs to more than 8,000 people and indirect jobs to over 10 thousand. The leading 5 companies of the sector are, with a gross benefit of 150 million euros, innovative companies in online training. The development of eLearning has also had an influence on this consolidation, promoting investment in research and development in these new ways of training. Also, this modality has allowed more people to have access to training.

### **1.1. General overview of training and employability. Statistical data.**

The rate of illiteracy, according to the following chart, has decreased significantly in Spain. This is very important in order to establish life-long training systems. It can be said that almost any Spaniard is capable of learning through all his/her life with methodologies based on reading and writing.

**Evolution of functional illiteracy. Spain 1980-2007**



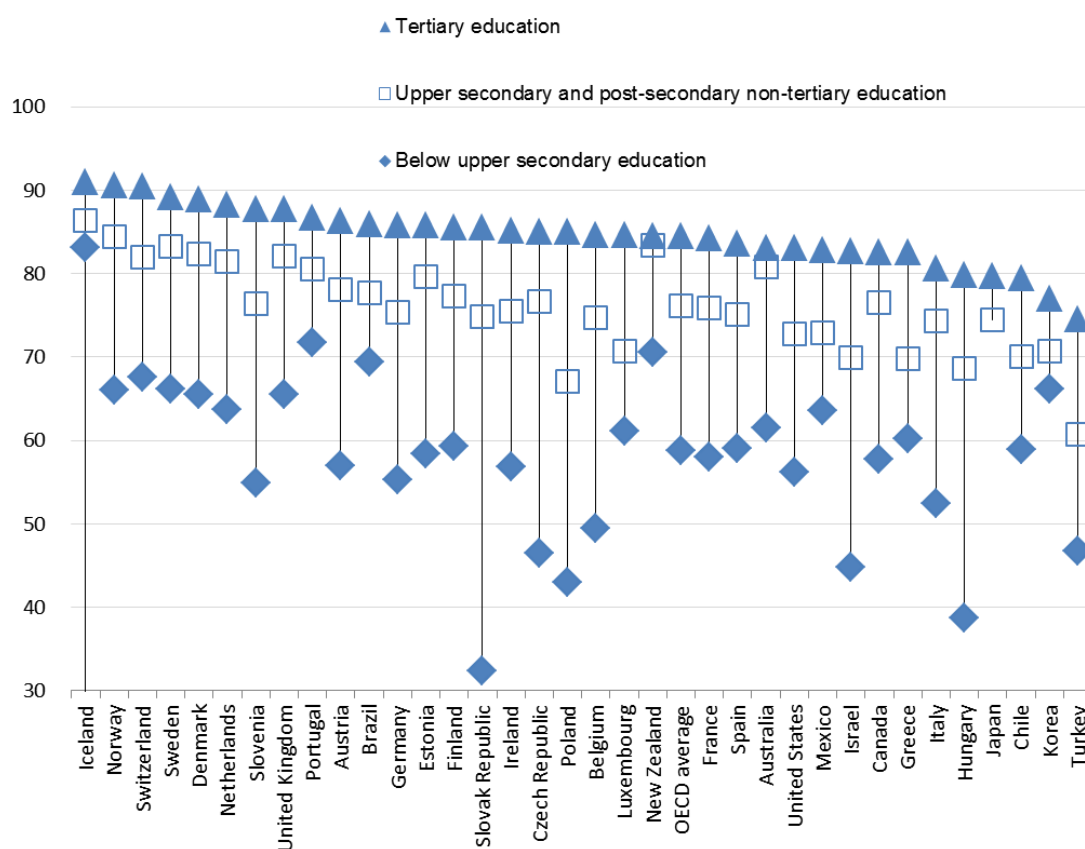
[Source: IVIE.](#)

According to national surveys, in 1977, 4% of the population was illiterate, 75% had primary studies at most, 15% had secondary education and only 6% has university studies.

**Chart A6.1. Positive relation between education and employment (2008)**

*This chart shows the percentage of 25-64 year-olds in employment, by level of education.*

In all OECD countries, individuals with a tertiary-level degree have a greater chance of being employed than those who lack such a degree. On average, 85% of the population with tertiary education is employed. In Iceland, Norway and Switzerland the share is above 90%. Also in all countries, persons with upper secondary and post-secondary non-tertiary education are much more likely to be employed than those with less education. In the Czech Republic, Hungary, Poland, the Slovak Republic and Turkey, and in the partner country Israel, more than half of those with less than upper secondary education are not employed. Overall, employment rates are more than 25 points higher for those with tertiary education than for those who have not completed an upper secondary education. This indicates the magnitude of the economic benefits that flows from additional schooling.



Countries are ranked in descending order of the employment rate of 25-64 year-olds with tertiary education.  
Source: OECD. Table A6.3a. See Annex 3 for notes ([www.oecd.org/edu/eag2010](http://www.oecd.org/edu/eag2010)).

Source: [Education at a Glance 2010: OCDE Indicators](#)

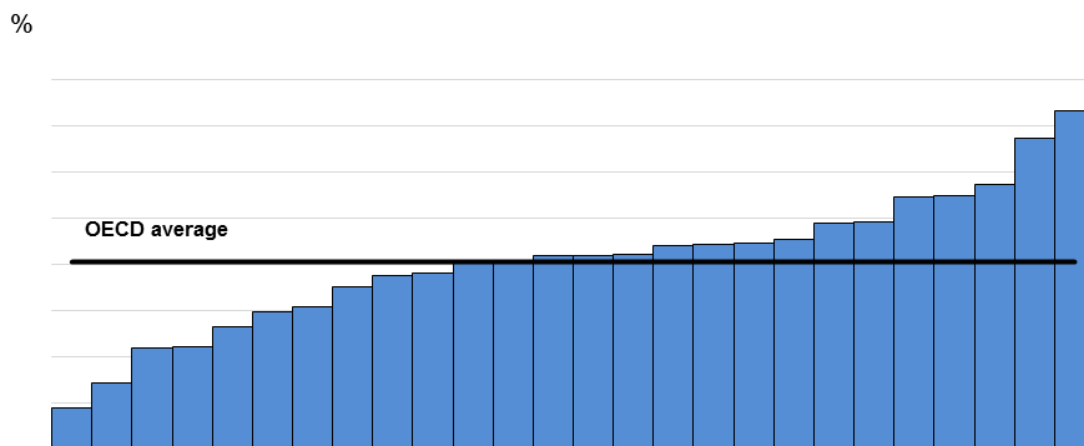
In 2007, people with university studies were 22%, 62% had secondary education and only 16% had now basic/low education (from 75% in 1977) ([Instituto Valenciano de Investigación Económica](#), 2002). Currently, vocational training provides individuals with a higher level of employability than if they had Secondary Education studies, which the opposite of what happened in the past. This grade is even higher than in university studies in the case of Spain (Albert et al., 2003), although it also has to be said that the crisis affects people with vocational training more than those with a university degree.

The OECD (2010) [Education at a Glance 2010: OECD Indicators](#) gives a comparative overview of working status by educational level which shows that employability is higher for those with university studies through their professional career.

**Chart A5.1. Participation in formal and/or non-formal education (2007)**

*This chart shows the participation of the 25-64 year-old population in formal and/or non-formal education in 2007.*

Investment in education and training after leaving initial education is essential for upgrading labour force skills and increasing overall skill levels in the economy. Participation rates indicate how far-reaching such investment is in different countries. Across the OECD, more than 40% of the adult population participates in formal and/or non-formal education in a given year. Countries differ significantly, however. In New Zealand and Sweden, more than 60% of the population is involved in some sort of formal and/or non-formal education over the course of a year, whereas in Hungary and Greece less than 15% of the population is engaged.



- 1. Year of reference 2006.
- 2. Year of reference 2008.
- 3. Year of reference 2005.

*Countries are ranked in ascending order of participation in formal and/or non-formal education.*

Source: OECD, LSO network special data collection, Adult Learning Working Group. Table A5.1a. See Annex 3 for notes ([www.oecd.org/edu/eag2010](http://www.oecd.org/edu/eag2010)).

[Source: Education at a Glance 2010: OCDE Indicators](#)



It is necessary to promote training systems that allow adult population to achieve higher levels of education as a means to improve their employability. These new levels do not only imply an extension of formal education, but a better adjustment to the competencies demanded by the business sector. The relationship between education and employment in Spain is qualified by the type of studies pursued (Garrido & Chuliá, 2005). Many adults continue their training through their working life (life-long learning). This is a key factor in almost all social and vital aspects of people, as well as for economic competitiveness and demographic change, in order to face the challenges of unemployment, poverty and social exclusion. In the OCDE countries, over 40% of adults take part in formal or non formal education in a given year, but levels varied considerably: from over 60% in New Zealand and Sweden to 15% in Hungary and Greece (see indicators in [A5 de Education at a Glance 2010](#)). These same data puts Spain clearly below the OCDE average with 30%. There are, therefore, clear opportunities for eLearning in this training niche. [Source: Education at a Glance 2010: OCDE Indicators](#).

It also has to be taken into consideration the fact that the best professional careers are those of individuals with the higher level of education associated to a greater job stability [ETEFIL](#) (INE, 2005).

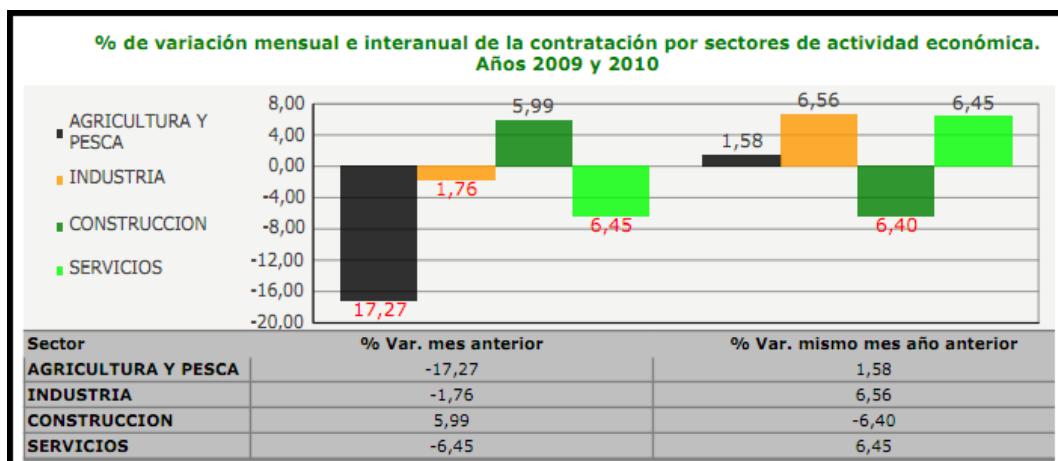
### ***Imbalances between qualifications and competencies***

We have already pointed out how, in the case of Spain, there is a mismatch between the training offered and the competencies required by companies. The “[Catálogo de Ocupaciones de Difícil Cobertura](#)” ([Catalogue of professional jobs hard to fill in](#)) has the occupations where Public Employment Services have found a difficulty to provide the employers with people to fill in the jobs they offer. According to this catalogue, we can see that employees are needed in professions related to healthcare, teachers of different subjects in vocational training, electric engineers and some other jobs related to the forest and agriculture during the [fourth term of 2010](#). As a note, it has to be pointed out that an online training activity can provide all the necessary tools to adapt immediately to the variations in the terms of the Catalogue. This is a possibility of training “just-in-time”.

The Ministry of Employment and Immigration shows in “[redtrabaj@](#)” the “[Tendencias de las Ocupaciones y Actividades económicas](#)” ([Trends in Occupations and Economic Activities](#)). This is also an important indicator of trends in the evolution of demand. This evolution of “Economic activities with positive trend” in hiring and “Occupations with positive trend” in employment can be monitored monthly

As an example, in November 2010, it could be noted that, regarding professional sectors, construction was the only one that has fallen considerably in comparison to the same month the previous year.

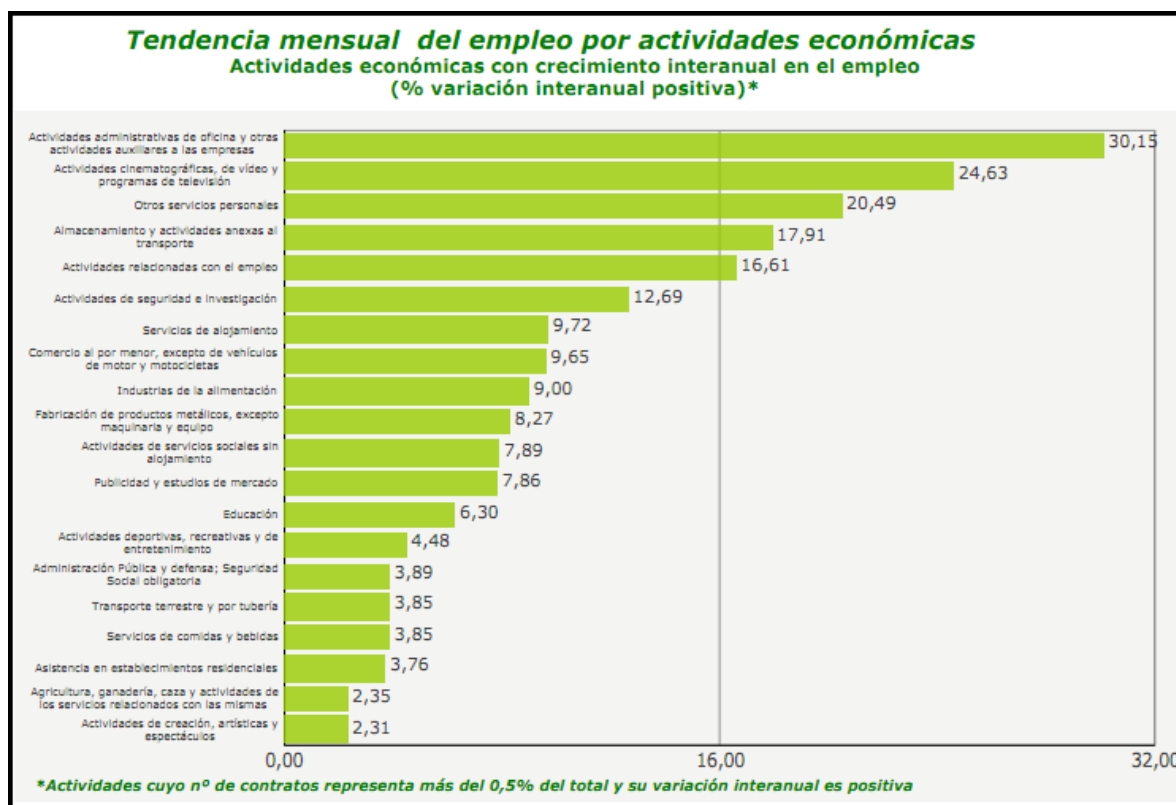
### Monthly and interannual variation of recruitment by sector of economic activity



Source: [Tendencia de las ocupaciones y actividades económicas, Noviembre 2010](#)

Regarding economic activities in particular, there has been an interannual increase in employment in administrative activities, cinema, TV, video, storage and transportation activities.

### Monthly employment growth by economic activity



Source: [“Tendencia de las ocupaciones y actividades económicas”, November 2010](#)

The occupations with better job prospects are detailed in the data of “Occupations with a positive trend” in hiring, which can also be monitored monthly. Some of the occupations with higher growth in hiring were fashion models, art and publicity, electric engineers, miners, divers, etc. These data are not very effective if they are not complemented with the total number of contracts signed. In this sense, we could point out over 9000 actors and cinema directors,

radio, TV, theatre and similar; over 84500 shop assistants in shops, department stores, kiosks and markets; and over 39600 transport workers and stocker.

### Professional groups with better prospects

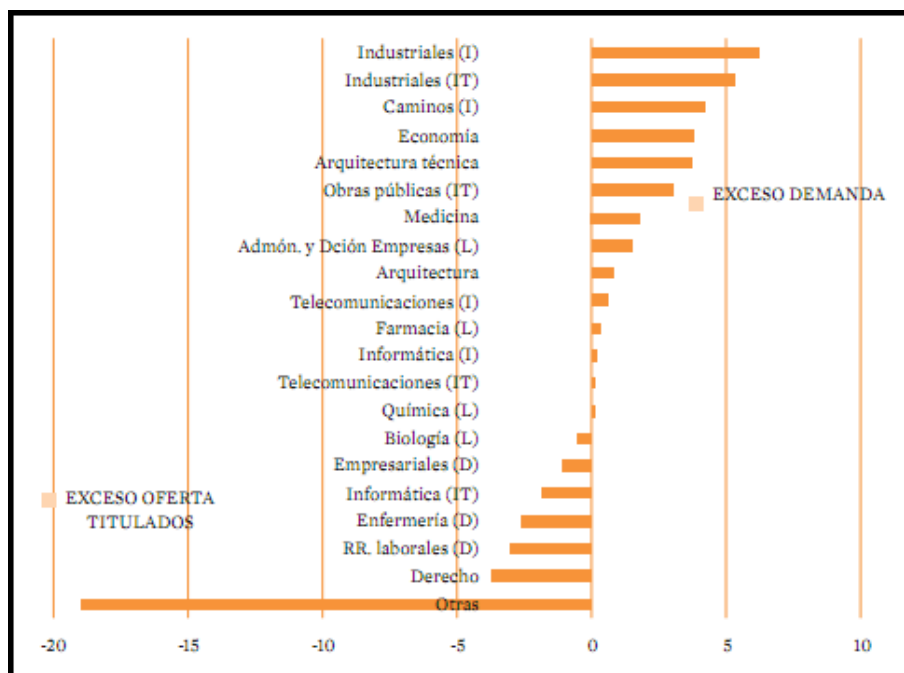
Grupos Profesionales con mejores perspectivas laborales				
SUBGRUPOS PRINCIPALES DE OCUPACIÓN CON CRECIMIENTO MENSUAL E INTERANUAL EN LA CONTRATACIÓN Y				
Ocupaciones (Grupos Primarios) pertenecientes a estos subgrupos, cuyo número de contratos supera el 0,01% del total estatal, y que también presentan variación positiva mensual e interanual				
Subgrupo Principal de Ocupación	Grupo Primario de Ocupaciones	Contratos	% Var. mensual	% Var. interanual
<b>Profesiones asociadas a titulaciones de segundo y tercer ciclo universitario en ciencias físicas, químicas, matemáticas e ingeniería</b>				
	Analistas de sistemas y asimilados	526	6,69	12,15
	Otros profesionales de nivel superior de informática	1.006	6,01	28,48
	Ingenieros en electricidad	207	21,76	33,55
	Otros ingenieros superiores (excepto agropecuarios)	1.497	10,97	32,13
<b>Escritores, artistas y otras profesiones asociadas a titulaciones de segundo y tercer ciclo universitario y afines</b>				
	Actores y directores de cine, radio, televisión. y de teatro y asimilados	9.086	24,07	26,07
<b>Profesiones asociadas a una titulación de primer ciclo universitario en ciencias físicas, químicas, matemáticas e ingeniería</b>				
	Analistas aplicaciones y programadores informáticos de nivel medio	911	19,40	33,58
	Ingenieros técnicos en construcción y obra civil	280	19,15	4,09
	Otros ingenieros técnicos (excepto en especialidades agrícolas y forestales)	960	9,71	28,34
<b>Otras profesiones asociadas a una titulación de primer ciclo universitario</b>				
	Técnicos de empresas y técnicos de actividades turísticas	1.409	11,47	4,60
	Agentes de igualdad de oportunidades para la mujer y otros diplomados en trabajo social	705	14,63	27,26
<b>Técnicos de las ciencias físicas, químicas e ingenierías</b>				
	Delineantes y diseñadores técnicos	1.282	4,23	7,64
	Técnicos en ingeniería civil	1.202	12,02	28,97
	Técnicos en electricidad	2.948	8,78	1,17
	Técnicos en electrónica y telecomunicaciones	1.443	4,04	24,08
	Técnicos en química industrial	394	19,39	19,39
	Otros técnicos en ciencias físicas, químicas e ingenierías	814	9,41	16,95

Source: "Tendencia de las ocupaciones y actividades económicas", November 2010

In general, there seems to be a constant tendency in time that shows highly-qualified jobs are hard to fill in at the industrial sector. **A challenge and an opportunity for eLearning.**

**Degrees required. Qualifications.** According to data from [Infoempleo](#), collected and written as the report "[Informe Sistema Educativo y Capital Humano](#)" ([Report Education system and Human Capital](#)) del CES (2009), it is technical degrees the ones more required by employers, followed by degrees in economics, law and Social Sciences and, in third place, experimental sciences (See next image).

### Imbalance between offer and demand of college graduates. Year 2008.



Source: Report “Informe Sistema Educativo y Capital Humano” del CES (2009)

Due to the limitations of the data collected (Infoempleo only publishes jobs to fill in by private companies) no healthcare degrees show in the chart, but they are in high demand and are mainly filled in the Public Administration. Qualifications related to construction have decreased due to the crisis in the real estate market. This is quite the opposite of what is happening to the Telecommunications sector that proves to be strong now and in the future. The degree with most imbalances between offer and demand is Industrial Engineering in its two levels, technical and higher.

**Overqualification. A problem, or maybe not.** Spanish population still has a basic level of studies but, from the 80s, there is a non-stopping trend, hard to stop, towards higher education. This has implied that people with university degrees have been employed in jobs requiring fewer qualifications.

There has also been a tendency towards the other extreme, where people with a lower level of education have accessed jobs requiring intermediate or high levels of education, due to the lack of professionals with these qualifications.

According to data from the “Encuesta de Población Activa” (Active Population Survey) in 2008, 21.1% of college graduates works in jobs requiring lower qualifications. Among these, a significant 14% works in jobs where no qualifications are required.

It is important for the education sector to see opportunities rather than problems: the possibility to reorient highly-qualified people towards new competencies. This overqualification is transitory in a considerable percentage, as it is not found so much in higher age ranges. Efforts in training will allow people to face the changes that the Spanish production model needs focusing on knowledge, and information based activities. They also represent an important value when it comes to face the process of innovation and learning entrepreneurship.

In any case, this is a subject of much debate. It is not totally clear that this mismatch is a negative aspect in the medium and long-term. It is not easy the relationship between job and qualifications. It is especially difficult in a business environment where the hierarchical and functional structures collapse, where individuality gives place to teamwork, where creativity

and innovation are more important in almost every production structure based on knowledge creation, where the autonomous worker becomes the great strength of the productive force.

**Professional competencies required.** As well as technical and scientific knowledge for a job, competencies are a very important factor in employability. They can be defined as “skills and attitudes that help to carry out a job in a better way” ([Accenture & Universia, 2007](#)).

Taking into account the considerable structural imbalance between job offers and demand, to detect the competencies most sought-after by employers and the ones the educational system promotes less offers important niches of action for training companies. On the other hand, the identification of these competencies is absolutely necessary to improve employability and productivity in recent college graduates and also throughout their professional career.

The EU recommends eight key generic competencies for the permanent learner, which is reproduced in greater detail in other reports such as “*appropriate skills for development in the workplace*”. The [Report “Informe Reflex-Aneca”, “El profesional flexible en la Sociedad del Conocimiento”](#) (The flexible professional in the Knowledge Society), (ANECA, 2007), points out that greatest lack of knowledge lies in the Education field, whereas Healthcare degrees are the most complete. However, it should also be noted the difficulty appreciated in graduates from Healthcare degrees to learn new things, which, as the report states, is crucial in a society with such quick changes in knowledge (for more detailed information on each competency, see Annex B of the mentioned report).

In the following figure, from the report, we can appreciate the gap between what graduates consider necessary competencies to fulfil the job they have and how their studies helped them in reaching those competencies. We should bear in mind that data can be distinguished depending on whether graduates are happy with their current position and the rest. The scale goes from 1, very low, to 7, very high.

It is evident the difference in all competencies, and it could be inferred that the Spanish University is not preparing students adequately to enter the job market.

#### Estimation made by college graduates of required competencies in their jobs and the ones acquired during their studies. Spain, 2007

	Nivel de competencias necesario para desempeño del "Trabajo actual":			Contribución de la carrera al desarrollo de competencia:		
	Total	Muy o bastante satisfecho con trabajo actual	Resto	Total	Muy o bastante satisfecho con trabajo actual	Resto
l. Capacidad para hacerse entender	5,6	5,8	5,2	3,9	4,0	3,8
i. Capacidad para usar el tiempo de forma efectiva	5,6	5,7	5,2	3,9	4,0	3,7
j. Capacidad para trabajar en equipo	5,4	5,7	5,0	4,3	4,4	4,1
f. Capacidad para rendir bajo presión	5,3	5,5	5,1	3,6	3,7	3,4
h. Capacidad para coordinar actividades	5,2	5,5	4,7	3,6	3,7	3,5
o. Capacidad para encontrar nuevas ideas y soluciones	5,2	5,5	4,7	3,7	3,8	3,5
a. Dominio de su área o disciplina	5,2	5,5	4,6	4,0	4,2	3,6
d. Capacidad para adquirir con rapidez nuevos conocimientos	5,2	5,4	4,7	4,4	4,5	4,2
n. Capacidad para utilizar herramientas informáticas	5,1	5,3	4,8	3,2	3,3	3,1
r. Capacidad para redactar informes o documentos	5,1	5,4	4,6	4,1	4,2	4,1
m. Capacidad para hacer valer tu autoridad	4,8	5,1	4,4	2,9	3,0	2,8
k. Capacidad para movilizar las capacidades de otros	4,7	5,0	4,3	3,2	3,3	3,0
p. Predisposición para cuestionar ideas propias o ajenas	4,7	5,0	4,2	3,7	3,8	3,6
c. Pensamiento analítico	4,7	5,0	4,2	4,1	4,2	3,9
q. Capacidad para presentar en público productos, ideas o informes	4,6	5,0	4,1	3,6	3,7	3,5
e. Capacidad para negociar de forma eficaz	4,6	4,8	4,3	2,8	2,9	2,7
g. Capacidad para detectar nuevas oportunidades	4,4	4,6	3,9	3,0	3,1	2,9
b. Conocimientos de otras áreas o disciplinas	4,1	4,4	3,7	3,3	3,4	3,1
s. Capacidad para escribir y hablar en idiomas extranjeros	3,3	3,6	2,9	2,2	2,3	2,1

Source: Report “Informe REFLEX-ANECA”, (ANECA, 2007)

The report published by Accenture and Universia, “[Las competencias profesionales en los](#)

[titulados. Contraste y diálogo Universidad-Empresa \(Professional Competencies in Graduates. Contrast and dialogue University-Enterprise\)”](#) (2007), focused on university degrees, can also help to identify these competencies and their deviation.

Linguistic competencies:

1. Good oral and written expression in own languages.
2. Knowledge of a second language.

Motivational or attitudinal competencies:

3. Ability to work and take decisions autonomously.
4. Initiative and entrepreneurial spirit
5. Attention to quality, to do things properly.
6. Motivation, enthusiasm, willingness to learn.

Teamwork competencies:

7. Ability to organize and plan, time management.
8. Ability to work under pressure.
9. Leadership potential, ability to influence and motivate others.
10. Negotiation skills, ability to convince and to accept other viewpoints.

Relational competencies:

11. Interpersonal skills.
12. Ability to adapt to new situations, flexibility.

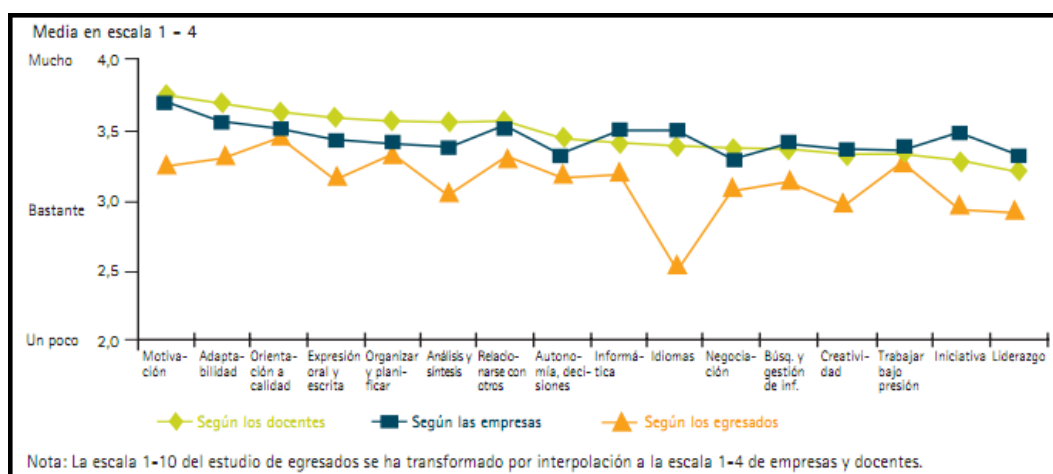
Cognitive competencies:

13. Ability to generate new ideas, creativity, innovation.
14. Analysis and synthesis skills.

Instrumental competencies:

15. Computer literacy.
16. Searching skills and information management.

**Importance given to competencies according to their value in the job market.**



Source: Report “Informe Accenture-Universia”, 2007

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[A similar report from 2008, but dealing with pre-university students](#) (Fundación Telefónica et al., 2008), points out oral and written communication, computer literacy and interpersonal skills as the most important factors to help in getting a job. The competencies less developed in Secondary Education are those related to time management, leadership skills, working under pressure, entrepreneurial spirit and languages. As a result, competencies required to be improved are the development of communication skills, teamwork skills and those related to autonomy, stress resistance and quality orientation.

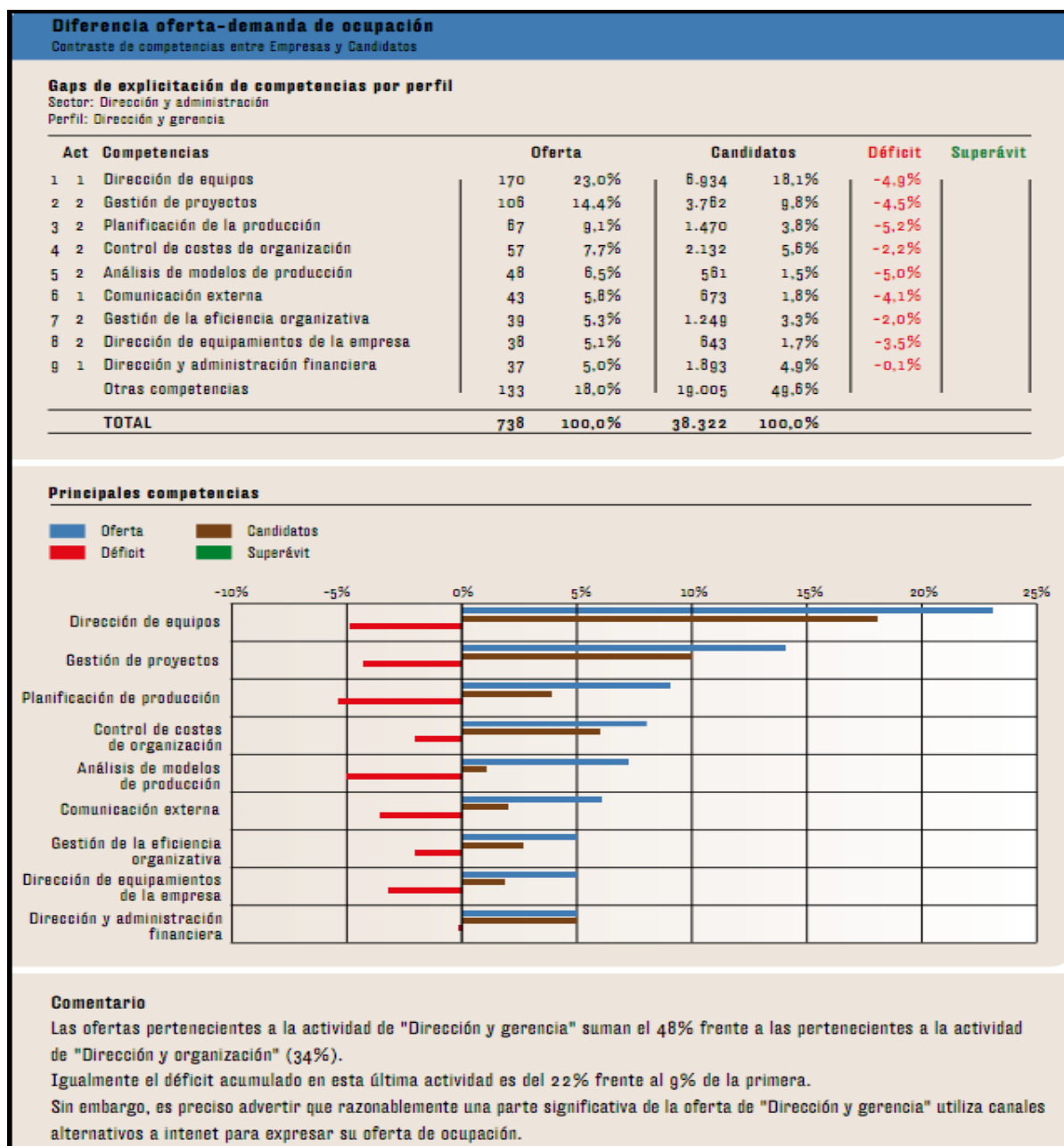
**In Vocational Training.** There is a greater ambiguity about what we should consider qualification and competency when we go from secondary education and university to vocational training in its three modalities: formal, occupational and life-long training. There are really as many definitions of competencies as authors writing them.

[El “Observatorio de las Competencias Profesionales” \(OCP\) The Observatory of Professional Competencies](#) is a very useful tool that tries to provide information about what competencies are required by certain professions in companies. It is an initiative of the Chamber of Commerce of Barcelona and the portals Infojobs.net and Emagister. It shows the deficit in professional competencies in the productive areas it monitors. Its main weakness is the fact that all the information it collects comes from the Web, which in Spain means leaving out an important part of business demands.

Its potential users are the members of the productive network, being them companies, individuals, administrations... It works with 23 sectors, 264 activities and 2714 competencies which groups, in order to present the information, in five professional sectors: [management and administration](#), [computers and telecommunications](#), [marketing and sales](#), [finance and accounting](#), and [quality and R&D&I](#).

Taking into account the continuous changes in the working processes, continuous competential adaptation is a fundamental competitive element. This implies a restructuration of the link between training and job because their constant interaction requires agile and flexible training programs capable of adapting to the competential evolution of each job. This is something common in eLearning. To reach training programs capable of a next-to-instantaneous adaptation to the evolution of competencies required could be the competitive element that will mark the difference in a continuously-changing market.

In the next image can be seen the type of information that the Observatory proposes.



**Source: "Observatorio de las Competencias Profesionales" (OCP)**

As a conclusion of the reports published to date (2009), it could be said that there are imbalances in the five sectors monitored. There is a clear mismatch between what companies are looking for and the profiles of those looking for a job.

**Differences according to sex.** Female unemployment rate (unemployed women within the active part of the population) is, by far, the highest in Europe. It is more than twice the average of the EU-27. In 2010, with data updated in March, it is currently 18.4%, compared to 8.8% as average (IEE, 2010 according to data from the Eurostat). It increased again to 20.5% in August, 2010.



Female unemployment rate in the EU-27 (%). Year 2010.

<b>Países</b>	<b>2008</b>	<b>2009</b>
España	13,0	18,4
Letonia	6,9	13,9
Grecia	11,4	13,2
Eslovaquia	10,9	12,8
Estonia	5,3	10,6
Lituania	5,6	10,4
Portugal	9,0	10,3
Francia	8,4	9,8
Hungría	8,1	9,7
Italia	8,5	9,3
<b>UE-27 - Media</b>	<b>7,5</b>	<b>8,8</b>
Polonia	8,0	8,7
Bélgica	7,6	8,1
Irlanda	4,9	8,0
Suecia	6,5	8,0
Rep. Checa	5,6	7,7
Malta	6,6	7,6
Finlandia	6,7	7,6
Alemania	7,2	6,9
Bulgaria	5,8	6,6
Reino Unido	5,1	6,4
Luxemburgo	5,9	6,1
Rumanía	4,7	5,8
Eslovenia	4,8	5,8
Chipre	4,2	5,5
Dinamarca	3,7	5,4
Austria	4,1	4,6
Países Bajos	3,0	3,5

[Source: Own adaptation of the IEE following Eurostat data.](#)

The unemployment rate among women in Spain is always higher in any sector and education level. They are also a majority in part-time jobs, especially if they have minor children. It is a niche for the development of eLearning, which is a training system that can ideally adapt to an adult group that needs to make all their vital needs compatible, especially with their family and who have an important need to get more education in order to fight unemployment. According to data of 2008 from the “[Encuesta de población activa](#)” (EPA) ([Active Population Survey](#)), carried out by the National Institute of Statistics (2010) the unemployment rate in women goes down in correlation to the number of children to her care.

eLearning is a very appropriate way to provide education to the group of foreign women who, up to 2009, had increased their participation in the labour force.

As an interesting fact, as can be seen in the following figure, the employment rate is higher among men in all education levels except for the PhD level, where women overcome men (INE, 2010).

Employment rate according to studies finished (%). Year 2010.

	2002			2008			2009		
	Ambos sexos	Varones	Mujeres	Ambos sexos	Varones	Mujeres	Ambos sexos	Varones	Mujeres
<b>Total</b>	<b>48,3</b>	<b>61,4</b>	<b>35,8</b>	<b>51,8</b>	<b>60,2</b>	<b>43,6</b>	<b>48,5</b>	<b>55,44</b>	<b>41,84</b>
Analfabetos	6,7	13,3	3,7	7,4	13,8	4,3	6,5	11,6	4,2
Educación primaria	28,7	43,2	16,4	24,7	34,2	16,7	21,8	29,7	15,1
Educación secundaria primera etapa*	57,3	73,0	39,6	56,1	66,0	44,6	51,2	59,5	41,6
Educación secundaria segunda etapa*	56,6	66,7	46,5	62,5	69,5	55,6	58,2	63,1	53,3
Formación e inserción laboral con título de secundaria (2ª etapa)	64,2	70,8	55,9	73,4	81,7	64,4	56,6	60,7	48,9
Educación superior (excepto doctorado)	73,1	77,8	68,4	76,0	78,5	73,5	73,5	75,4	71,6
Doctorado	79,4	78,2	81,7	87,2	86,8	88,0	85,2	83,3	88,3

Nota: datos referidos al 4º trimestre  
 \*Incluye formación e inserción laboral correspondiente  
 Fuente: Encuesta de Población Activa. INE

[Source: INE \(2010\).](#)

At the same time, the larger differences can be seen in the lowest levels of education, a gap that could be easier to bridge with life-long training with online systems than in formal higher education, which is longer and more complex.

## 1.2 Vocational training. The Internet. Recognition of professional competencies.

*“But it can also influence the still scarce participation of adult population in post-compulsory education, the insufficient motivation of the existing offer, as these levels have been conceived more from the logic of school population than from the logic of adult population, both for the rigidity of times and the curricula. Therefore, initiatives such as the introduction of a flexible modular offer, the promotion of distance education or a great use of the ICTs, would probably imply an increase in the participation of adult population in post-compulsory education”* ([Report “Sistema Educativo y Capital Humano de 2009, del Consejo Económico y Social de España”](#))

There is no need to explain any further the statement that flexibility and distance education by the ICTs will increase participation and self-learning. The training offer has to adapt to the needs of the people and make learning compatible with other obligations. Permanent learning is the essence of modern vocational training in rapidly-changing economic and productive ecosystems of high competition.

Regulations foresee that centres of formal vocational training will be autonomous. This will be reflected in the elaboration of education, research and innovation plans to promote continuous improvement in their education.

[Centres of National Reference](#). These will be centres, regulated by the *Real Decreto* 229/2008, 15<sup>th</sup> of February, to improve the permanent training of teachers and to modernize the equipment of the centres. Moreover, to create a real policy of support for research and didactic innovation in the vocational training studies.

Specifically, one of its functions is: “To experiment with innovative training actions linked to the National Catalogue of Professional Qualifications to validate their adequacy and, if applicable, to elaborate contents, methodologies and didactic materials to suggest its update”; “To establish collaboration links, including virtual networks, with autonomic qualifications institutes and agencies, universities, technological and research centres, Integrated Centres of

Vocational Training, companies and other entities. The aim of this links will be to promote research, innovation and development of vocational training, as well as observe and analyse the evolution of the scientific and technological bases related with the education processes or with the sector of reference” and “to contribute to the design and development of plans of technical and methodological proficiency addressed at teachers, experts and professional counsellors, as well as evaluators who intervene in processes of recognition of professional competencies.”

**Formal Vocational Training through the Internet.** Since 2010, there has been the option to pursue vocational training studies through the Internet. The Ministry of Education and the Autonomous Communities, at the *Conferencia Sectorial de Formación Profesional* (2009), have reached an agreement to establish this online system to make the time the student needs to devote to the course with a job. This helps workers to improve their working options by studying new degrees. It also aims at decreasing the dropout rate by combining education and work.

According to the prospects of the Ministry of Education, the addressees of this program are mainly “the adult population”.

There is a [large training catalogue](#) available in the website “[Vocational Training through the Internet](#)”.

There two types of modules: medium and higher. The degrees that can be achieved are “Technician” and “Higher Technician”.

The entry requirements, duration and tests are similar in both modalities of vocational training, but it has to be noted that evaluation and the curriculum can vary depending on the Autonomous Community where students register (which they can do online as well). The module “Training in the Workplace” is not online, unless the student can prove that they have enough working experience to validate.

From a methodological point of view, this system is supported in a personalized Moodle platform to offer the contents. The student is monitored by a teacher. Modules are organized in units that include:

- Orientation for the student about the learning objectives.
- Conceptual map of the lesson.
- Multimedia and interactive didactic materials.
- Self-evaluation questionnaires.
- Glossary of terms.
- Activities to do and get feedback from the teacher.
- Links of interest for more information.
- Forum.
- Online exam with limited attempts and feedback from the teacher.
- Permanent information about qualifications.
- Both the final exam and some activities are face-to-face.

**Future of training for employment.** The future of training for employment lies in the integration of older systems of occupational professional training for unemployed people and life-long training addressed at working people. Its regulation was established in the [Real Decreto 395/2007, 23rd of March](#), which regulates the “subsystem of professional training for employment”.

The educational offer will have to be more flexible and adapted to technological changes, trying to reduce the current problem of rigidity: “The main challenge of new training for employment lies in combination a system of tools of quick training, updated and flexible with the quality of education and, above all, with the accreditation of this training and its recognition by companies.” (Report “[Informe Sistema Educativo y Capital Humano de 2009, del Consejo Económico y Social de España, \(CES, 2009\)](#)).

**Real Decreto of recognition of professional competencies acquired through working experience or non formal educational ways.** The objectives of this [Real Decreto 1224/2009, of the 17th of July, on recognition of professional competencies acquired through working experience](#): “*In the current situation of globalization of markets, the rapid change of technological mediums and production processes, as well as the continuous progress in the information society, focus the coordinated strategies for employment of the EU on achieving a qualified active population. A step to promote education and achieve the objectives of the Lisbon Summit in 2000 is to favour the recognition of professional competencies acquired through working experience or through non-formal educational ways. The final aim is to improve employability of citizens, their mobility, promote life-long learning and to favour social cohesion, especially in those groups that lack a formal qualification*”.

“Professional competency” is understood as “the knowledge and skills necessary to carry out a professional activity according to the demands of production and the job”. As for “non-formal educational ways”, they are “the training processes that do not grant any official certification” (*Real Decreto 1224/2009, 17<sup>th</sup> of July*).

The evaluation process tests whether a person's competency meets the criteria specified in the competency units of the [National Catalogue of Professional Qualifications](#).

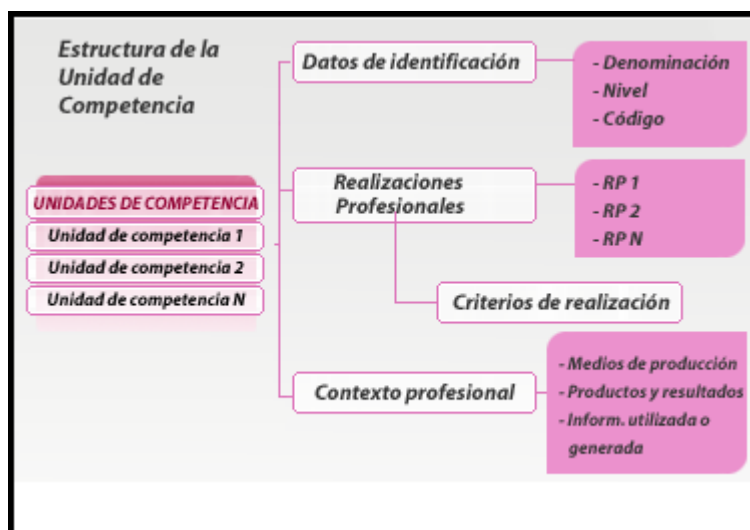
**The competency unit.** This is the minimum sum of professional competencies that can be recognized and partially accredited. Accreditation and accumulation of competency units lead to a Certification of Vocational Training or a Professional Certification. Each unit is associated with a training module that details the training to acquire that unit.

*“Each competency unit has a normalized format that includes the identification data – name, level, alphanumeric code- and the specifications of this competency.*

*The competency unit is divided into professional realizations. They describe the expected behaviours in a person, evaluated by their consequences or results, so that he/she can be considered competent in that unit.*

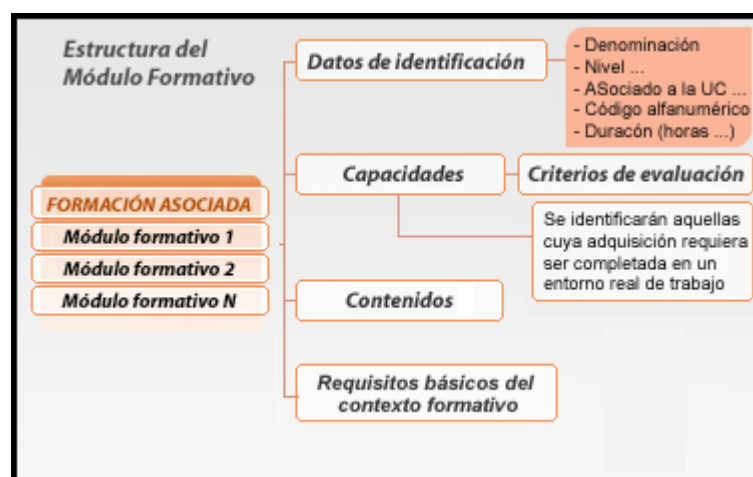
*The realization criteria express the acceptable level of professional realization required to meet the objectives of the production organizations and, therefore, they are guidelines for the evaluation of professional competencies.*

*The professional context defines, as a guideline, the production means, products and results of work, information used or generated and how many similar elements are necessary to frame the professional realization.”* ([INCUAL, Ministerio de Educación](#) (Ministry of Education)).



Source: [INCUAL, Ministerio de Educación \(Ministry of Education\)](#).

The **training module** that defines the required training to achieve the competency unit has a similar structure.



Source: [INCUAL, Ministerio de Educación \(Ministry of Education\)](#).

Professional experience or training will be justified by providing documentary evidence. Any other medium of proof admitted by Law will also be accepted. (art. 11.2 del R-D 1224/2009, 17<sup>th</sup> of July).

**Specific requirements about professional experience or training.** “c) *To have working experience and/or related training with the professional competencies for which accreditation is sought:*

- 1) *In the case of working experience. Justification of at least 3 years, with a minimum of 2000 hours worked in total within the last 10 years previous to the test. For competency units of level I, 2 years of working experience will be required, with a minimum of 1200 hours worked in total.*
- 2) *In the case of training. Justification of at least 300 hours, within the last 10 years previous to the test. For competency units of level I, at least 200 hours will be required. In cases where training modules associated to the competency unit for which accreditation is sought require less hours, those are the hours that will have to be justified” (Art. 11.1 c y d del R-D 1224/2009, 17<sup>th</sup> of July).*

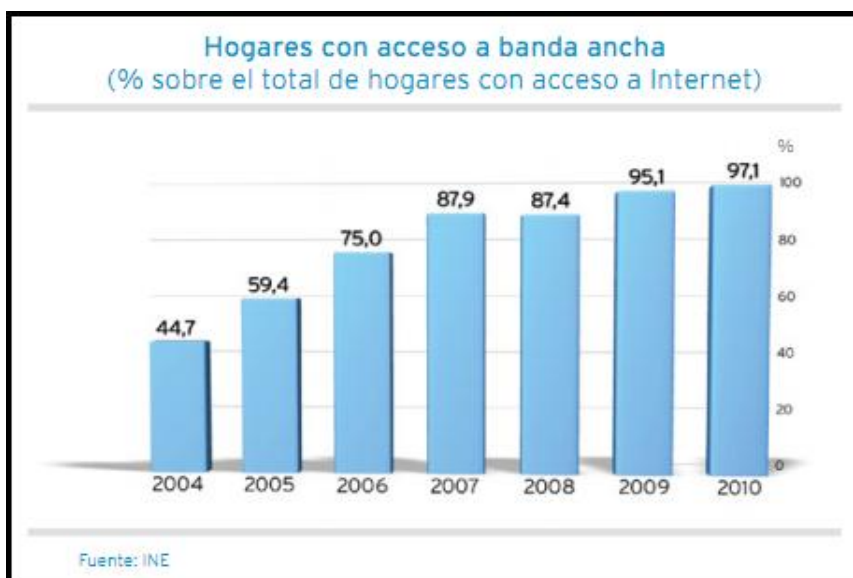
## 2. The Information Society in Spain. Brief overview

To understand and comprehend the situation of eLearning and follow guidelines to plan strategically any development in this field we have to consider parameters of action that indirectly mark the state and evolution of the Information Society (Landeta, 2007).

**The National Observatory of Telecommunications and The Information Society in Spain (ONTSI)** is an institution with the study of the Information Society in Spain as its main objective. It retrieves information from the most reliable sources, such as National Institute of Statistics, Ministry of Education, Eurostat, etc.

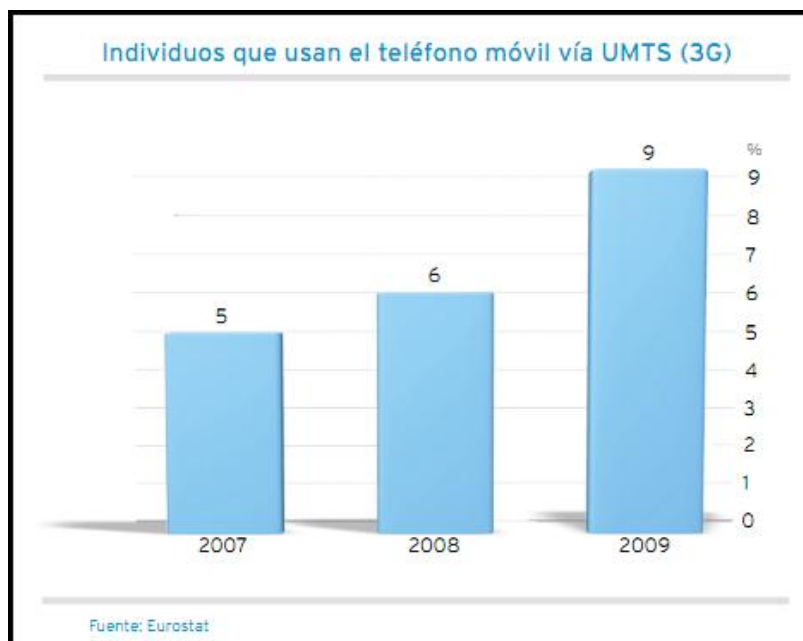
[El Dossier de Indicadores de Seguimiento de la Sociedad de la Información \(December, 2010\)](#). The data on the “Information Society” show an evolution and implementation of the ICTs which is adequate for the Internet-related services and important possibilities of future growth, in this case, of eLearning.

They also show us general Internet access in optimum conditions. For example, 59% of **homes** had Internet access in 2010, according to the National Institute of Statistics. Out of these, 97.1% had high-speed Internet.



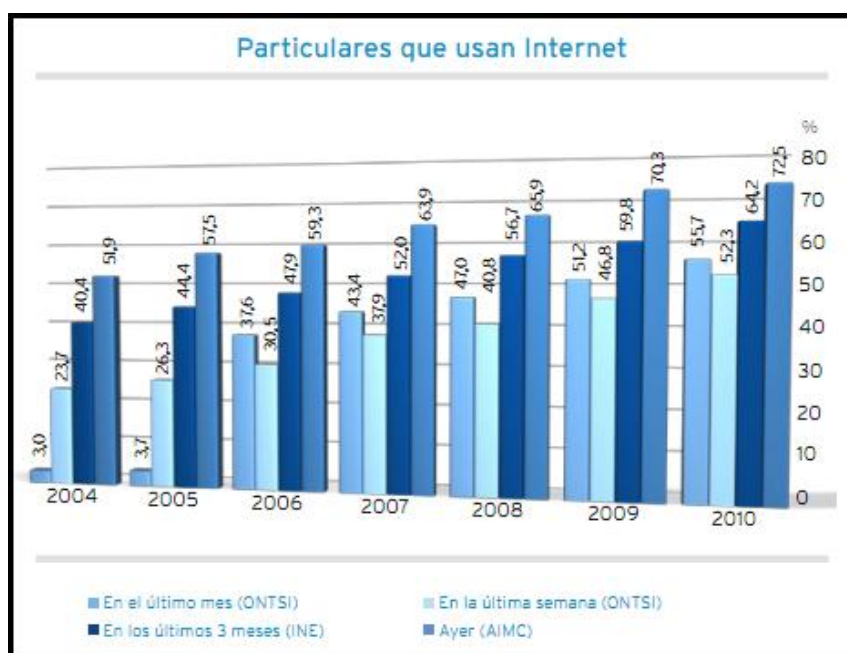
Source: [ONTSI](#)

However, users of **mobile devices** with 3G Internet access only make up 9% of the population. This is an important fact, as there is now a growing buzz regarding training through mobile devices and this seems to be one of the possible lines of educational research in the near future.



Source: ONTSI

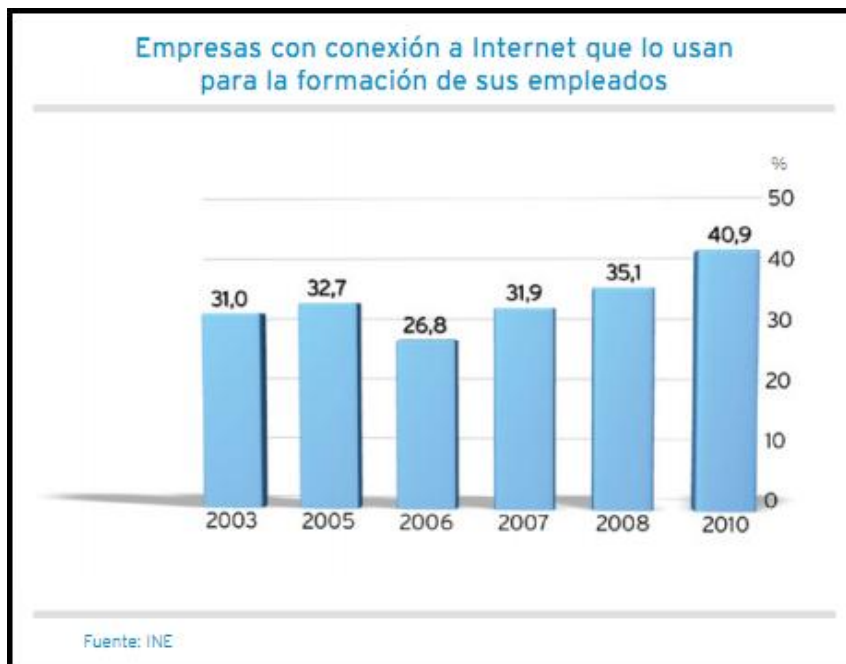
There were about 26.9 million Internet users in 2010. **Home-users** use the Internet frequently. According to the [Asociación para la investigación de medios de comunicación \(AIMC\)](#), out of all those who accessed the Internet last month (May, 2010), 72.5% had done it the previous day.



Fuente: ONTSI

Internet access in **companies**, according to the National Institute of Statistics, shows two very different situations. In 2010, 97.2% of companies with more than 10 employees had Internet access, but regarding microcompanies with less than 10 employees, which are a very important part of the Spanish business sector, only 58.1% had Internet access. In both situations, however, Internet was high-speed, with 98.2% and 93.7% respectively.

Regarding **online training**, 40.9% of companies used their Internet access for this in 2010. The image below shows an important growth in the last three years.



Source: [ONTSI](#)

Only 18.8% of companies provides training in ICT to their employees. This means that 28.6% of the total of their personnel received training in ICT.

It is estimated that, as September, 2010, 22.3% of population has high-speed fixed access to the Internet (Comisión del Mercado de Telecomunicaciones). A total of 10,610,609 people are active users of **mobile high-speed Internet**.

High-speed access is generally available. In 2008, it covered 99% of the total population.



Source: [ONTSI](#)

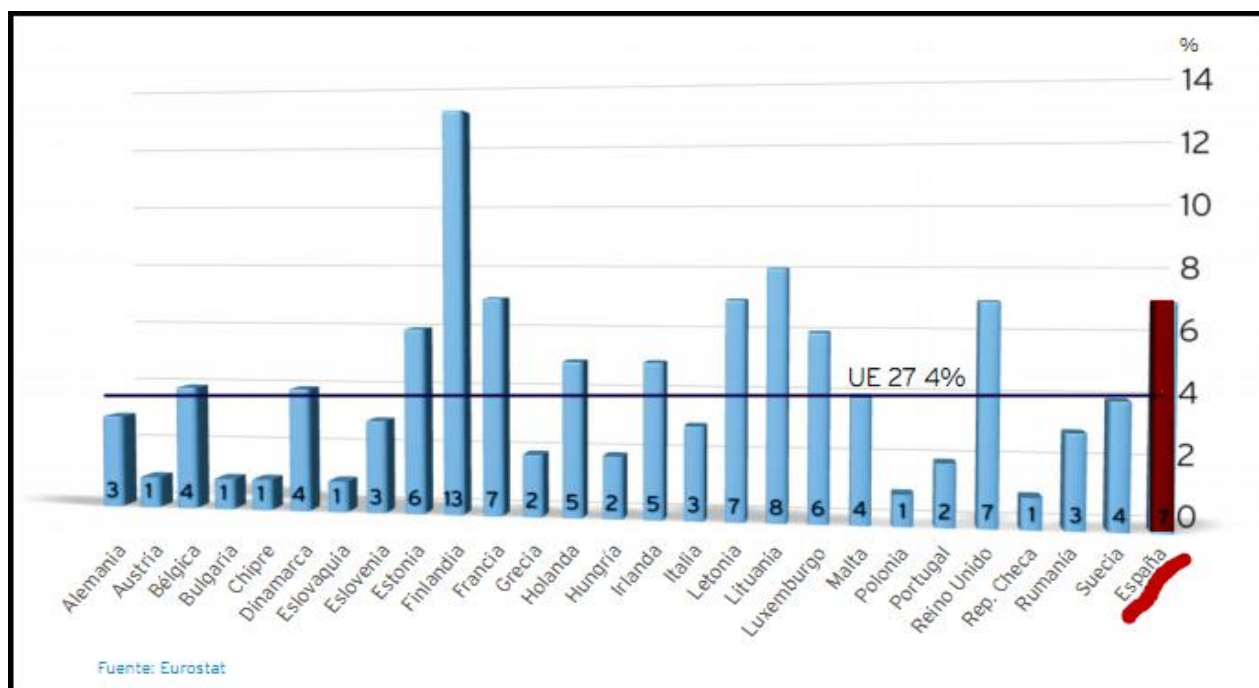


However, these data reflect a deficit compared to the average of the EU-27, and pretty important if compared to countries in the best places. The percentage of homes with Internet access is 9 points below the average and 36 below the highest-ranking country, which is Holland. Regarding high-speed Internet access in homes, the gap is 5 points below the average and 16 below the highest-ranking country, which is Holland again.

Regarding the use of **3G technology** to access the Internet, we rank among the top countries and are 5 points above the EU-27 average.

Regarding the use of the Internet by home-users, we are below the EU-27 average in every aspect. However, we are above the average in people who use the Internet to do online courses. In Spain, 12.7% of those who used the Internet in 2007 had done some online course on some subjects.

#### Persons that uses Internet to make training online courses (% of global population)



Source: ONTSI

**Technologies in schools.** Regarding schools, Internet access is quite generally available.

According to the Ministry of Education, in 2009, 99.7% of schools had Internet access. Among those schools, 86.8% had high-speed Internet access. Most schools have DSL Internet access (88.2%). Bandwidth above 512Kb was available in 87% of schools.

There is a report that shows a much more detailed overview of the use of the ICT in primary and secondary schools: “[Informe sobre la implantación y el uso de las TIC en los centros docentes de educación primaria y secundaria \(CURSO 2005-2006\)](#)”

**Sources of information.** [ONTSI.DATA](#). It is a tool that allows to generate personalized searches on the ONTSI indicators database.

### 3. Good Practice in eLearning

[The Asociación Nacional de Centros de eLearning y Distancia \(ANCED\)](#) edited in 2007 a book, "[Buenas prácticas en eLearning](#)", coordinated by Ana Landeta (2007), the aim of which is to show different experiences and future trends. It presents 35 experiences and, although it includes cases from different countries, most are from Spain. There are cases from universities, businesses and some from the Public Administration.

Data are arranged in this book in five sections: description, technical information, evaluation of results (process, products, impacts), development phases and additional information. Let us see the most interesting points.

**Years using eLearning.** In all cases, we are shown very brief periods of eLearning usage. The longest periods are 12 or 13 years in some university case. All business cases presented in the book date from the first decade of 2000. However, despite the short time, it is important to keep in mind the great changes that have taken place in eLearning in these 10 years. The Web 2.0 or Read-Write Web with its participation, augmented reality, virtual worlds, etc. are changing the very methodological pillars of eLearning developed in the first decade of the 21<sup>st</sup> century in Spain.

**Most Widely Used Learning Management System (LMS).** Following the book order, the first conclusion is that, in most cases, there is a Learning Management System as a platform to support the learning process. In some cases, there are more than one environment, for example, a specific campus for learning English, etc. In other cases, LCMS or CMS are mentioned without a clear distinction between both: "*LMS Technology (Learning Management System). Advantage: contents are not created by the platform (as in the LCMS) but a team specialized in didactic engineering, reaching a great visual and pedagogical impact*".

It is worthy of note the fact that Moodle is the environment most widely used environment, in different versions. There is some evidence that, whenever a platform is being used, there is some delay in updating to a new version. Moodle has been the preferred system in the eLearning field in Spain in the last few years. Most universities have adopted it because it is free software that it is also free as in free beer and its great potential pedagogically speaking, which has been widely proved on numerous occasions. The few examples that differ from this choice are basically from the business sector, with platforms such as E-ducativa, Sakai or created by the company.

In no case it is mentioned the possibility of using software and alternative systems as personal learning environments for the student ([PLN](#)), although it is true that in 2007/2008 these questions were very new outside research circles.

Moving to the technical section, the question of standards is relevant, particularly [SCORM](#), and, though it is not identified in the book, the most common version is 1.2, taking into account that version 2004 is not compatible with most Moodle versions installed. The use of SCORM is more closely linked to business cases than to university ones. This is coherent with the traditional [academic freedom](#) of universities and a certain degree of computer illiteracy among teachers. In the context of Primary and Secondary schools, 66.3% of teachers are self-taught, which means that more technically advanced training is beyond their reach and that they have a basic command of ICTs, but 80.1% lack the necessary skills to modify a website or a blog and over 70% lack the skills to publish contents online ([Informe del IN3 y Fundación telefónica "La integración de internet en la educación escolar española: situación actual y perspectivas de futuro"](#) (Sigalés et al., 2008)).

We also have to take into account that reusability is a concept much more valued within the business sector, where costs of content creation are key for be a competitive company.

**Causes for using eLearning.** The main reason presented was to find a way to overcome problems of space and time regarding the student's needs. Also mentioned is the aim of reaching markets hard to access, remote or disperse. The possibility of finding a way to reach life-long training is also presented. Another reason, not so popular, was related to pedagogical circumstances: interaction, personalized attention, possibility of using multimedia resources and, in general, the improvement of training processes.

In some cases, the reason given was that eLearning was a good replacement for face-to-face learning when this was not possible. However, some recent studies seem to confirm that online methods are more effective than face-to-face ones ([Metaanálisis y Revisión de estudios sobre aprendizaje en línea del Departamento de Educación de EE.UU \(Means et al., 2010\). citado en Díaz \(2010\).](#)

Elearning is also seen as a tool to carry out training within the company, to keep the company competitive in the training sector or to integrate technologies in the training processes reducing the digital gap.

Interestingly enough, cost reduction was only mentioned in two cases as the defining factor to choose eLearning.

**What are the strong points of the eLearning projects presented? This question reflects how they see themselves and it can be inferred what aspects they base their strategy on.** The most outstanding of the strong points has to do with the close pedagogical interaction between teachers and students that the system allows. Ease of access to contents and resources, its versatility and ease of personalization. Own elaboration of resources and rational reuse of contents. Use of multimedia resources. Teacher's professionalism is considered important, as well as tutorial models and ease of use of the platforms. To facilitate access to training provided from other physical locations and in life-long training.

**What do they think eLearning is a good teaching system?** Very closely related with the two previous questions, they say it is a good teaching system because it allows to increase training within the company and life-long training in their employees. It is adapted to the needs and possibilities of students. It makes it easy to provide contents as learning resources in quantity and quality. It makes the student use cognitive and instrumental skills, as well as planning, self-evaluation, learning to learn, teamwork, information search, etc.

Elearning helps and demands designing the training process focussing on the student and promotes reflection and debate in the asynchronous communication processes.

In one case, it is pointed out that “*it allows us to devote face-to-face sessions to the practical modules to leave out [...] for consultation [...] the theoretical lessons*”. This statement is questionable, as eLearning training promotes learning by doing, collaboration and teamwork and a clearly pro-active activity on the part of the student.

As a blended system, it enriches the face-to-face system by taking the best out of each one.

It is adapted to the training needs of current society and takes advantage of the ICT.

It allows companies to reduce costs.

**How does eLearning complement classic distance learning systems?** Taking into account that this book of good practices has been edited by ANCED it comes as no surprise that a good part of it is devoted to their interest to find out how the new technologies have transformed the traditional distance teaching model.

**Interaction** increased in time and number is the element of change most widely noted.

Tutoring, online and face-to-face. It helps the “new tutor” do his job and focuses on the student's learning and his needs. Using appropriate resources becomes a necessary tool to encourage participation. It is common to devote forums just for socialization.

Collaborative work is established as a logical extension of interaction and the forum becomes the place of interaction per excellence, without being the only one. Videoconference as an interaction tool is only mentioned on two occasions and there does not seem to be a strong interest in it as a tool.

Interaction has to be understood, not only regarding the subjects of the training activity interacting among them, but also, in a wider conception, interaction with the course materials, from the teacher's and the student's points of view. An important aspect that is a radical change with the past is the possibility of clarifying, modifying, updating and/or changing didactic contents in real time. This is a question very closely linked to digital literacy. As it was pointed out above, design, modification and publication of contents on the Web was scarce among teachers. However, we should also take into account that current tools, blogs, wikis, networks, etc. make that task a lot more simple and intuitive than it was three years ago.

The idea is to have facilitators and teachers with specific eLearning training capable of contributing to changing traditional distance learning training.

Regarding teaching models, we find a range going from behaviourist positions to descriptions of what would clearly fit into social constructivism. From blended learning to totally online learning. Models based on 70% synchronous classes to totally asynchronous models. Models based on dialog to models based on practical activities. From models where the tutor is transmitting knowledge to models where the tutor is just a guide. The general model is, precisely, variability.

In a number of cases, there are support services for the online student: information, guides, FAQ, technical advice, personal tutorials, links to the institution website, administration online, teaching evaluation, access to databases and virtual libraries.

**Tutoring as the key element.** In all cases presented, tutoring was considered of paramount importance. It is expected that the tutor, on top of being an expert in the subject matter, will have appropriate competencies to interact with the students. This is a role very close to the one presented by [Seoane y García \(2006\)](#) as the real assurance of quality.

The tutor has to be able to track students individually and to apply a continuous evaluation.

There are different options for the role of the tutor. In some cases, the role is to only encourage students to interact with contents and to motivate the student to fulfil his objectives: “introduces a role between students and teachers, interacting with both, to carry out a global monitoring of the course, promoting the use of all resources on the part of both, the student and the teacher”. But the most common role is the one of the expert in the contents with skills in training online.

There is also a role of the tutor as a tutor of the very tutor, whose role is to help him with technical and pedagogical support.

The ways to interact with the student are diverse: mail, chat, telephone, etc. The acceptable time to reply is 24 hours in some cases and 48h in others. The forum increases its use as a tutoring channel.

In some case, there is a guide for tutoring. In university environments, tutoring processes depend fully on the will of the teacher, due to the previously mentioned academic freedom.

Despite the role of the tutor adapted to the new technologies, which can be seen in most of the cases, there is still the presence of that traditional distance learning tutor who still replies by postal mail, email or telephone and acts, mainly, as a reaction to the student's demands: “All

*students have a tutor assigned to them to help them with whatever questions they might have with their subject matter. Normally, the student takes the initiative, by postal mail, telephone, email to the tutor or the Centre or using the forums, which are visited by tutors to reply to general questions. Periodically, the Head of Studies checks the evolution of the student and provokes a contact to encourage them. This contact is made by email to all students who have an email address and by postal mail otherwise”.*

**Technical information.** Another conclusion from this book is that in most cases, the aim, in technical terms, is to reduce the tools needed by the student to a platform and a browser. In some cases, the need to have the plugin for Flash is mentioned. Though obvious, in some cases, the need to be computer literate is mentioned.

In some cases, there is a hint at the need of the teacher (and students in some cases) of being able to use some application to create multimedia materials.

There is a trend towards open source software, LAMP system and Moodle or “*if not possible, to use open source tools*”.

**Evaluation and quality.** There is an evaluation of the teaching processes based on eLearning and, to a lesser extent, quality controls are in place. In some cases, there is no clear difference between external evaluation and quality control. Sometimes they appear as different and other times, as identical: “*As a public centre that depends on the General Direction of Vocational Training and Adult Education of the Government of Canarias, our Centre is subjected to the appropriate evaluation and quality controls*”. “*An instrument of external evaluation is used to measure the objectives reached, the resources, the tutorials, the contents quality, the execution of times, interactions and didactic methodologies*”. External evaluation is less frequent.

The satisfaction questionnaire, for teachers and students, is the main means of evaluations: “The data obtained have been based on satisfaction questionnaires”.

Questionnaires focus on: “study plans, teaching materials, teachers, tutoring, the platform and satisfaction with expectations” and the methodology.

Those companies that take part in training programs funded by the Tripartita Foundation are subjected to control by the appropriate public institutions.

In some cases referring to universities, we notice again the independence of teachers to establish their own evaluation methods. There is also “resistance to significant use of eLearning” linked to the change in the role of the university teacher. The [ANECA](#) is considered as an external control of university teaching quality and of university study plans.

**User perception.** We can notice positive and favourable answers towards the eLearning activities presented and based on eLearning. However, in some cases, it is mentioned that: “the personal cost has been high” or “there was an excessive pressure on teachers”, “the main problem [...] is the adaptation of tutors and staff who have not worked in this type of training, their re-training and their availability to be able to use it”. It should be noted that the ANCED informs that approximately 20% of its associates have not started teaching online yet.

Despite a general favourable perception, important obstacles are also mentioned, such as the drop-out rate and the reaction to the ICT due to lack of computer literacy training.

## 4. The eLearning State of the Art in Spain.

### 4.1. Qualitative Evolution and Future Perspectives

¿How can we define “eLearning”? There are multiple interpretations of this term. The Standard UNE 66181:2008, defines it as “Training based on the use of the Information and Communication Technologies (ICT) and which is generally not face-to-face”, distinguishing three types: self-instruction (without tutor), distance learning (with tutor) and blended learning (with face-to-face sessions) (AENOR, 2008).

**Brief overview of antecedents in Spain.** With a loose interpretation, eLearning would have been present in Spain for a long time, linked to the University during the 60s. However, if we accept that one of the characteristics of eLearning is lack of presence during the learning process, the lifespan of this movement is much shorter, starting in the second half of the 90s, with the appearance of the Internet and multimedia. Before that, technology limited the possibilities of use (Vega, 2007). Finally, to find a wide range of courses offered in this modality, we have to wait until the first years of this century.

**Computer-Assisted Learning (CAL).** In the 60s, few countries had implemented CAL systems. Vaquero (2010) mentions Belgium, France, Russia, UK and Spain. He also points out that the involvement of industry and public institutions was not significant.

The *Universidad Complutense* of Madrid (UCM) and the *Consejo Superior de Investigaciones Científicas* (CSIC) were the pioneers, as they implemented the first system in a university environment in 1964, which was active until 1977. It was a system applied to teaching computing and programming and also to automatic computation. It was very basic by today's standards, but they became a very important technological referent at the time (Vaquero, 2010).

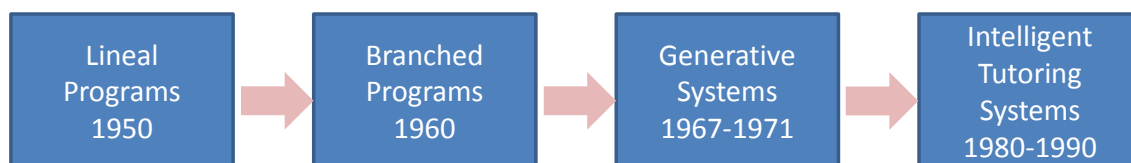
In the 80s, as microprocessors spread, the focus of development shifted to educational materials.

**Educational perspectives. From behaviorism to constructivism, a steep road.** Initially, CAL systems were based on behaviorist theories proposed by Skinner (1950). All students received the same contents and learning sequences. There was no personalization whatsoever. The most significant aspects to point out were the importance given to feedback, somehow limited, and the possibility the student had to determine his own pace of work. They represent a metaphor of the e-book (Nievergelt, 1975 quoted in García, 2002).

The creation of “Branched programs” meant a significant progress, as they were capable of suggesting feedback depending on the answer of the student, making him go back to re-read a text or to re-do an exercise. However, they really offer the same answers to the same student's action, not being a personalized teaching system.

“Generative systems” try to adapt the teaching process to the student. The program generates a problem, its grade of complexity, the solution and checks the student's answer. This point is its main weakness: it only provides a single correct solution, while reality is multiple.

Trying to fix the problems mentioned above, a new solution arrives in the 80s: “intelligent tutoring systems”. Their aim is to take into account the student's skills, his knowledge and his inputs. It is a flexible and adaptable system and represents the highest step regarding CAL systems.



Finally, in the 90s, as Internet and multimedia resources spread, the great challenge for these “intelligent tutoring systems” is the pedagogical approach (Urretavizcaya, 2001), based on instructional and/or constructive theories. Hypermedia is the natural environment.

**Educational software.** In the 80s, the so-called Computer-Assisted Learning, and with it, software to create educational materials become more popular. Vaquero (2010) points out that “Computer System in Spanish for the Development of Teaching Lessons” is the first authoring system in Spanish. In the Anglo-saxon world there were pioneer languages such as “Coursewriter” and “Autotutor”, but their main problem was the steep learning curve of teachers who had to create educational materials.

In those years, companies based in Spain, such as Sony, Instituto Cibernos, Alcatel, etc. worked in topics related to CAL.

Micro-worlds became famous thanks to the well-known language Logo, by Papert (1980), based on learning by discovery and with the aim of making “computers flexible instruments so that many children can create thing by themselves” (Papert, 1980). As García (2002) points out “they are computational environments that offer a set of commands and tools for creating entities on which children can research the world created on its base”. It is the power of simulations. It promotes the development of real situations and learning by practice.

In the 90s, work stated to be done with interactive and multimedia CDs. An example would be the ATENEA Program (Ministry of Education and Science). Companies involved would be Anaya Multimedia, FYCSA, Espasa, Zeta, etc.

**Authoring tools to build intelligent tutoring systems by non-experts.** Authoring systems must provide programs and tools to allow teachers to create lessons without the need to know the computing program. To achieve this, “the aim is to build authoring tools to help non-experts, particularly the very instructors of given subject, build tutors” (Ferrero et al., 2001).

IRIS-D is a system that the teacher can adapt to a specific field of knowledge to create a tutor. In this address: <http://cabrillo.lsi.uned.es:8080/aepia/Uploads/12/126.pdf> a complete description of an example of an adaptation of IRIS-D to create a tutor (Ferrero et al., 2001)

**Web, multimedia and hypermedia. Learning by cooperation.** At the end of the 90s, the situation changed irreversibly. The Internet and the multimedia world will cause a real sociocultural revolution and it will affect learning and teaching processes in a very clear way.

“Classic” multimedia materials distributed in CDs give a qualitative jump adding the power of hypertext through the Web. The idea represented in the classic educational multimedia resource of the 90s, with hypertext navigation, the integration of media and interaction, is taken now to the Web, where the communicative element grows exponentially and there are no limits to the integration of materials. The whole Web is a click away.

These new possibilities of communication, interaction and feedback represent a very significant progress in the relationships between the elements of the learning process compared to the possibilities of face-to-face training and previous distance learning systems.

From a quantitative point of view, possibilities to interact multiply exponentially between all actors, increasing the opportunities in time, space and through different devices. From a qualitative points of view, communicative options allow for different ways of expression and through different technological devices, both synchronously or asynchronously.

In a first phase, the Web is a basically a powerful communication medium for interaction between student and teacher and to provide easy access to educational materials. The tools of the moment are LMS, email, forums and interactive activities. This will be the beginning of a model of 2005 that is still widely used, being the main use of eLearning nowadays and it does not look as it is going to change any time soon. Prove of this is the fact that in 2010, the newly created online Vocational Training is based on a [similar approach](#).



[Source: Informe Elogos \(2008\).](#)

There are voices, especially from the university environment, that are very critical with the true pedagogy of eLearning in Spain “They like to point out to the outside that their teachers do eLearning, but when teachers actually do it, they remind them that they are teachers in a face-to-face university. They like to show how much they have invested in economic and human resources to point out that their university is in the eLearning fashion, but they do not explore the possibilities that technology allows. They are happy with their teachers just uploading the subject summary and some presentation that they use.” ([Cabero, 2006](#))

At the same time, **in the second half of the decade (2006-2010)**, Spanish eLearning, still immature, tries to develop new methodologies, almost always experimental and linked to what has been called the Web 2.0 and, as a derivation, eLearning 2.0. They look for new methods and tools to make some progress in learner-focussed teaching.

The number of tools and possibilities that are being tried keeps growing: chat, videoconference, multiconference, streaming TV, wikis, blogs, different collaborative spaces, podcasts, vidcasts, eportfolios, social networks, microblogs, webquests...



A list of research lines or trends related to eLearning possibilities will show the wide space that tries to be covered with eLearning: “Lifelong learning”; “eLearning” y “eHealth”; “blended learning”; virtual worlds; “mobile learning”; “ubiquitous learning”; “television learning”; social learning; collaborative learning; informal learning; learning communities; social networks and eLearning”; personal learning environments; personal learning networks, simulations, augmented reality and “eLearning”, “eportfolio”, “serious games”.

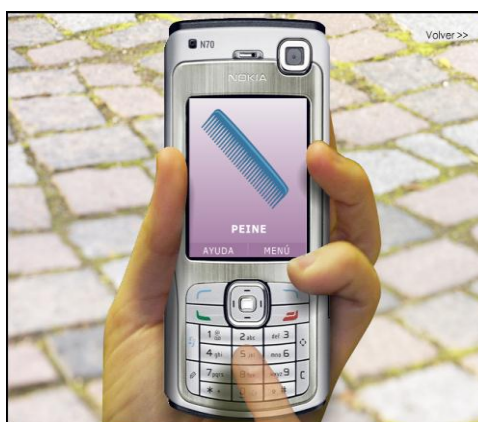
**Significan examples. Serious games.** [ITEM Formación](#) is a Spanish company founded in 1995 that shows an interesting initiative evolution of eLearning. “[Lost in la Mancha](#)” is a methodology that aims at teaching Spanish by means of an online [educational game](#). Using fun aspects, they try to involve the student in a cartoon online where they have to solve different challenges and where they will be tutored as the activity goes on.



Source: [Web de Item Formación](#)

“**Mobile learning**”. “[M-learning](#)” is the second type of initiative presented as an example of Spanish development of eLearning. It is an eLearning methodology based on the use of mobile devices with Internet access. The most important point is that it allows access anytime anywhere. As a result, it is an access more focused on the need and motivation of the student, as this system provides contents “just in time and for me”. Contents are transferred to the mobile device, although its weakness is that not all devices are compatible.

With “[Español a la carta](#)” the aim is to cover a need in the tourism sector. The idea is to provide the basics of the Spanish language to get by to those foreign workers who come to Spain to cover the needs of the catering sector.



Source: [Web de “Español a la carta”](#)


The **Universidad Abierta de Cataluña - Universitat Oberta de Catalunya (UOC)** has started a pilot course in 2010 to test the potential of Facebook as an educational tool. “[Viajes 2.0](#)”. For five weeks, the UOC has developed this pilot course with 124 participants. It is a virtual environment where training on a given topic takes place in an open space, with open resources and following a methodology based on interaction in this social network. The course is called “Viajes 2.0”.

The idea is to analyze the advantages and disadvantages of this kind of environments for learning and to see whether they promote personalization of learning, self-learning and peer support. The final aim is to understand how knowledge is built socially in those environments.

Results from this experience will offer light about possibilities of teaching a subject through social networks.

For more detailed information on this course: [http://ocw.uoc.edu/turismo/viajes-2-0-herramientas-y-recursos-en-linea/Course listing](http://ocw.uoc.edu/turismo/viajes-2-0-herramientas-y-recursos-en-linea/Course%20listing).

Their space in Facebook is <http://www.facebook.com/group.php?gid=133378268982>

A screenshot of a Facebook page for a group titled "Viajes 2.0: herramientas y recursos en línea". The page features a colorful, isometric illustration of a city with various buildings and icons. The main content area includes a description of the course, contact information for UOC, and a link to a quiz. The right sidebar contains a "Crear un anuncio" section and "Páginas de Facebook". The bottom right corner shows a "Chat (0)" button.

facebook Buscar Inicio Perfil Buscar amigos Cuenta

**Viajes 2.0: herramientas y recursos en línea** Unirte

Muro Información Foros

**Información básica**

Nombre: Viajes 2.0: herramientas y recursos en línea  
Categoría: Internet y tecnología - Cultura cibernética  
Descripción: Como parte de su actividad de investigación e innovación docente en entornos virtuales de aprendizaje, la UOC pone en marcha un curso piloto para evaluar la utilización de otros espacios como por ejemplo Facebook para la creación de comunidades de aprendizaje, combinando la metodología propia de la institución con las posibilidades que las redes sociales ofrecen. El objetivo de esta experiencia es potenciar la participación de los estudiantes en un proceso de aprendizaje entre iguales... (ver más)  
Privacidad: Abierto: todo el contenido es público.

**Información de contacto**

Dirección de correo electrónico: participa@uoc.edu  
Sitio web: http://ocw.uoc.edu/turismo/viajes-2-0-he...  
Oficina: UOC  
Lugar: Av. Tibidabo 37-43  
Barcelona, Spain

**Noticias recientes**

Noticias: ¿Quieres conocer si eres un auténtico Viajero 2.0?. Haz el test: http://apps.facebook.com/triviaslocas/quiz.php?tid=89028

**Información**

Categoría: Internet y tecnología - Cultura cibernética  
Descripción: Como parte de su actividad de investigación e innovación docente en entornos virtuales de aprendizaje, la UOC pone en marcha un curso piloto para evaluar la utilización de otros espacios como por ejemplo Facebook para la creación de comunidades de aprendizaje, combinando la metodología propia de la institución con las posibilidades que las redes sociales ofrecen. El objetivo de esta experiencia es potenciar la participación de los estudiantes en un proceso de aprendizaje entre iguales... (ver más)  
Privacidad: Abierto: todo el contenido es público.

Crear un anuncio

**Páginas de Facebook**

Páginas de Facebook te ayudan a descubrir nuevos artistas, empresas o marcas comerciales, así como a conectar con los que ya te gustan.

Más anuncios

Chat (0)

Source: [Facebook](#)

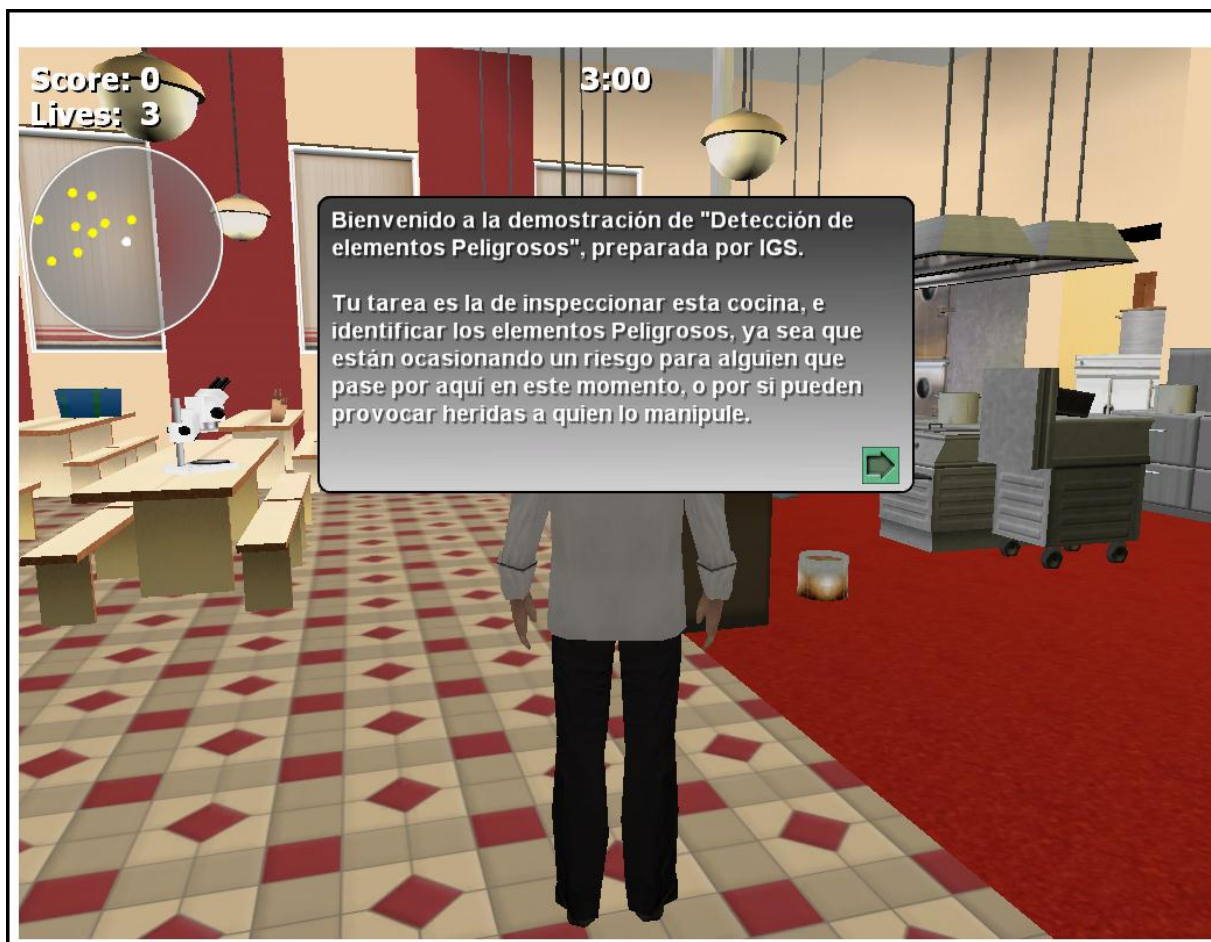
**Educational application through TDT (Terrestrial Digital Television).** The program “A Ciencia Cierta”, transmitted by TVE, started in June, 2010, the first tests on interactive educational television in Spain. If technical requirements are met, students/spectators will be able to navigate through their remote control and obtain more information on the program. Interactive self-evaluation questionnaires will also be available.

This initiative has been carried out by RTVE, a group of academic centres that includes the University of Barcelona and the University Ramón Llul – La Salle, together with technological companies such as CommuniTV, Lavinia and Abilbo, counting with the support of the Ministry of Industry.

In this address, a explanatory video of the project can be seen “Educational TDT” <http://www.youtube.com/watch?v=yDtpsaqUD5w>.

**Virtual worlds.** IGS, an Argentinian company, shows the potential of virtual worlds for learning in general and eLearning in particular. As they point out in their blog, virtual worlds aim at sharing a space where many people get together and interact. Its disadvantage is the complexity of its programming to carry out certain tasks and the lack of integration with LMS.


In this address a demo can be download:  
<[http://igs.com.ar/index.php?option=com\\_content&view=article&id=25&Itemid=18&lang=es](http://igs.com.ar/index.php?option=com_content&view=article&id=25&Itemid=18&lang=es)>




**Augmented reality.** [Instituto Tecnológico de Castilla-León. \(ITCL Burgos\)](http://www.itclimasd.org/Realidad-Virtual/Realidad-Aumentada). This technology allows the user to take the objects of the virtual reality that has been developed to the real world by means of video, using a camera and appropriate software.

In this link: <http://www.itclimasd.org/Realidad-Virtual/Realidad-Aumentada> a number of work proposals of the ITCL can be seen: environment education, augmented reality for publicity and marketing, augmented reality content editor, etc.

### Gestión del medio ambiente con Realidad Aumentada



Las nuevas metodologías de formación implican técnicas tan novedosas como la Realidad aumentada en la dinamización de grupos. Por ejemplo el curso realizado para personal del Ayuntamiento de Burgos sobre Gestión Ambiental y Sostenibilidad, donde los alumnos pudieron interactuar con una ciudad virtual alterando sus condiciones e indicadores ambientales básicos.



[Source: Web de ITCL](#)

**Simulations.** The Instituto Tecnológico de Castilla y León also has developed [simulators for educational purposes](#). They allow the student to experiment in a virtual environment that simulates real situations, with the obvious advantage of avoiding the real risks that practice would entail. Their strong point is that they reproduce situations with audio, video, etc. The objective is to immerse the student in an environment as similar as possible to the real so that he can experiment the practice and decision taking experiencing the effects without risk.

Simulators also help when practising would otherwise require very expensive or hard to access tools or technologies.

Simulators are educational resources very appreciated in vocational training. The [Instituto de tecnologías Educativas](#) and the [Proyecto Agrega](#) (both depend on the Ministry of Industry, Tourism and Commerce and the Ministry of Education) have an important collection of them for the different branches of vocational training.



Source: [Web del ITE](#)



Source: [Web de Agrega](#)

**Collaboration Company-University.** A considerable number of spin-off companies come out of research project closely linked to eLearning. One of these is [BIP Asesoría tecnológica, S.L.](#), which has had an important role in implementing eLearning platforms at the University of Valladolid. Their project “[Aprender Pensando](#)” aims at providing teachers an online application in order to improve the students' learning strategies.

## 4.2. Quantitative Situation

**Year 2004 and problems found.** Many of the difficulties present today in eLearning were already there in 2004. Santillana Formación presented the report “[Estudio de demandas y expectativas del mercado de “eLearning” en España 2004](#)” (Santillana Formación, 2004) (from now on, Santillana Formación Report). It was already pointed out in that year that the Spanish market, according to IDC ([International Data Corporation](#)), was one of the fastest growing.

The report sought to find out the “*expectations, needs and requirements of eLearning organizations and users, as well as the evolution of their preferences, in order to establish quality proposals to give an appropriate response to current and future training needs of Spanish organizations*”. To obtain this information, they interviewed executives of large corporations and public institutions as well as eLearning users.

Their conclusions can be considered relevant nowadays. They found out that Spanish organizations did not take advantage of the full potential of the new technologies. Comfort, flexibility and accessibility of online training are mentioned by users as the main advantages. Lack of time, technological barriers and little quality and usability of contents are mentioned as the weak points. Good service, trust and quality contents would be the key elements for success in the future.

The [Scopeo Observatory](#), in the report “[Panorama sectorial de implantación de la Formación en Red](#)”, in (SCOPEO, 2009), (from now on, Scopeo Report), corroborates the situation presented in 2004 by the Santillana Formación Report. The Scopeo Report was directed by Dr. Francisco José García Peñalvo, from the University of Salamanca, using the focus group technique and counting with the participation of over 50 professionals related to eLearning promotion and management in the following sectors: business, pre-university and university education and Public Administration.

Reasons to implement eLearning keep being the same: flexible models that help to cover “*the need to provide permanently updated training to a large and geographically disperse group of people*”, “*profiles of part-time students*” and “*Need to make education more flexible. Geographic dispersion, as well as the effort not to interrupt public servants' timetables, makes virtual education the choice*”.

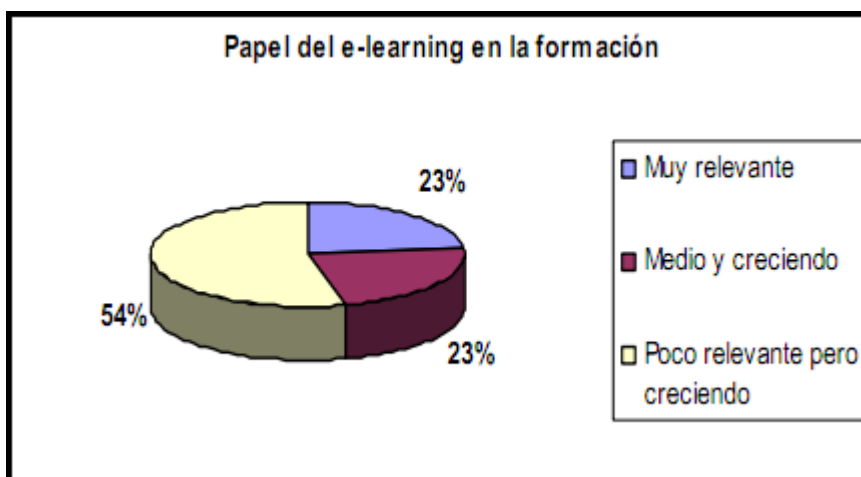
The Scopeo Report also found out, as reasons to implement eLearning, the possibility and ease to find the best experts avoiding the need to travel, constant updating of contents and better interaction options. eLearning is seen as a sign of modernization and consolidation of institutions.

In no case is eLearning considered as a replacement of face-to-face training, but an alternative at the same level. This situation is also shown in the [Élogos Report](#) “[Estado del Arte de la Formación en España 2009](#)” (Fundación Élogos, 2010) (from now on, the Élogos Report), which also points out that face-to-face classes still account for 71% of the total hours of training.

**For companies, being competitive is a key factor.** Lack of trust, lack of time, technological barriers and little quality and usability of contents are problems mentioned by users in the Santillana Formación Report (2004). The Scopeo Report (2009) corroborates these same points with statements such as “*From the corporative point of view, there is a concern to make the Direction “believe” in online training. From the point of view of the worker, a dialog with the unions is sought to obtain recognition for the hours of virtual training done.*” “*This negative attitude (technophobia) is aggravated when the teacher has no control on the TIC tools and there is an absence of educational models. This implies more consistent models and the recognition of their virtual activity*”, “*great care is taken to select competent and qualified training providers*”.

Other problems mentioned in the Scopeo Report are a traditional view of education and the resistance to change; overcoming the technocentric vision of eLearning; avoiding the “*cognitive drop-out*” of the student, that has to be assessed in close relation with the important tutorial task; proving eLearning's economic productivity; teacher's recognition of online teaching hours; appropriate recognition of author's rights or difficulty to change the system.

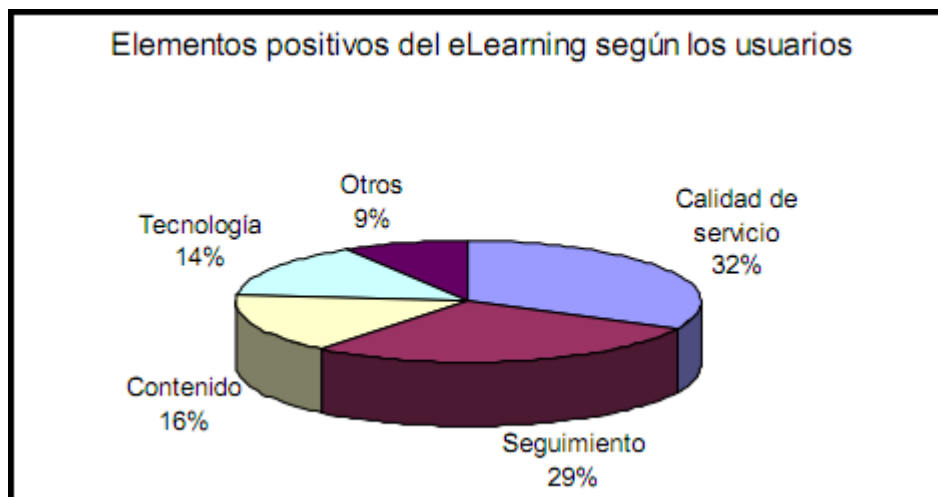
**Importance of eLearning.** The Santillana Formación Report (2004) shows that eLearning implementation and growth will be slower than its proponents thought, although unstoppable. Back in 2004, 54% of people who were asked considered eLearning of little relevance. This situation is fully confirmed by the data shown in the Élogos Report “[Estado del Arte de la Formación en España 2009](#)” (2010).



[Source: Informe Santillana Formación año 2004.](#)

**Tutoring.** In the Santillana Formación Report (2004) it is pointed out that in eLearning training a great importance is given to “quality of service”, above the contents, to evaluate the training offer. Tutoring, as a fundamental show of quality, is seen as the mechanism to resort to when contents are not adequate. Monitoring by tutors is one of the most outstanding positive elements and one of the key aspects to evaluate an eLearning proposal. Tutoring represents “the key to success in online training, as they avoid the loneliness of the students and make it possible to monitor the whole process and foresee any possible problems (Santillana Formación Report, 2004).

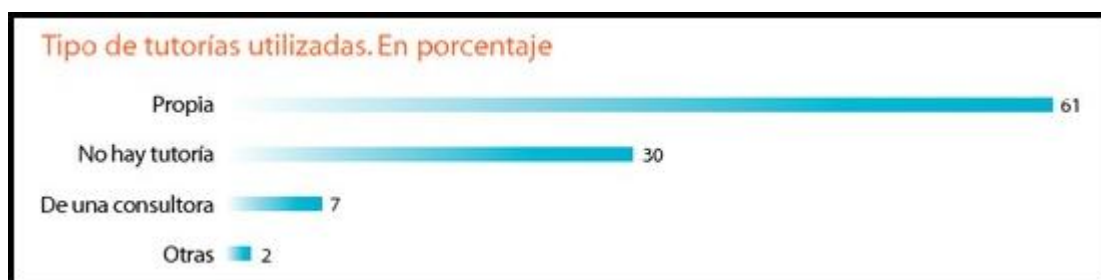
In the Scopeo Report (2009), referred to 2009, users also see “*as fundamental the role of the tutor in online training, although it is difficult to find good online tutors*”. Also mentioned is the fact that “*internal tutors contribute with “know-how”. When it is the same employees who help others in the same institution, they provide more expertise, a plus of knowledge and can even mentor younger workmates*”.



Source: Informe Santillana Formación año 2004.

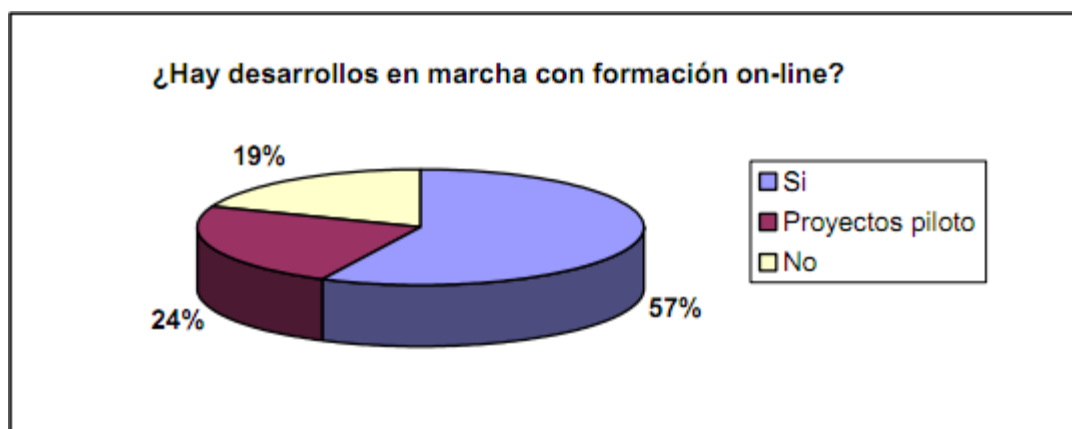
In the Élogos Report (2010), referring to 2009, we can appreciate a tendency by the Public Administration to choose internal tutors.

**Types of tutoring used in online training in 2009 (%)**



Source: Informe Elogos año 2009.

**Implementation.** In 2009 (SCOPEO, 2009), 2 of the 12 companies who took part in the focus group sessions had not yet implemented eLearning solutions to train their employees and one had done it between 2007 and 2008. This situation is corroborated by the Santillana Formación Report in 2004. In that year, 80% of companies and institutions interviewed had organised eLearning training activities, although 25% of these had done it just as a pilot project. Implementation percentages remain stable in time, with a percentage of companies reluctant to use eLearning for the training of their employees.



Source: Informe Santillana Formación año 2004.



**Learning areas and eLearning.** In the first phases, it was training in computer literacy and new technologies what made the bulk of eLearning. Progressively, language courses and direction skills courses are incorporated (Santillana Formación, 2004).



Source: Informe Santillana Formación año 2004.

In 2009, among large corporations, the areas of courses tend to remain in the areas of computer literacy and languages and “products, services and processes”. Business (“Comercial”) and Health and Safety courses (“PRL”) are incorporated (Fundación Élogos, 2010).

#### eLearning training in large corporations in 2009 (%)



Source: Informe Elogos año 2009.

The evolution in the areas taught is consistent in time, with a light shift from the areas typically related to the company and technical courses to “skills and leadership”, which can be explained by the considerable importance give to professional competencies lately.

Evolution by areas taught (2004-2009) (in %)



Source: Informe Elogos año 2009.

In Public Administration, eLearning is basically used for Computer literacy and New Technologies courses. Give the specificity of Public Administration, we find a considerable amount of hours devoted to legislation aspects.

Training by areas in hours in Public Administration in 2009 (%)



Source: Informe Elogos año 2009.

The sector of social agents is the one that defines training developed by Small and Medium-size Enterprises, microenterprises and autonomous workers in Spain. In this sector, traditional distance learning and eLearning are gaining space to face-to-face training, and the areas where eLearning has been implemented more successfully are the technical ones, closely linked to the productive activity of base workers. It is worthy of note the fact that, since 2005, the area of “ICT and Computing” has decreased. “Languages” appear to have suffered a probable circumstantial decrease in 2009, as it shows a steady increase in previous years.

**Training by areas for social agents in 2009 (% of hours)**



Source: Informe Elogos año 2009.

**Beliefs about the future of learning areas.** The largest percentage of companies and institutions asked by the Fundación Élogos Report (2010) in 2009 think that most training (+50%) in Health and Safety, Languages, ICT and Computer literacy and Business and Customer service will be done through eLearning in the next few years. However, only 14% thinks that eLearning will be the preferred medium to teach “Technique” and “Skills”. This is a scenario that shows, as the Santillana Formación Report (2004) pointed out, that the future belongs to those who offer good service, trust and quality contents that bring reality closer to the worker, such as simulated environments.

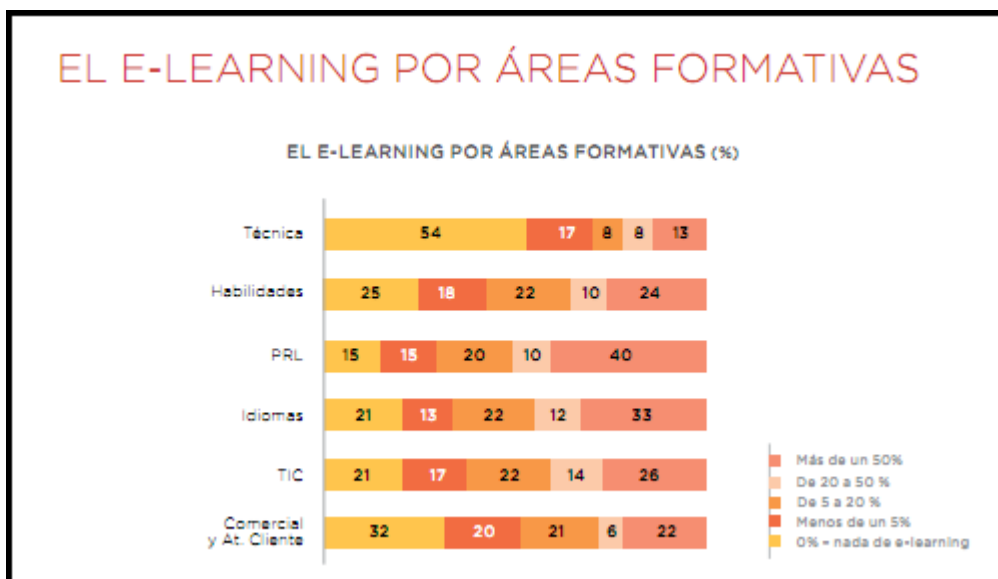
It is relevant that precisely the two areas where technical and practical skills seem harder to digitalize. In the “Technical” area, most respondents (51%) think that less than 5% of that training could be adapted to eLearning. This is an area where course design and content creations have a real challenge, by means of the use of augmented reality, virtual worlds, 3D, mobile learning, social and informal learning, etc. to gain the trust of clients and final users. It is interesting the change appreciated between 2008 and 2009 (Fundación Élogos, 2009; Fundación Élogos, 2010), where those who considered that eLearning would not be used to teach technical skills went from 54% to 30% in just a year.

**Future estimates by areas in 2009**



Source: Informe Elogos año 2009.

Future estimates by areas in 2008



Source: Informe Elogos año 2008

An increase in the needs of training by companies and continuous technological innovation in the ICT result in a suitable scenario for eLearning growth. Despite cuts in company and administration budgets as a consequence of the economic crisis, eLearning keeps growing in Spain as training method, but as economical investment eLearning will suffer the crisis effects.

**General overview of training.** Élogos collects data every year since 2002 in three large sectors: Large Companies, Public Administration and Social Agents.

A break in the continuous growth of previous years can be appreciated in the global figures of investment. It seems a logical consequence of the economic crisis.

The most outstanding fact is the decrease among large companies, that goes from 1010 million euros in 2008 to 843 in 2009, which represent a decrease of 267 millions (- 16.53%). The annual investment by worker has also decreased, going from 370 euros to 354. However, this decrease in investment does not imply a decrease in number of hours in training, which remain stable, showing an adjustment in the training costs of companies.

Public Administration and social agents show in 2009 a “smaller growth than in previous years” (Fundación Élogos, 2009; Fundación Élogos, 2010).

Investment in training (millions of €) in 2008

	Grandes Empresas	AAPP	Agentes Sociales
Inversión anual en formación (millones €)	1010	283	802
Inversión anual por trabajador (€)	370	283	560
Nº de horas de formación por trabajador y año	34	41	70
Presupuesto externalizado (%)	59 %	58 %	80 %
Presupuesto externalizado (millones €)	596	164	642

Source: Informe Elogos año 2008

### Investment in training (millions of €) in 2009.

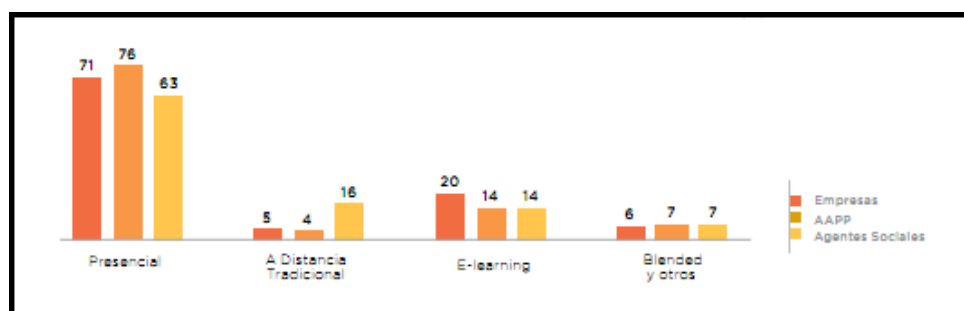
	Grandes Empresas	Administraciones Púlicas	Agentes Económicos y Sociales
Inversión Anual de formación (millones €)	843	290	816
Inversión Anual por trabajador	354€	110€	
Nº de Horas de formación por trabajador y año	34	40	
Presupuesto externalizado (%)	54%	43%	80%
Presupuesto externalizado (millones €)	455	125	653

Source: [Informe Elogos año 2009.](#)

**Teaching methodologies used.** In 2008 eLearning training represented, in the large corporation section, 20% of the total. Together with blended learning (6%), they made up 26% of the total.

A clear indication of the resistance found in traditional systems is the fact that distance learning in the social agents sector overcomes eLearning, even in its growth in 2008 and 2009, as can be seen in the images shown below.

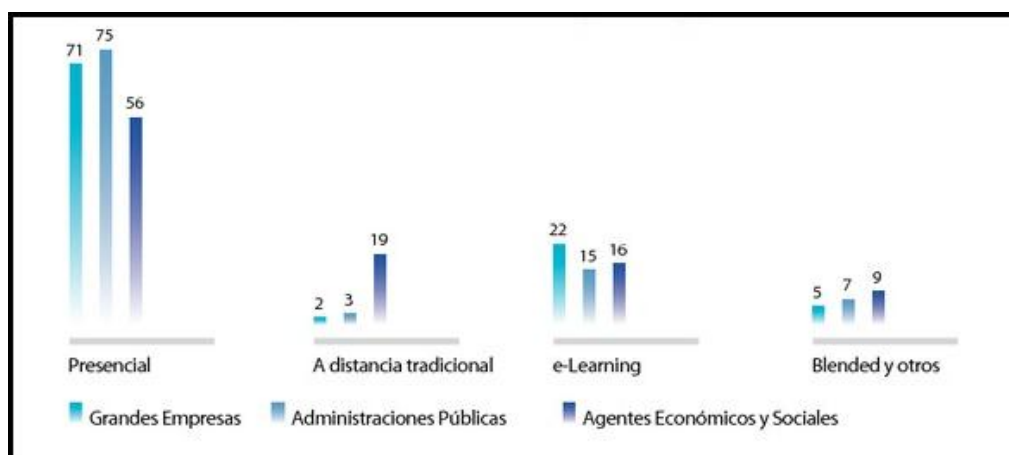
### Teaching methodologies by sector in 2008 (%)



Source: [Informe Elogos año 2008](#)

In 2009, data show (see below) that traditional distance learning in the social agents sector, not only keeps its distance in front of eLearning, but it also increases this distance by 1%. Face-to-face training decreases in 6% compared to the previous year, but this decrease goes mainly to increase traditional distance learning.

### Teaching methodologies by sector in 2009 (%)



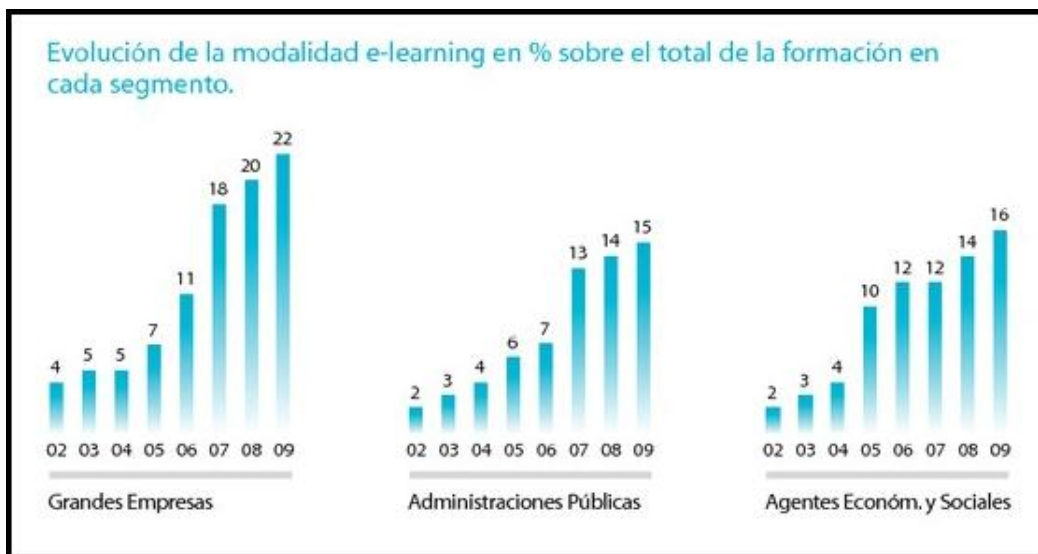
Source: [Informe Elogos año 2009.](#)

**eLearning overview.** According to estimates from the Élogos reports, the eLearning sector keeps a steady growth. Between 2004 and 2009, it has grown about 290% and its implementation as a teaching method keeps growing.

In 2009 eLearning as a methodology remains stable in all sectors studied by Élogos. According to their data, it represents an average 17.6% of the total training in the three sectors. Large corporations use it more (22%) than Public Administration (15%) and social agents (16%). Blended learning adds 9% to the percentages give as eLearning.

The analysis of the data presented in the image below shows that eLearning modality has grown steadily in all sectors since 2002. In the last few years, between 2006 and 2008, growth was faster and that increase continues in 2009 (see data from 2009) with an increase of nearly 2% in all three sectors.

**Evolution of eLearning as a modality compared to total training (%)**



Source: Informe Elogos año 2009.

**Large Corporations sector.** This sector still prefers face-to-face training but, nevertheless, eLearning keeps growing steadily. In 2009, it represents 22% of total training, and adding blended learning, it totals 27%. It could be suggested that this growth will continue as long as the economic crisis is present, as companies will try to reduce costs and optimize the relation between budget/results.

**Methodologies evolution in large companies between 2004 and 2009**



Source: Informe Elogos año 2009.

**Public Administration sector.** Although smaller, growth is steady too in this sector, while traditional distance learning loses ground every year. eLearning represents 15% and blended learning 7% in 2009. A total of 22% together.

#### Methodologies evolution in Public Administration sector between 2004 a 2009.



Source: Informe Elogos año 2009.

**Social Agents sector.** This sector is where eLearning is less present and where traditional distance learning grows again in 2009, after two years decreasing. In this sector is also where eLearning and blended learning have grown the most (4%) between 2008 and 2009.

#### Methodologies evolution in the social agents sector between 2004 and 2009



Source: Informe Elogos año 2009.

Among the different groups that make up the social agents sector, autonomous workers are the ones that use most the eLearning modality or blended and they are also those who, by far, use least face-to-face training. This is related to their characteristics as business people / workers.

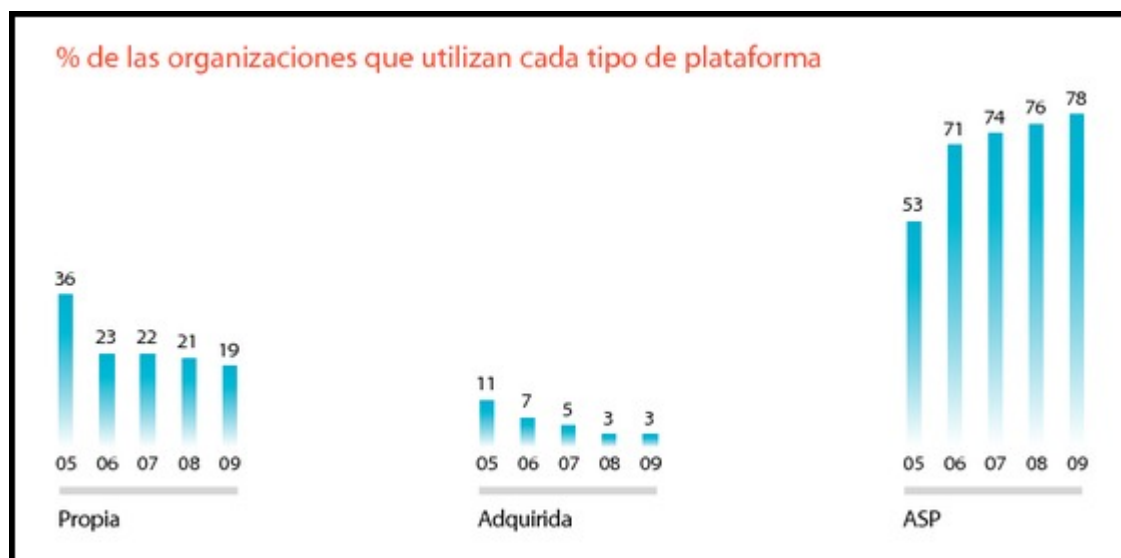
Teaching modalities (% of training hours) by type of social agent in 2009



Source: Informe Elogos año 2009.

Although there are no data for large corporations and Public Administration as to what platforms they use in these Élogos reports, this is an important fact to show the eLearning model used by the social agents sector. There is a clear tendency to use an application service provider (ASP).

Type of platform used by social agents in 2009 (%)



Source: Informe Elogos año 2009.

To sum up, we could quote Jordi Gutiérrez, Director General of Corporation Training Unit in Élogos: “It is obvious that the evolution of technology in the training field – virtual spaces, training management systems, web 2.0...- has played a fundamental role in this growth. This has allowed many companies to have the tools to develop, structure and integrate in an efficient way a wide variety of teaching resources”; “But it is also true that, more and more companies, aware of the importance of developing and keeping the talent in their organizations, are investing in the design of more personalized learning experiences for each of the profiles in their company. To do this, they are taking into account not only their employees' learning needs, but also their way of learning. In this context, eLearning is contributing with new and innovative



methodologies – informal learning, business simulators – that create a more positive and practical learning experience.” (SCOPEO, 2009).

Juan A. Fernández Cerrato, from “Universidad Corporativa Acciona”, thinks it is a positive fact that “30% of Spanish companies included social networks in their training programs in 2010”. Taking into account that “if we want to be efficient in our learning model, we have to manage, at least, the following parameters: first, the approach and tools 2.0 to create the learning space – virtual campus- , communities of practice and thematic channels and to promote informal learning. On the other hand, the use of advanced resources and advanced technologies, such as virtual classrooms, clips, video-classes, etc. both in platforms and corporate webs and in mobile devices” (SCOPEO, 2009).

## 5. UNE 66181:2008, First Standard on eLearning, Published in Spain by AENOR

Training as a service or a product ([Hilera, 2008](#)) must guarantee its quality and also uniformity of measure in order to satisfy students and clients. This way, the training market will continue gaining trust.

This standard, created by consensus between interested parties, evaluates the quality of eLearning, which is defined as that training based on the ICT and, generally, not face-to-face. It distinguishes between self-instruction (no tutors), distance learning (with tutors) and blended learning (with face-to-face sessions) (AENOR, 2008).

eLearning is, therefore, online training with tutors (AENOR, 2008). AENOR establishes that, in this case, quality is measured by the grade of coincidence between what was expected and what was received by users and clients.

The standard excludes explicitly formal learning and it deals only with training designed to improve or to access the labour market ([Sánchez, 2010](#)).

**The standard and its indicators.** Quality indicators are based on factors of client satisfaction. These, in turn, are divided into attributes (Hilera, 2008).

The indicators are “information” and three satisfaction factors: “employability”, “ease of assimilation” and “accessibility”. Factors are evaluated in a qualitative scale of five items: “initial”, “basic”, “good”, “very good”, “excellent”.

**Information.** There is a minimum amount of information that the user/client has to be provided with. This information consists of the following: name of the course, contact and cost, objectives, type of training, requisites to access the course, necessary time to do the course, hardware and software required.

**Employability.** Defined as “*capacity to integrate in the labour market or to improve the existing position*” (AENOR, 2008). It is worthy of note the fact that the standard does not seem to contemplate the possibility of life-long learning to be updated in qualifications, skills and values in this fast-changing market. Hilera (2008) indicates that its key attributes are market demand and training recognition by the relevant actors in the sector.

**Ease of assimilation.** By assimilation, AENOR is referring to the level of interaction and tutoring in the training process. This tutoring activity is linked to motivation and, in turn, with lower drop-out rates and assimilation of knowledge. The process seeks to encourage the student to participate and learn. Hilera (2008) points out that its key attributes are interaction and tutoring. The standard defines interaction as “*the capacity to interact dynamically with users and with the contents of the eLearning course, following the principle of learning by doing*”.

**Accessibility.** According to Hillera (Hillera, 2008), it “tries to quantify to what extent eLearning can be comprehensible, usable and used efficiently and effectively by any person”. Its key attributes are hardware accessibility, defined according to the UNE 138801:2003 Standard, software accessibility, defined according to the UNE 139802:2003 Standard, web accessibility (contents), defined according to the UNE 139803:2004 (Sánchez, 2010) and distribution of accessible e-documents.

Adherence to the standard. “[Estudio de adecuación de la formación continua de los trabajadores en Andalucía a la Norma UNE 66181 de calidad de la formación virtual](#)” Grupo Neteman (2009).

“*The UNE 66181 Standard tries to be a guide to identify the characteristics of eLearning activities, so that eLearning buyers can select the products that best suit their needs and so that*

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*content providers can improve their offer and, as a result, their clients'/students' satisfaction*” (Hilera, 2008). However, this standard is still very new.

The present study, though geographically limited, shows some recent information about the acceptance of the standard among actors. Its interest lies in the fact that it is Spanish and it is accepted by Public Administration, which means we can expect it to be an important regulating element in the sector, together with other standards.

Although 68% of users do not know the Standard, 82% would use something like it to choose a course. According to the report, there is a clear need for a standard like this, as users receive clearly insufficient information. For example, only 15% of users were informed about the software required. The standard is considered by 58% of users as an element that will improve the quality of eLearning.

As far as eLearning providers are concerned, 45.7% of them do not know the standard, 68.6% has considered implementing it and a significant 57.1% points out that their clients do not demand any quality system. Over 70% of companies would be willing to make changes to adapt to the Standard.

We can conclude the following from this study:

- This Standard will improve the offer that the client's satisfaction.
- It is not clear that the Standard will go beyond companies and Public Administration to reach final users.
- Methodology and pedagogy are more important than technical aspects, which are overvalued.
- It is necessary for the Standard to be adjusted to the reality of the sector by being more precise with indicators and factors.
- Indicators are required to measure the quality of eLearning which is not delivered through platforms.
- The concept of competency needs to be included in employability.

## **6. Some linguistic and cultural issues in Spanish eLearning context**

### **6.1. *Online tutoring styles vs. face-to-face interacting contexts***

Our communication dynamics in online contexts is based in a very structured style from a formal point of view (presentation, exposition, invitation to action – learning by doing- , goodbye). Messages are encouraging and generally complete, trying to avoid an excessively short communication that could give place to misunderstandings (angry or reluctant replies). To make communication more assertive, elements are frequently incorporated implying emotional implication and friendliness. These elements are very important because, on the one hand, they promote the feeling of “communication between humans” in a context of physical distance and technological coldness. On the other hand, they invite to action, and from a pedagogical point of view, they represent a resource to gain students' commitment to work. Students are given tasks of heavy dedication and implication, on top of considerable interaction and teamwork.

Regarding face-to-face contexts (work meetings, seminars, negotiation tables), Spanish idiosyncrasy advises a certain level of informality in these types of situations. Sometimes, the debating process in itself is more interesting than the results of that debate and it is not a great problem if no conclusion is reached in a previously established time. Other times, it is easier to continue and take the decision in a more informal context after the very meeting, such as parallel meetings in small groups or briefings during a coffee break/lunch/dinner.

### **6.2. *Netiquette for educational use. Rules to use the forums better***

#### **1. Fundamental rule: read, think... and write**

#### **2. Rules to make reading easier. Structure of messages**

- Give the message a title
- Greeting
- Do not write in CAPITAL CASE
- Say goodbye and sign with our name.
- Be polite.

#### **3. Rules to write and be understood.**

- Use orthography and syntax properly
- Be clear

#### **4. Rational use of attachments**

- Size
- Usability

#### **5. Rules to promote collaboration**

- Empathy
- Acknowledge the others

- Quote, do not copy
- Use emoticons
- Make relevant and interesting contributions to the forum.
- Check before sending

#### **6. Intelligent use of the forum**

- Do not write while angry to avoid “flames”. Write always when you are calm
- Keep a polite tone in debates

To sum up: possibly, to write (and also read) properly are one of the secrets of success of an online course (Diez et al, 2010).

## 7. References

- Accenture & Universia (2007). Las competencias profesionales en los titulados. Contraste y diálogo Universidad-Empresa. Centro de Alto Rendimiento de Accentura & Universia.
- AENOR (2008). *UNE 66181:2008, Gestión de la calidad. Calidad de la Formación Virtual*. Madrid: Asociación Española de Normalización y Certificación. <http://www.aenor.es/aenor/normas/normas/fichanorma.asp?tipo=N&codigo=N0041429&PDF=Si>.
- Albert, C., Juárez, J. P., Sánchez, R. & Toharia, L. (2003). Del sistema educativo al mercado de trabajo: un análisis de flujos. *Revista de Educación*, 330: 137-155.
- ANECA (2007). El profesional flexible en la Sociedad del Conocimiento. ANECA. [http://www.aneca.es/var/media/158162/informeejecutivoaneca\\_jornadasreflexv20.pdf](http://www.aneca.es/var/media/158162/informeejecutivoaneca_jornadasreflexv20.pdf).
- Cabero, J. (2006). Bases pedagógicas del eLearning. *Revista de Universidad y Sociedad del Conocimiento (RUSC)*, 3(1), UOC.
- CES (2009). *Sistema Educativo y Capital Humano. Informe 01/2009*. Consejo Económico y Social de España. <http://www.ces.es/servlet/noxml?id=CesColContenido%20M01238769492789~S1347628~NInf0109.pdf>.
- Díaz, E. (2010). ¿Es más efectiva la formación en línea o la presencial? Aprender en red. <http://www.aprenderenred.net/eduardodiaz/?es-mas-efectiva-la-formacion-en-linea-o-la-presencial>.
- Díez, O., Fernández, E., Seoane, A. (2010) Reglas de estilo y netiquette. GRIAL Research Group. <http://antia.fis.usal.es/sharedir/TOL/netiquette/index.php>.
- Ferrero, B., Arruarte, A., Fernández-Castro, I. & Urretavizcaya, M. (2001) Herramientas de autor para enseñanza y diagnóstico: IRIS-D. *Inteligencia Artificial, Revista Iberoamericana de Inteligencia Artificial*, 12: 13-28.
- Fundación Élogos (2009). Estado del Arte de la Formación en España 2008. <http://www.equiposytalento.com/contenido/download/estudios/estadoArteFormacion.pdf>.
- Fundación Élogos (2010). Estado del Arte de la Formación en España 2009. <http://www.elogos.es/flash/estado-arte-formacion-espana-2009/index.html>.
- Fundación Telefónica, Universia & Accenture (2008). Las competencias profesionales preuniversitarios.
- García Peñalvo, F. J. (2002) Software Educativo: Evolución y Tendencias. *Aula. Revista de Enseñanza e Investigación Educativa*. Ediciones Universidad de Salamanca. 14: 19-29.
- Garrido Medina, L. & Chuliá Rodrigo, E. (2005). *Ocupación, Formación y el Futuro de la Jubilación en España*. Madrid: CES, Colección Estudios.
- Gómez, V. (2010). Mejor formación para crear más empleo. Fundación Élogos. <http://www.elogos.es/flash/mejor-formacion-empleo/index.html>.
- Grupo Neteman (2009) Estudio de adecuación de la formación continua de los trabajadores en Andalucía a la Norma UNE 66181 de calidad de la formación virtual. Online, Retrieved January 4<sup>th</sup>, 2011. <http://www.une66181.com/sintesis.pdf>.
- Hilera, J.R. (2008). UNE 66181:2008, el primer estándar sobre calidad de la formación virtual. *Revista de Educación a Distancia*, VII. <http://www.um.es/ead/red/M7/hilera.pdf>.
- INE (2005). Encuesta de transición educativo-formativa e inserción laboral 2005 / Principales resultados. Instituto Nacional de Estadística. [http://www.ine.es/daco/daco42/etefil/etefil05\\_tabav.htm](http://www.ine.es/daco/daco42/etefil/etefil05_tabav.htm).
- INE (2010). Mujeres y hombres en España 2010. Instituto Nacional de Estadística.

- Instituto Valenciano de Investigación Económica (2002). Estudio sobre capital humano y actividad económica. Instituto Valenciano de Investigación Económica & Bancaja. <http://obrasocial.bancaja.es/publicaciones/publicaciones-ficha.aspx?id=65>.
- Landeta, A. (coord.). (2007) *Buenas Prácticas de eLearning*. San Sebastián: ANCED.
- Ministerio de Industria, Turismo y Comercio (2010). Plan Avanza 2. Estrategia 2011-2015. Anexos. [http://www.planavanza.es/InformacionGeneral/Estrategia2011/Documents/Anexos%20Estrategia\\_2011-2015\\_PA2.pdf](http://www.planavanza.es/InformacionGeneral/Estrategia2011/Documents/Anexos%20Estrategia_2011-2015_PA2.pdf).
- Nievergelt, J. (1975): Interactive systems for education – The new look of CAI, en O. Lecarme & R. Lewis (Eds.) *Proceedings of the 1975 IFIP conference on computers in education*. Amsterdam: North-Holland, 465-471.
- OECD (2010). *Education at a Glance 2010. OECD indicators*. OECD. <http://www.oecd.org/dataoecd/45/39/45926093.pdf>.
- Papert, S. (1980): *Mindstorms: children, computers and powerful ideas*. Brighton: Harvester Press.
- Sánchez Morales, Pablo J. (2010) Análisis de la Norma UNE 66181, desde una perspectiva pedagógica en la modalidad “eLearning” en la formación en empresa. Online, Retrieved January 4<sup>th</sup>, 2011. <https://docs.google.com/viewer?a=v&pid=explorer&chrome=true&srcid=0B29aiXp7SL7IZTM2OWViYzEiMTIhMv00MTk5LWE4M2EiNTIhOGUSZTNmMTQ5&hl=es>.
- Santillana Formación (2004). Estudio de demanda y expectativas del mercado de eLearning en España 2004.
- SCOPEO (2009). Panorama sectorial de implantación de la Formación en Red, Informe SCOPEO, Nº 1. <http://scopeo.usal.es/images/documentoscopeo/scopeoi001.pdf>.
- Seoane Pardo, A. M. & García Peñalvo, F. J. (2006) Criterios de Calidad en Formación Continua Basada en eLearning. Una Propuesta Metodológica de Tutoría On-line. In *Actas del Virtual Campus 2006. V Encuentro de Universidades & eLearning*. Pages 37-48.
- Sigalés, C., Mominó, J. M<sup>a</sup>, Meneses, J. & Badia, A. (2008) La integración de Internet en la educación escolar española: Situación actual y perspectivas de futuro. UOC y Fundación Telefónica.
- Skinner, B. F. (1950). Are theories of learning necessary? *Psychological Review*, 57, 193-216.
- Urretavizcaya, M. (2001). Sistemas Inteligentes en el ámbito de la Educación. *Inteligencia Artificial, Revista Iberoamericana de Inteligencia Artificial*, 12: pp. 5-12.
- Means, B., Toyama, Y., Murphy, R., Bakia, M. & Jones, K. (2010). Evaluation of Evidence-Based Practices in Online Learning: A Meta-Analysis and Review of Online Learning Studies. U.S. Department of Education. <http://www2.ed.gov/rschstat/eval/tech/evidence-based-practices/finalreport.pdf>.
- Vaquero, A. (2010). Los comienzos de la enseñanza asistida por computadora. *Papel de España. IE Comunicaciones*, 11: 3-10.
- Vega, R. (2007). Estado del Arte del ELearning. In Landeta, A. (coord.). *Buenas Prácticas de eLearning*. Chapter 2. San Sebastián: ANCED.