



Promoción web, innovación y programas de postgrado en e-learning

Web promotion, innovation and postgraduate e-learning programs

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RESUMEN.

Este estudio analiza la difusión que las principales Universidades españolas realizan en sus páginas webs corporativas en relación a los programas de e-learning, tanto semipresenciales como online. El objetivo es conocer si esta difusión toma en consideración la comunicación de los aspectos metodológicos y de tendencias que podrían ser diferenciadores de una oferta innovadora.

Para ello se han seleccionado las Universidades Españolas de mayor prestigio (públicas y privadas), así como aquellas relevantes en el ámbito del e-learning. Posteriormente, utilizando la metodología "Counting methods" (Law, Qi y Buhalis, 2010) (traducido al español como método de contabilización de elementos) se han analizado las webs de cada uno de los 689 programas ofertados. La investigación permite identificar las variables comunes utilizadas en la promoción web de todas las Universidades, y contrasta la presencia de las principales tendencias en e-learning como elementos diferenciadores de una oferta competitiva.

PALABRAS CLAVE.

E-learning, online, tendencias e-learning, postgrado, metodología contabilización de elementos.

ABSTRACT.

This study analyzes the diffusion that the main Spanish universities carry out in their corporate web pages in relation to the e-learning programs, both semi-online and online. The objective is to know if this diffusion takes into account the communication of methodological aspects and trends that could be differentiators of an innovative offer.

To this end, the most prestigious Spanish universities (public and private) have been selected, as well as those relevant in the field of e-learning. Subsequently, using the methodology "Counting methods" (Law, Qi and Buhalis, 2010), (translated into Spanish as method of itemization), the websites of each of the 689 programs offered have been analyzed. The research allows identifying the common variables used in the web promotion



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of all universities, and contrasts the presence of the main trends in e-learning as differentiating elements of a competitive offer.

KEY WORDS.

E-learning; on-line; E-learning trends; Postgraduate; Item accounting methodology

1. Introduction and Objectives.

As a result of technological development and the explosion of educational tools on the internet, the hopes placed on e-learning have encouraged educational institutions to welcome this phenomenon that has been fundamentally identified with "a variant of distance learning or education through which, through certain platforms or digital systems facilitates the anchoring of educational content in various and enriching formats and enables vertical and horizontal communications both synchronous and asynchronous, as well as the control and monitoring of each and every one of the Users of the process "(García-Aretio, 2014. p.175). E-learning guarantees an absolute spatial flexibility and, depending on how the initiatives are planned, a certain temporary flexibility, both highly valued in today's society.

Depending on the degree of presence of e-learning, it is possible to recognize a mixed or blended learning mode, also known as blended learning (b-learning), in which face-to-face and online learning are combined (Gómez-Galán, 2017). The aim of the blended training is to maximize the advantages and minimize the disadvantages of each of the modalities (face to face). The strategy and the form of combination between them allow the design of a multitude of formative scenarios that favor the adaptation of the communication dynamics, contents, activities and evaluation systems more prone to each formative context.

Faced with the evolution of this phenomenon and the needs that today's society imposes on new students, public and private entities have increased their offer of postgraduate programs in e-learning (a generic term that includes both courses given in non-actually present mode as blended). Issues such as the emergence of new educational trends, the role of teachers and the role of programs, and ultimately the connection between supply and demand, have to be thoroughly investigated to draw an integral vision that favors the successful adaptation of educational organizations to the new reality (Pérez Rangel et al, 2016).

To favor the meeting between supply and demand, it is fundamental that the entities know how to communicate the characteristics of their programs beyond the contents. In this sense the SCOPEO report (2011) highlights the question of the conception of learning, and the way in which all the elements and tasks in the network formation are organized. The report refers to the need to define the educational model of the institution that supports all elements and that precedes aspects related to didactics (how to teach). For this, it is necessary to establish both the epistemological framework (paradigms that explain how learning actually occurs), the didactic level (learning theories as an ideology to adapt the offer to the desired context), and the formative level (Seoane and García Peñalvo, 2014; Vázquez-Cano, López-Meneses and Martín-Padilla, 2018). In this paper, we present a case study of the learning process, which is based on the methodology of learning that develops the concrete solutions in the training initiatives, specifying both the modes of organization of the interaction among the participants and the learning methodologies to be developed. In



addition, institutions face a challenge: to go beyond communicating to their potential students the basic characteristics of the programs (credits, subjects, schedules ...) and to transmit part of the educational model supported in their programs, which facilitates the identification of innovative and quality offers.

Therefore, the main objective of this study is to know if the web dissemination carried out by Spanish universities at present takes into account the communication of methodological aspects and trends that could be differentiators of an innovative offer.

This general objective is concretized in two specific ones:

- To know the information that the main Spanish universities facilitate in their webs referring to the postgraduate programs of online and semi-resources.
- Assess whether they give relevance to the data referring to the technological and pedagogical trends used as differentiating elements of their offer.

2. Spain as a case in postgraduate training in e-learning.

Internet has become a great ally of training and employment, and Spain is one of the member states where all indicators mark a clear progression to e-learning training. The trend has its origin in the consolidation of Spain's leadership in the European Union in penetration of Smartphone, with 81% of Smartphone out of the total of mobiles (Telefónica, 2015). This means that Spain is ten points above the European average, after growing five points in the last year, according to the 15th edition of its annual report 'The Information Society in Spain' (Telefónica, 2015). Also, broadband penetration increased at a year-on-year rate of 4.4% in Europe and mobile broadband at a year-on-year rate of 12.4%. According to data from the CNMC (2015), in Spain both services grew faster, respectively 6.9% and 16.9%. On the other hand, in 2014, the percentage of lines with speed equal or superior to 100 Mbps in Spain was 10.8%, whereas in Europe it was 8.7%. In summary, Spain is a country where the penetration of the mobile telephony is 110% , and the predisposition of both the supply and the demand for services facilitates a very relevant digital market.

This situation is manifested in the habits of the Spanish reflected in the indicators of use, which are above the European average. According to Eurostat, daily tasks such as obtaining information on goods and services, the use of electronic mail, or ways to access the media, for example, exceed the European average. And it is the case that in 2014 Spain already achieved some goals set by the Digital Agenda for Europe related to the Internet by 2015, such as the use of electronic means to make use of the Administration (E-Government). These habits are reproduced in the field of training and employment. According to Eurostat, Spain is among the top European countries with more than 40% of the population that has sought information on Internet training, along with Denmark, Luxembourg and Malta (data 2013). In addition, online courses by individuals in Spain exceed the EU28 average (6%) with 9%, only reached by Lithuania (11%), Finland (15%) and the United Kingdom (10%). (Data 2013). On the other hand, if in the EU in 28 countries the use of the Internet in the search or sending of a job offer by individuals is 17% in Spain this indicator reflects 3 percentage points above the values EU media, with 20%. In addition, the pace of growth is also higher, as in 2007 the values of Spain were below the EU average 28.



All this helps to understand the predisposition of the Spanish organisms to the diffusion of resources in open (Open Education Resources, hereinafter OER). According to the platform The Open Education Europe, launched by the European Commission in 2013, Spain is the leading EU country in MOOCs today.

([Http://openeducationeuropa.eu/fr/open_education_scoreboard](http://openeducationeuropa.eu/fr/open_education_scoreboard)). The balance made by this organization amounts to 450 moocs Spanish production in 2015 (28.2% of European supply), followed by 25.5% of UK, and distant Germany, with 142 moocs (11.9%). In this sense, it is interesting to note that 85% of the moocs offer in this country is made in Spanish, a relevant fact due to its projection on the Internet in Latin America, representing a significant role in Open Education in Europe and in the development of E-learning in Spanish. For all of the above, Spain presents a privileged situation to study in, and acquire direct experience of, the phenomenon of e-learning, since both institutions and individuals advance characteristics and behaviors that could improve practices in other countries.

3. Material and methods.

3.1. The sample.

To carry out a detailed analysis of how the Spanish universities carry out the web promotion of their online and semi-private graduate programs, a sample of 20 public and 7 private universities, the most relevant in the national panorama, has been taken. Included in the sample are Spanish universities present in the Shanghai Ranking offering online programs, Universities present in the ISSUE ranking of Spanish universities (BBVA and Ivie Foundation) and those Universities with a relevant number of online postgraduate courses (or semi-attendance). Based on this selection, we have analyzed the web pages of the 689 masters in face-to-face and semi-assisted courses led by the previous universities.

4. Methodology.

The methodology "Counting methods" has been selected which, according to Law, Qi and Buhalis (2010) is used to assess the performance of a website or its wealth. This assessment has two requirements. First, it is necessary to elaborate a list of the elements or attributes to verify in the web and; secondly, a group of evaluators (two independent evaluators in this case) perform the evaluation objectively and systematically, until they coincide in their interpretation.

5. Results.

Examining the information published on the websites of the online masters offered by the selected universities, the general presence of "basic" characteristics of the programs is observed (price, degree of presence, number of credits, language, internship or tutor availability personalized), and the presence (and absence in many cases) of information about other elements that make up the service offered and which, if applicable, are part of the differentiating characteristics of the programs (communication resources, educational trends or online tutoring, among others). The analysis shows how the degree to which universities disseminate methodological aspects and adoption of trends in a way accessible



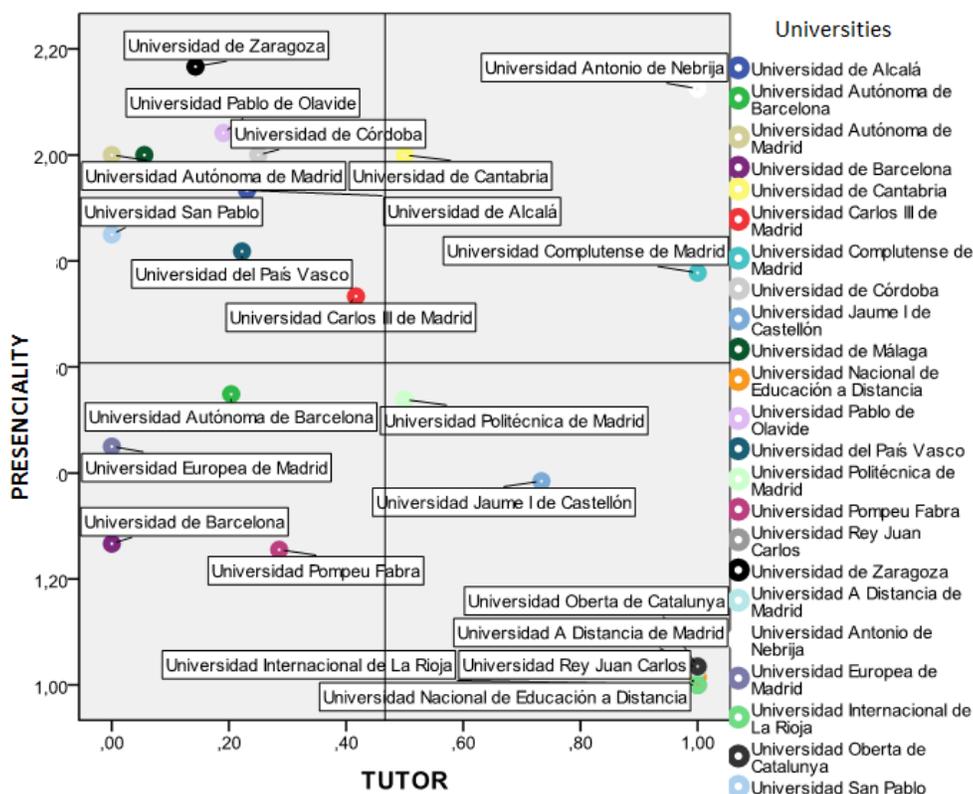
to potential students, favors the differentiation of the offer with respect to those offers where only basic characteristics of the program are communicated.

5.1. Basic features for online promotion.

Basic characteristics present in most programs according to the type of entity.

The number of credits and price is a crucial aspect of the decision from the point of view of students and therefore all programs include such information. In the private universities it is considerably higher than the public universities (€ 98.94 vs € 59.99), the average price of the total number of universities analyzed being € 69.73 per credit. As for the modality of the different online masters studied, there are significant differences according to the ownership of the university. In the private universities, the non-presential modality stands out, while in the public universities they are closer to a system of semi-presential courses in the offer of the masters analyzed. The degree of presence could be related to the possibility of an accessing tutor, although not all universities specify the system of this accompaniment advantage.

Graph 1. Relationship between the presence modality and the presence of tutor.



Graphical source: Own elaboration based on the data consulted in the webs of the universities.

However, the chart allows differentiate a varied typology of universities according to the modality in which masters are taught and the existence or not of a personalized tutor (figure

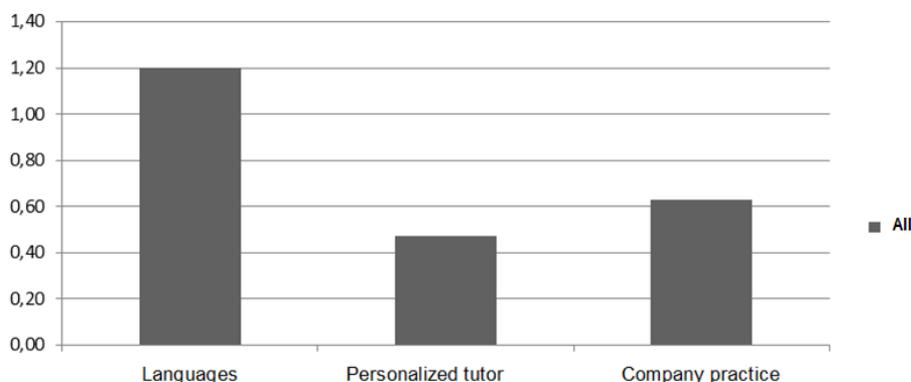


1). This indicates that the advantage of tutoring is not taken advantage of by all entities. The universities that stand out for having a non-face to face methodology and the existence of a personalized tutor (lower right quadrant of the chart) are the International Universities of La Rioja, Rey Juan Carlos and UNED.

The difficulty of access to the world of work is the reason why practices in companies are a requirement increasingly valued by students. As a result, most universities offer them to a greater or lesser extent.

We also analyzed the average number of languages in which the online masters are taught the existence or not of a personalized tutor, as well as the offer of internships in online studies of the universities analyzed. The universities that offer their titles with more variety of languages, that offer more number of programs with associated practices and personalized tutor are the private universities, being more significant the difference between the ownership of the institutions in the offer of a personalized tutor.

Graph 2. Average number of languages, tutor and practices companies by title of the university.



Graphical source: Own elaboration based on the data consulted in the webs of the Universities

Note: The 'languages' variable shows the average number of languages per graduate according to university ownership. The variables 'Personalized tutor' and 'Practices in companies' reflect a scale 0-1 where 0 means absence and 1 presence.

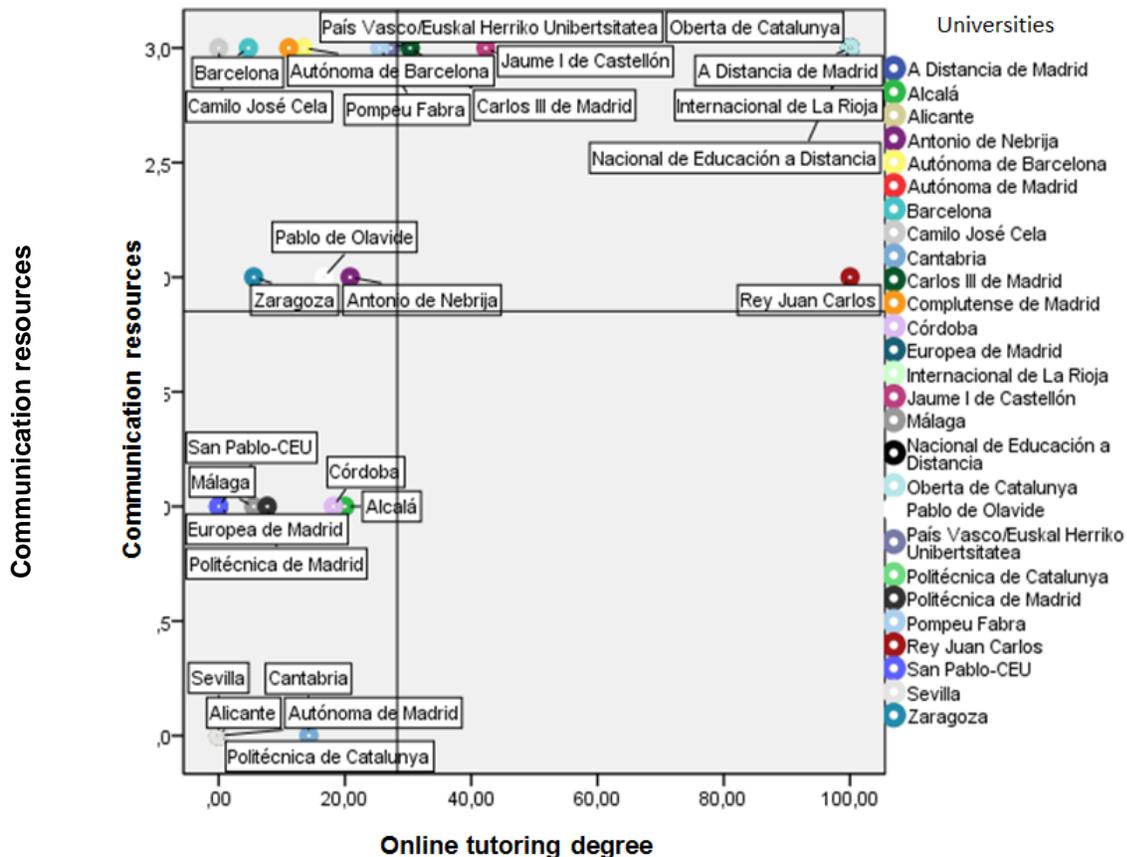
The quality of communication in online courses is one of the variables most noted in the literature as a precedent of student satisfaction (Wang and Chiu, 2011). The relationship must be frequent to achieve an exchange of knowledge and mutual respect that allows the quality of communication and results in teacher satisfaction (Margalina et al., 2014). For this reason, a synthetic index (codified from 0 to 3) has been elaborated, which reflects the diffusion of the communication resources available in the programs of the different universities, based on the qualitative information analyzed on the websites. In this sense, zero reflects that the web of the program does not inform the different communication resources (they are not indicated in the web page even if they exist); Indexes 1 and 2





denote a dissemination of basic resources and dissemination of various online communication resources (LMS only or LMS along with online tutorials, chats and other matters, where the emphasis is on communication); and finally, those who get a three score provide multiple tools as an opportunity to encourage communication and interactivity (chats, forums, blogs, tele-presence classrooms, web conferencing, and so on). Although this is undoubtedly a key aspect for differentiation, it has been detected the presence of information on these aspects to a greater or lesser extent in the consulted webs that make us include it in this first section of basic variables. Related to communication, another dimension to consider is the degree to which different universities offer online tutoring to their students in the follow-up of their studies. The online tutoring of the tutor has been considered differently, since in the first case it is assumed that the relationship is more systematized from the center in terms of contacts and this adds value to the monitoring of the program. For this case, the indicator has been constructed by performing the average of the masters offered by universities.

Graph 3. Typology of Universities according to communication resources and online tutoring.



Graphical source: Own elaboration based on the data consulted in the webs of the Universities



The top right-hand corner of the scatter plot (figure 3) represents the universities that stand out in terms of the dissemination of online communication and tutoring resources, being above the national average in both dimensions. Of particular note are the Open University of Catalonia (UOC), the International University of Distance Education (UNED), the Distance University of Madrid (UDIMA), the International University of La Rioja and the Rey Juan Carlos University. On the other hand, the entities that would develop to a lesser extent this model of online teaching, would be those that are below the average in both dimensions (bottom left chart): Autonomous University of Madrid (UAM), University of Cantabria, University of Alicante, University of Seville (US), Polytechnic University of Catalonia (UPC). Finally, a preliminary analysis of the content offered by the University's pages yields a conclusive result: Universities provide little information beyond the basic contents of their programs (price, credits, agenda,...), making it difficult to identify programs And universities with an innovative offer according to the new technological and methodological trends. For the above we have analyzed common aspects that allow to project a certain positioning of the universities. These aspects are: the diffusion in social networks, and the presence of information about tools and tendencies of the online training in the offers published in the Webs.

5.1. Information about differentiation in online promotion.

An initial analysis has allowed identifying some of the tools that the Universities communicate in their web pages (Table 1), beyond the use of Learning Management Systems (LMS). These tools really constitute differentiated information for the potential students and at least allow glimpsing the importance that the universities grant to the renovation of the educational model.

In order to carry out a systematic study, the presence (or absence) of the 389 programs of the main eLearning tools and trends considered in the literature (López-Catalán and Bañuls, 2017) has been analyzed: MOOC Courses, Open Course Ware (OCW), other Open courses, Institutional Repositories, Mobile learning, Gamification, Social Media and Augmented Reality)

To obtain this information, a methodological triangulation was chosen, so that the information identified in the websites was checked by two independent evaluators and telephone consultations were made to all universities, with the aim of increasing the reliability of the data. Subsequently, an indicator was built between 0 (none of the tools analyzed) and 9 (all tools are developed), and has been transformed into 0-100 scale. The results are shown in Table 1.





Table 1. Examples of e-learning tools reported in the promotion.

Distance from Madrid	Second Life (second life = social media)
Alcalá	My portal, Comunic @ 2o (agenda UAH) (social media)
Alicante	YouTube channel (social media), iTunes (mobile learning) channel, audiovisual portal and blogs (social media), u CLOUD CV (, web 2.0 (social media), web support, open data portal
Cantabria	AVUC (virtual assistant) (interaction)
Carlos III de Madrid	Channels in Itunes (mobile learning) and Youtube (interaction)
Complutense de Madrid	Digital portal where scientific, educational and academic documentation is stored (open education / repositories). Youtube channels and other platforms (interaction).
Europea de Madrid	My Labs Cloud of applications and tools to work online accessible through mobile devices (mobile learning). Pioneer in the EU, E-portfolio, telepresence-videoconference classrooms (interaction), simulators and augmented reality (augmented reality)
Internacional de La Rioja	Learning resources (repository) (open education)
Jaume I de Castellón	Forums, blogs, chats, collaborative work (interaction)
Málaga	They have some courses online with low-cost professional guidance (Other courses)
Nacional de Educación a Distancia	iTunesU (mobile learning)
Oberta de Catalunya	Institutional repository (open learning), blogs (interaction), iTunes (mobile learning)
País Vasco/Euskal Herriko Unibertsitatea	Ehusfera (blogs of the UPV / EHU) (interaction and open education)
Politécnica de Catalunya	UPC Blog (interaction and open education)
Politécnica de Madrid	Collaborative learning (BSCW, Acollab) interaction
Pompeu Fabra	Portfolio interaction, CQUID (Centr for teaching quality and innovation)
Sevilla	Web 2.0 interaction, Second Life socialmedia
Zaragoza	Mahara (electronic portfolio) interaction, geo (online teaching management)

It is interesting to highlight the unanimous commitment of universities to include the term mobile-learning in the promotion. However, the lack of additional information and telephone consultations do not really point to the recognition of the possibilities offered by this trend in education (producing a relevant change), but a mere adaptation of the multi-device reality only in the key of access and limited use Of Apps.





Up to 85% of the institutions show social networks as a teaching-learning instrument and only six universities include in their offer elements related to Gamification (Antonio de Nebrija University, Autónoma de Barcelona, Zaragoza, Rey Juan Carlos, Rioja and Universidad Europea de Madrid) and the Augmented Reality (Universidad Complutense de Madrid, University of Alicante, Jaume I de Castellón, San Pablo CEU, UDIMA and Universidad Europea de Madrid).

Table 2. Presence of eLearning tools in selected universities

Universities	Synthetic Index (0-100)	MOBILE LEARNING	M O O C	O C W	Other Open Courses	Institutional Repository	Gamification	Social Media	Augmented Reality
Universidad Autónoma de Barcelona (UAB)	88,89	x	x	x	x	x	x	x	
Universidad Complutense de Madrid (UCM)	88,89	x	x	x	x	x		x	x
Universidad CEU San Pablo	88,89	x	x	x	x	x		x	x
Universidad Carlos III	77,78	x	x	x	x	x		x	
Universidad de Alicante	77,78	x	x	x		x		x	x
Universidad de Córdoba (UCO)	77,78	x	x	x	x	x		x	
Universidad de Zaragoza	77,78	x	x	x		x	x	x	
Universidad Jaume I de Castellón (UJI)	77,78	x	x	x		x		x	x
Universidad Politécnica de Cataluña (UPC)	77,78	x	x	x	x	x		x	
Universidad Oberta de Catalunya (UOC)	77,78	x	x	x	x	x		x	
Universidad Internacional de La Rioja	77,78	x	x	x		x	x	x	
Universidad Europea de Madrid	77,78	x	x			x	x	x	x
Universidad a Distancia de Madrid (UDIMA)	77,78	x	x		x	x		x	x
Universidad Antonio de Nebrija	77,78	x	x		x	x	x	x	
Universidad de Cantabria (UC)	66,67	x	x	x		x		x	
Universidad de Málaga (UMA)	66,67	x	x	x	x	x			
Universidad de Sevilla (US)	66,67	x		x	x	x		x	
Universidad del País Vasco (EHU)	66,67	x	x	x		x		x	





Universities	Synthetic Index (0-100)	MOBILE LEARNING	M O O C	O C W	Other Open Courses	Institutional Repository	Gamification	Social Media	Augmented Reality
Universidad Rey Juan Carlos (URJC)	66,67	x	x	x		x	x		
Universidad Pompeu Fabra (UPF)	66,67	x	x		x	x		x	
Universidad Nacional de la Educación a Distancia (UNED)	66,67	x	x	x	x	x			
Universidad Politécnica de Madrid (UPM)	66,67	x	x	x	x	x			
Universidad Autónoma de Madrid	55,56	x	x	x		x			
Universidad de Alcalá (UAH)	55,56	x	x			x		x	
Universidad de Barcelona	55,56	x	x	x		x			
Universidad Pablo de Olavide (UPO)	55,56	x	x		x	x			
Universidad Camilo José Cela (UCJC)	33,33	x				x			

Table source: Own elaboration based on the data consulted on the webs of the Universities

As a consequence, four groups of universities are observed: the most advanced ones (Autonomous University of Barcelona (UAB), Complutense University of Madrid (UCM), Open University of Catalunya (UOC), Universidad Europea de Madrid, Madrid Distance University UDIMA), Antonio de Nebrija University, San Pablo CEU); A second group that mostly reflects the importance of Social Media and / or open resources (University Carlos III, University of Córdoba (UCO), University of Seville (US), University of Zaragoza, University Pompeu Fabra (UPF), University Polytechnic University of Catalonia (UPC), International University of La Rioja, Universidad Pablo de Olavide (UPO); A third group that, despite not divulging the implementation of Social Media as an educational resource, does reflect the offer of MOOCs (Autonomous University of Madrid, University of Alcalá (UAH), University of Alicante, University of Barcelona, University of Cantabria (UC), University of Málaga (UMA), University of the Basque Country (EHU), Rey Juan Carlos University (URJC), Jaume I University of Castellón (UJI), National University of Distance Education (UNED), Universidad Politécnica de Madrid UPM),); And finally, the Camilo José Cela University that only announces the presence of virtual classroom, repository and Mobile Learning.

6. Conclusions.

In this article, we considered whether the webcasting carried out by Spanish Universities at present takes into account the communication of methodological aspects and trends that could be differentiators of an innovative offer. This general objective was concretized in two specific ones: to know the information that the main Spanish universities facilitate in their webs referring to the postgraduate programs online and semi-face to face, and to assess if they give relevance to the data referring to the technological and pedagogical tendencies used as differentiating elements of their offer.





In order to do this, we have studied the web dissemination that a sample of 27 Spanish universities and 389 online or semi-face to face programs, registering for the analysis the information available on its web pages through the methodology Counting Methods.

The main conclusion is that there are two types of data that the universities offer. First, a group of basic characteristics present in most of the programs that report the number of credits, price, language modality, tutoring, communication tools and practices in companies. On the other hand, other characteristics that allow students to infer, at least in part, the educational model or at least methodological aspects that facilitate the transmission of a proposal of value to the potential student. This information refers to the use of advanced communication tools (beyond the basic ones provided by any LMS) and the adoption of the main trends in e-learning (MOOC Courses, OpenCourseWare (OCW), other open courses, Institutional Repositories, Mobile learning, Gamification, Social Media and Augmented Reality). Based on these tendencies, the universities have been categorized into four groups: the advanced ones, the ones concerned about the social media, the ones that opt or the MOOC and a fourth group that lags behind in trends.

The empirical work has also revealed the great difficulty that the student might find in identifying relevant aspects that help him decide to hire a training program: aspects related to tutoring, communication tools, new pedagogical tendencies, open resources ... all of this lacks the structuring necessary to highlight clearly and unequivocally in each program methodological and technological aspects that differentiate other offers. In this sense, the interested student must navigate aimlessly searching for information throughout the entities' web, assuming a risk of loss of the potential client. After analyzing the websites of the most relevant Spanish universities, we conclude that in general the above mentioned institutions do not make a clear commitment to systematically transmit an innovative image both from a technological and pedagogical point of view.

For all of the above, it is necessary for these entities to carry out an introspective analysis to identify their educational model and subsequently include in the web promotion those aspects of communication and key trends that allow the student to identify a differentiated offer of the rest, innovative and of quality, capable of fulfilling their expectations.

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