



iCERI 2019

**12TH INTERNATIONAL CONFERENCE OF
EDUCATION,
RESEARCH AND
INNOVATION**



CONFERENCE PROCEEDINGS

**SEVILLE (SPAIN)
11-13 NOVEMBER 2019**



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THE IMPORTANCE OF INTRODUCING ELECTRONIC ADMINISTRATION IN THE TRAINING OF PUBLIC ADMINISTRATORS: EXPERIENCES IN THE DEGREE OF PUBLIC MANAGEMENT AND ADMINISTRATION OF THE UNIVERSITY JAUME I

O. Coltell, P. Boronat, M. Oller

Universitat Jaume I (SPAIN)

Abstract

In Europe, Spain and Italy are almost the only countries where there are specific studies of Public Management and Administration (PMA), with a heavy load of contents in law, mainly public administrative law in Spain, although contents of law and economy of the European Union are also introduced. In the rest of the countries, an Anglo-Saxon model is more followed in which the training of future public officials is shared between studies of Political Science and Business Administration and Management. In addition, in Spain, in the period when the PMA degrees were designed, a huge event was starting: the coming of the great digital revolution that would remove the foundations of the public administration, fundamentally at national level, and later at regional ('autonomías') and local levels, known as the Electronic Administration.

The Administration was promoted from the Spanish Administration by the successive governments of Spain, through laws (Organic Law 11/2007 -Plan Moderniza-, and Organic Laws 39/2015, which repealed the 11/2007, and 40/2015) and other lower level regulations, since the second lustrum of the 21st century. Specifically, the 39/2015 Law consolidates the absolute official validation of telematic services and digital certificates and electronic signatures of Spanish citizens with the Spanish Public Administration at every level. But the eAdministration contents was barely taken into account in PMA curricula.

On the contrary, in the PMA Degree of the Universitat Jaume I (UJI) of Castellón, a subject set of New Information and Communication Technologies (ITC) and Information Systems (IS) was introduced. The ITC subject allowed to include a presentation and introduction to eAdministration in the second semester. The IS subject allowed to extend the knowledge of IS based on ITC. This was made following the general philosophy of the UJI since it was founded: to ensure that none of its degrees lack basic ITC training, except for specific degrees in that field or related fields, as Engineering, Computational Mathematics, Video Games and Computer Science degrees. Moreover, both grades make intensive use of the digital and telematic resources of the UJI for the development of their teaching, such as the virtual classroom, where, in addition to publishing the teaching materials, tasks for the delivery of memories and exercises are opened, Non-personal communication between students and teachers is managed through forums, and even knowledge tests are done with the platform. In this way, the zero paper principle is achieved. In the practical part students work with office automation tools and also with the processes of request and use of real digital certificate and electronic signature in front of a public administration.

The objective of this work is to describe the experience obtained from the 2012/2013 course, when PMA started, and even some experiences from the previous equivalent studies (from 1994/1995 to 2013/2014), in the second semester subject where the eAdministration is introduced, as well as the presentation of the evaluation of the methodologies used along these years.

Keywords: Electronic Administration, Degree of Public Management and Administration, experience and methodology.

THE IMPORTANCE OF INTRODUCING ELECTRONIC ADMINISTRATION IN THE TRAINING OF PUBLIC ADMINISTRATORS: EXPERIENCES IN THE DEGREE OF PUBLIC MANAGEMENT AND ADMINISTRATION OF THE UNIVERSITY JAUME I

O. Coltell, P. Boronat, M. Oller

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Abstract

In Europe, Spain and Italy are almost the only countries where there are specific studies of Public Management and Administration (PMA), with a heavy load of contents in law. In the rest of the countries, an Anglo-Saxon model is more followed in which the training of future public officials is shared between studies of Political Science and Business Administration and Management.

Since 2007, the eAdministration has been promoted from the Spanish Administration by its successive governments, but the eAdministration contents was barely taken into account in PMA general curricula. However, in the PMA Degree of the Universitat Jaume I (UJI) of Castellón, a subject set of "New Information and Communication Technologies and Information Systems" was introduced, including the introduction to eAdministration. This subject make intensive use of the UJI digital and telematic resources for the development of their teaching, such as the virtual classroom (VC) where the zero paper principle is achieved. In the practical part, students work with office automation tools and also with the processes of request and use of real digital certificate and electronic signature in front of a public administration. The objective of this work is to describe the experience obtained from the 2012/2013 course, when PMA started, as well as the presentation of the evaluation of the methodologies used along these years.

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1 INTRODUCTION

In Europe, Spain and Italy are almost the only countries where there are specific studies of Public Management and Administration (PMA), with a heavy load of contents in law, mainly public administrative law in Spain, although contents of law and economy of the European Union are also introduced. In the rest of the countries, an Anglo-Saxon model is more followed in which the training of future public officials is shared between studies of Political Science and Business Administration and Management. In addition, in Spain, in the period when the PMA degrees were designed, a huge event was starting: the coming of the great digital revolution that would remove the foundations of the public administration, fundamentally at national level, and later at regional ('autonomías') and local levels, known as the Electronic Administration (eAdministration).

The eAdministration was promoted from the Spanish Administration by the successive governments of Spain, through laws: Organic Law 11/2007 -Plan Moderniza- [1], and Organic Laws 39/2015 [2], which repealed the 11/2007, and 40/2015 [3]) and other lower level regulations, since the second lustrum of the 21st century. Specifically, the 39/2015 Law consolidates the absolute official validation of telematics services and digital certificates and electronic signatures of Spanish citizens with the Spanish Public Administration at every level. However, the eAdministration contents was barely taken into account in PMA curricula.

On the contrary, in the PMA Degree of the Universitat Jaume I (UJI) of Castellón, a subject set of New Information and Communication Technologies (ITC) and Information Systems (IS) was introduced. The ITC subject allowed including a presentation and introduction to eAdministration in the second semester. The IS subject allowed to extend the knowledge of IS based on ITC. This was made following the general philosophy of the UJI since it was founded: to ensure that none of its degrees lack basic ITC training, except for specific degrees in that field or related fields, as Engineering, Computational Mathematics, Video Games and Computer Science degrees. Moreover, these grades make intensive use of the digital

and telematics resources of the UJI for the development of their teaching, such as the virtual classroom (VC). In the VC platform, in addition to publishing the teaching materials, tasks for the delivery of memories and exercises are included. Non-personal communication between students and teachers is managed through forums, and even knowledge tests are done with the platform. In this way, the zero paper principle is applied. In the practical part students work with office automation tools and with the processes of request and use of real digital certificate and electronic signature in front of a public administration.

Our aim is to describe the experience obtained from the 2012/2013 course, when PMA started, and even some experiences from the previous equivalent studies (from 1994/1995 to 2013/2014), in the second semester subject where the eAdministration is introduced, as well as the presentation of the evaluation of the methodologies used along these years.

2 METHODOLOGY

The main objectives in the subject named “New Information and Communication Technologies (ITC) and Information Systems (IS)”, coded as GA1208, are the following:

- 1 Introduction of the new ICT in public administration and study of electronic administration.
- 2 Introduction to oral presentations.
- 3 Promotion of Internet resources (dictionaries, databases, magazines, forums, mailing lists), promoting the ability to learn to learn and the generation, management and integration of documentation in various electronic formats.
- 4 Initiation to experimentation with the Web 2.0 technologies.
- 5 Work with existing applications and techniques for basic data analysis and decision-making.
- 6 Design and monitoring of workflows in administrative processes.

And the subject contents is distributed in the following topics:

- 1 Information and Communication Technologies in public administration management.
- 2 Internet and Web 2.0 in the management of public information.
- 3 Productivity tools in the management of administrative information.
- 4 Office tools in the management of administrative documentation.
- 5 Data analysis in the management of administrative information.
- 6 Design and monitoring of workflows.

The most part of the topic 1 is developed in the classroom as theoretical matter, but the rest is carried out by means of some small projects, as how to obtain a digital certificate and electronic signature form the public administration and how to use them for signing documents. The rest of topics are all developed in the digital laboratory (desktop computers).

The main objectives of the topic 1 in the GA1208 subject, are the following:

- 1 Introduction of new ICTs in public administration.
- 2 Understanding of the strategies and approaches of electronic public administration.
- 3 Initiation to the techniques and processes of online administration.
- 4 Review of the principles and norms of computer security at the user level.

The topic contents is distributed in the following lessons:

- 1 [L01] Electronic Administration Portal.
- 2 [L02] Types of information in public administration management.
- 3 [L03] Types of Information and Communication Technologies (ICT).
- 4 [L04] Strategies for the application of ICT in AA.PP.
- 5 [L05] Concepts and strategies of IT security in ICT.

Focusing in the Lesson T01, which is the object of this work, we have the following sections:

- 1 Differences and similarities between administration and management in general.
- 2 Electronic Administration Portal: Concepts and framework legislation.
- 3 Electronic Administration Portal: Cases.
- 4 Main aspects of electronic administration.
- 5 Electronic signature.
- 6 Digital certificate.

The E-government Portal [4] is the main repository of the Spanish eAdministration (Fig.1). This website is also one of the basis in the subject for introducing and presenting the eAdministration to students.

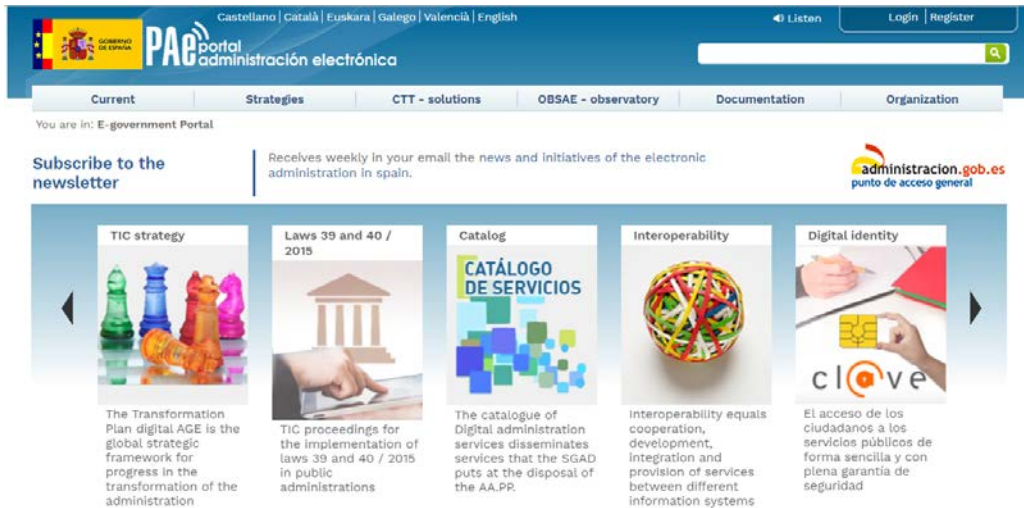


Figure 1. The E-government Portal in Spain (source [4]).

The E-government Portal is too wide and deep for making an exhaustive study of its contents. The, we selected some topics as fundamentals laws ([2], [3]), strategies, the Electronic Administration Observatory, the Technology Transfer Center (CTT), and common services of Electronic Signature.

In addition, one complementary topic introduced in GA1208 is the block chain technology applied to the eAdministration [5].

The GA1208 subject is totally developed using the UJI Virtual Classroom (UJI-VC) platform [6] and the Google Drive services. Fig 1 shows the main page of the corresponding UJI-VC course.



Figure 2. Main page of the GA1208 course in the UJI-VC.

The subject evaluation system is detailed in Fig. 3.

GA1208. ESTRUCTURA DE EVALUACIÓN DE LA ASIGNATURA			
DESGLOSE POR SECCIONES Y PRUEBAS			
SECCIÓN A: PRUEBA ESCRITA		Comprende las pruebas siguientes (Guía Docente):	
<i>Prova</i>	<i>Ponderació</i>	<i>Nota mínima</i>	<i>Nota màxima</i>
P1. Resolució de Casos. Resolució de casos teòrics i avaluació escrita:	20%	1,0	2,0
P2. Resolució de Casos. Desenvolupament de casos pràctics i elaboració de memòries:	60%	3,0	6,0
P3. Resolució d'exercicis i problemes i avaluació escrita:	10%	0,5	1,0
P4. Presentacions orals i pòsters:	10%	0,5	1,0
TOTAL	30%	1,5	3,0
A1.1. Control de Teoria n ^a 1	10%	0,0	0,3
A1.2. Control de Teoria n ^a 2	10%	0,0	0,3
A1.3. Control de Teoria n ^a 3	10%	0,0	0,3
A2.1. Examen de Teoria/convocatoria	37%	0,5	1,1
A3.1. Examen de Practicas/convocatoria	33%	0,5	1,0
Subtotal	100%	1,0	3,0
SECCIÓN B: PRÁCTICAS		Comprende las pruebas siguientes (Guía Docente):	
<i>Prova</i>	<i>Ponderació</i>	<i>Nota mínima</i>	<i>Nota màxima</i>
P1. Resolució de Casos. Resolució de casos teòrics i avaluació escrita:	20%	1,0	2,0
P2. Resolució de Casos. Desenvolupament de casos pràctics i elaboració de memòries:	60%	3,0	6,0
P3. Resolució d'exercicis i problemes i avaluació escrita:	10%	0,5	1,0
P4. Presentacions orals i pòsters:	10%	0,5	1,0
TOTAL	70%	3,5	7,0
B1. TRABAJO PRÁCTICO: valoración de la aplicación de los visto en las prácticas	60%	2,1	4,2
B2. TRABAJO PRÁCTICO: entrevista personal	20%	0,7	1,4
B3. TRABAJO PRÁCTICO: valoración general	20%	0,7	1,4
Subtotal	100%	3,5	7,0

Figure 3. Evaluation system of the GA1208 subject.

In summary, the 70 % of the subject score is coming from the laboratory work. The rest of the 30% score is based on three short advanced controls (10 test questions in each one) and a semester examination (20 test questions). The advanced controls include packages of one or two lessons of the "Introduction of the new ICT in public administration and study of electronic administration" topic.

3 RESULTS

In the academic year of 2018/2019, Fig 4 shows graphic results of the control no. 1 (L01). Fig 5 shows graphic results of the control no. 2 (L02). And Fig 6 shows graphic results of the control no. 3 (L03 and L05).

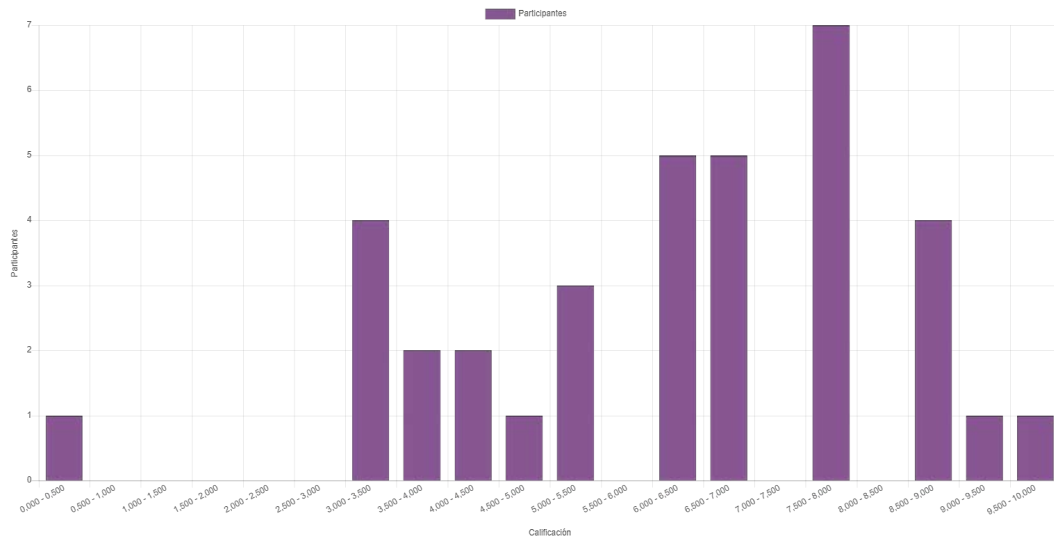


Figure 4. Results of the Control no. 1 in the GA1208 subject.

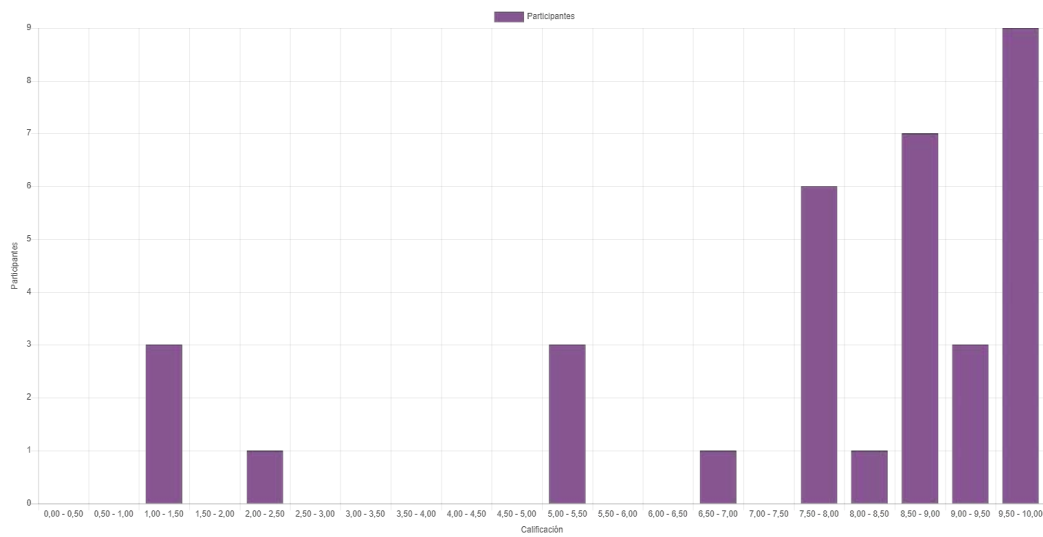


Figure 5. Results of the Control no. 2 in the GA1208 subject.

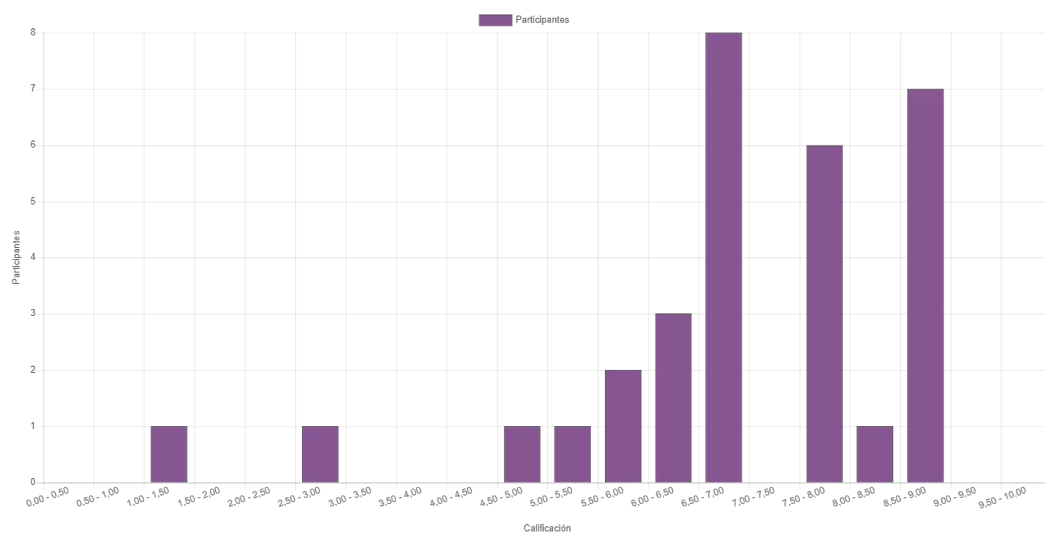


Figure 6. Results of the Control no. 3 in the GA1208 subject.

The shape of bar graphs is very similar in the last two figures showing that students can learn more about the evaluation system and they are more prepared. Figure 7 shows results of the Final examination. Surprisingly, the results of the final test are worse than the previous controls, which has not been usual in the course of this subject. A further analysis with students discover us that they focused their efforts in the practical works and the theoretical part was not prepared properly, relying on the better results of the controls.

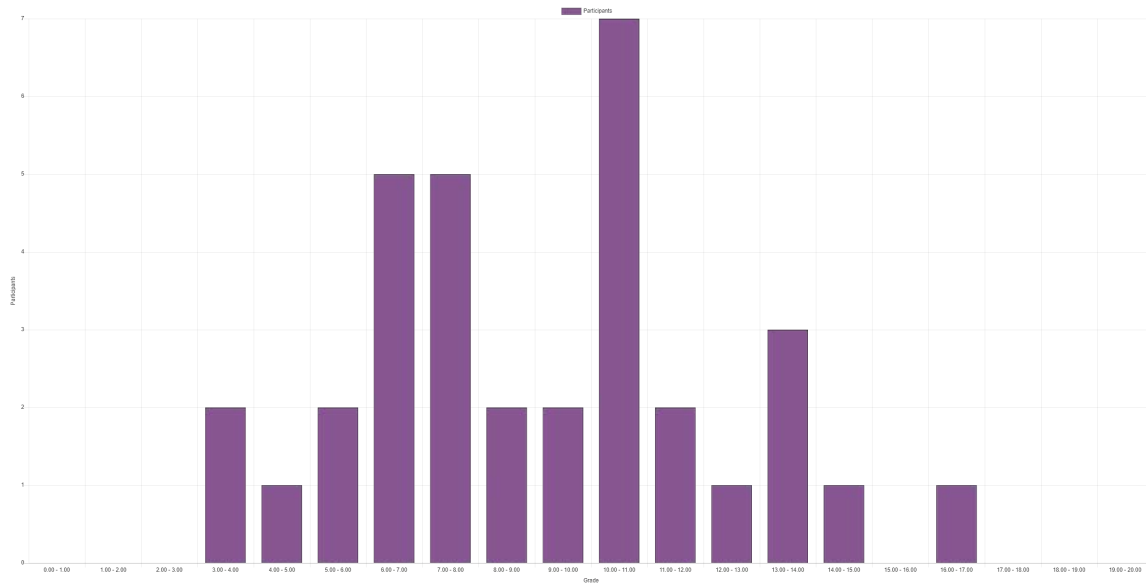


Figure 7. Results of the Final examination in the GA1208 subject.

4 CONCLUSIONS

We presented the subject “New Information and Communication Technologies and Information Systems” (reference GA1208) in the studies of Public Management and Administration (PMA) of the Universitat Jaume I. The main topic introduced in this subject is the “Introduction of the new ICT in public administration and study of electronic administration”, working in the classroom and the laboratory with the eAdministration matters and related Information and Communication Technologies. Although the results in the theoretical part of the 2018/2019 course have not been as good as the controls carried out during the semester, the overall result of the subject has been better because 70% of the score is based in the practical work in the laboratory. This confirms that we are following the right path although some revisions are also necessary to improve much more.

ACKNOWLEDGEMENTS

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