The introduction of a competence-based curriculum in Spain: From the Primary school to the training of teachers

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Abstract

In the last years, most of the educational systems in Europe and elsewhere have shifted to a competence-based approach. The aim of this paper is to present how the main Spanish educational reforms of 2006 and 2013 have incorporated the concept of competence, and how it has been used to structure the curriculum in Primary and Secondary Education. The paper defines the competences of compulsory education and their main features, and it also highlights how the shift in policy has affected in the typology of competences. The study is based on a document and content analysis methodology and is focused in Spanish educational laws, at both national and regional level. The paper ends with the implications the competence-based curriculum has on initial teacher training and showcases how the Universitat Autonoma de Barcelona has implemented it in the degrees of the Faculty of Education.

Key words: Competences, Spanish educational system, teacher training, Primary school degree, curriculum, professional master degree in teaching

Introduction

The needs and demands of the knowledge society, the introduction of the information technologies to the everydaylife as well as the globalisation of the labor market, have affected the nature and meaning of the learning and teaching processes and brought the need to guarantee to everybody the achivement of new key competences for their personal and social development. International reports (PISA, 2006, 2009, 2012; TIMSS, 2007) indicate that one out of five pupils are not able to achieve the basic competences in their compulsory schooling to join succesfuly their role in society; other studies (MEN, 2010, p. 13) state that in the horizon 2020 only 15 % of jobs will be for unqualified people.

The OECD[1] defined the term competence as the "capacity to answer complex demands and to work in an appropiate way involving the ability to meet complex demands, by drawing on and mobilising psychosocial resources (including skills and attitudes) in a particular context" (OECD, 2002, pp. 4). In the same direction, the European Commission stressed also the need to equip people with 'new skills for new jobs' and defined competences as the knowledge, skills and attitudes required for a successful life in a knowledge society (E.U., 2008).

The succesive EU frameworks "Education and Training 2010" and "Education and Training 2020" (2009) stablished common strategic objectives for Member States, including a set of principles to achieve those objectives, as well as common working methods with priority areas for each periodic work cycle. The *International Conference on the New Millennium Learners*, (OECD, 2009) introduced also the concept of *21st Century skills and competencies*, as addressed to allow young people to contribute to a system based in knowledge instead of industry (Ananadiu and Claro, 2009).

The Spanish Education Act (2006) incorporated the core competences as one of the elements of the curriculum and evaluation. In its article 6, the curriculum was defined as a series of objectives, basic skills, content and criteria assessment. As the Spanish Constitution enacts 17 autonomous regions with their own Statutory Laws and Parliaments, some of them, as in the case of Catalonia, have a special profile in their curriculum because of differentiated languages and school practices that are reflected in their school system as well as in the training of teachers. There, the curricular adaptation was stablished also by two decrees in 2007.[2] They represent the particular adaptation of the evidence that today's labour force has to be equipped with the set of skills and competencies which are suited to the knowledge economies and are mainly supported or enhanced by ICT.

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[1]   The term was defined in the project *Definition and Selection of Competencies (DeSeCo)* Rychen; Salganik, (2003).

[2]   Decree 142/2007, stablishing the Primary School Curriculum (DOGC núm. 4915).

•   Decree 143/2007, stablishing de Secondary school curriculm (DOGC núm. 4915)

The official document *Consolidation of the basic competencies as essencial element of the curriculum* (IFIIE, 2011) contains the measures impulsed by diverse regions in terms of research, actions taken in teachers training, existing support materials, information sessions, and so on. These measures are, in general, related to two conceptual models: a socio-constructivist one based on Delors' four types of learning: learning to know, learning to do, learning to be and learning to live together; and on a cognitive model, in which knowledge and skills are just valued as a previous step for "learning to do" or as a useful application of competencies (IFIIE, 2011, p. 5).

In the annex 1 of the *Organic Act for Education* is written: "…the incorporation of basic competencies to the curriculum allows to emphasize those apprenticeship that are considered as fundamental from the point of view of an integrative planning and orientated to the application of the adquired knowledge". This confers their basic character. This law suffered a modification by the *"Organic Law for the Improvement of the Quality in Education"* (LOMCE 2013). It introduced some variations and among them, the shift from "basic competencies" to "key competencies" and the reduction from eight competences to seven, being considered just as a complement "to the traditional learning of contents" (LOE, 2006:3). This explains the real orientation of the reform.

According to Sarramona, a Catalan pedagogist, "should the school just worry about some aspects of learning but not about those related of their application to the daily life?, or, should it worry preferably about how pupils acquire the skills and strategies that are useful in everyday life? Moreover, is this preparation for 'daily life' including preparation for labour market?" (Sarramona, 2000, p. 3).

The aim of this paper is to present the role and application of 21st century competences in the Spanish educational system through the analysis of the Primary and Secondary curriculum and also that of initial teacher training.

1 Methodology

The methodology of our study is based on document and content analysis and has been developed at two levels: the first one is the analysis of the Primary and Secondary education curriculums, through the official regulations (LOE, 2006) and its modifications (LOMCE, 2013). The compared analysis of these regulations highlights the diferencies and continuities between both poposals in relation to the use and conceptualization of competencies. The same procedure has been carried out with the decrees for the adaptation of the curriculum in the Catalan school system (DOGC, 4215). The study also focuses on the regulations concerning the instructions for the organisation and management of these core competences. The second level of study focuses on the process of implementation of the competence-based curriculum in the training of teachers, and an example is given in order to ilustrate its application.

1.1 Outcomes of the study

The Spanish educational system is inspired by general principles, such as the quality and equity for all, the school inclusion and the transmission of values of personal freedom, responsibility, democracy, solidarity, respect and justice. Education is conceived as a long life learning and it should strength flexibility to be adapted to the diversity of capacities, interests and needs of pupils as well as to the changes that society is facing. The curriculum also follows a problem solving approach and tries to address and avoid gender discrimination.

The current competences for Primary Education are defined in Article 2 of the 2014 decree. The seven competencies are: the linguistic competence, mathematic competence, science and technology competence, digital competence, social and civic competence, sense of initiative and cultural expression. Table 1 shows a comparison of these competences with other frameworks of reference.

Table 1
The core competences in the curriculum

E. U. Framework of Reference	21st century competences	Spain
Communication in mother tongue Comunication in other languages	Effective Oral and Written Communication Critical Thinking	Competence in linguistic communication. Cross- cultural understanding
Mathematic, science and technology competence	Problem Solving and resolution	Mathematic competence Knowledge
		Interaction with the physical environment
Digital competences	Accessing and Analyzing Information	Information and digital competences
To learn how to learn	Critical thinking	To learn how to learn
Social and citizenship competences.	Collaboration and Leadership	Social and citizenship competences
Sense of initiative and entrepreneurship	Flexibility and adaptability Initiative and Entrepreneurialism	Personal autonomy and initiative.
Awareness and cultural expression	Creativity	Cultural and artistic competence

The Spanish Education Department and the Education Departments from regional governments have promoted a programme for the consolidation of basic competences as an essential element of the curriculum. A "General diagnostic evaluation" has been implemented at 4rth level of Primary Education (young people aged 10) and 2nd year of Secondary Education (young peple aged 14) with the objective to evaluate the attainment of basic competences in linguistic communication, mathematic competence, interaction and knowledge with physical world, and social and civic competence. At their turn, the departments of regional governments evaluate also the basic competences

of their territoy; they have an internal character for the schools as a way to introduce modifications and to improve school practices.

The Department of Education annually approves the instructions for the organization and functioning of schools; since 2010, these resolutions contain specific measures devoted to core competencies and among them, the need to consolidate the role of ICT both in teaching and learning processes. The annual instructions enhance also the need for changes in the methods of evaluation and assessment and the organisation and management of schools, in order to adapt to the demands of a curriculum based in competences. Schools have to clearly state in their educational project what are the objectives that ensure the attainment of basic competences, and this implies the need to improve their practice through a specialised training for school teachers and leaders.

In the Primary school curriculum, a first group of competences with a transversal scope can be found: they are essencial for the construction of knowledge and constitute the basis for personal development. A second group is related to general culture and personal worldview. Nevertheless, according an international report (Eurydice, 2012) these competences do not have an exact connection with the basic competences established in the curriculum of the compulsory stages because there is not any exclusive area or subject for developing each basic competence.

The competence in linguistic communication is meant as the use of language as a tool for oral and written communication, the understanding of reality, the construction of knowledge and the regulation of behaviour and emotions. In Spain, the different regional Departments of Education have developed strategic programmes (2010–2020) focussing on the linguistic competence through the support of school libraries, which are considered as centers of resources and information to promote reading and independent learning. Among these programmes two can be highlighted: one devoted to reading in digital era (2011) and another to promote the press in the classroom to stimulate reading habits and to promote teaching strategies for the search and selection of information and to promote critical thinking. "Leer.es" (Reading.es)[3] is also a resource for schools. Regarding the competence in foreign languages, a programme is devoted to its improvement through diverse projects such as PALE (support programe for teaching and learning foreign languages, 2010–2020) designed both for the linguistic competence of teachers and the linguistic immersion for pupils.

The mathematic competence is the use of the basic operations and the logical reasoning to produce and interpret informations, to know quantitative and spatial aspects of the reality and to solve problems related to the daily life and work. It is promoted through a compulsory subject along all ten years of schooling.

The third competence-knowledge and interaction with the physical world is addressed to understand facts, to predict consequences and to facilitate activities addressed to the achievement of better life conditions.

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[3] http://leer.es. Accessed 15/04/2015

The digital competence has been defined as the skills to search, to achieve, to process and to communicate information and to transform it in knowledge, and it includes the use of ICT as generator, transfer and exchange of knowledge. The digital competence has not been subjected to evaluation in national evaluations up to the moment but it exists a strategy for its development through national programes[4]. On the other hand, there are specific initiatives to promote the digital competence in the last years of Primary Education and the two first years of Secondary Education. These initiatives are promoting the use of digital classrooms, Internet connection, teachers training and digital learning materials[5].

The 'Social and civic competence' is developed through the entire curriculum of compulsory education and focuses on the ability to live in a plural society and to understand the world we live in. Since 2006 to the approval of the last Education Act (LOMCE, 2013), citizenship education was taught as a separate compulsory subject entitled *Education for Citizenship and Human Rights* in one of the two grades of Primary (ages 10–12) and in one of the last three years of Secondary (ages 13–16); 'Ethical and civic education' in school year 10 (15–16 years old). In the new educational law, these subjects desapeared.Competence in cultural and artistic fields consists in understanding and appreciating the diversity of cultural manifestations and to use them as a source for personal enrichment and to value them as part of cultural heritage. At the same time, it tries to develop and express ideas, experiences and feelings in a creative way through music, visual arts and theatre, verbal and body language, among others.

To learn how to learn focus the ability to improve learning in an autonomous way, to cope with uncertainty and to find different responses and solutions to problems.

The competence in personal autonomy and initiative refers to the personal and collective responsibility of transforming ideas into actions. The Education Act of 2006 set up the objective of achieving this competence together with the entrepreneurial spirit. These competences were boosted from subjects as Artistic education or Technology, but also in a transversal way. They were focussed on the development of personal initiative, group work, responsibility, self steem and self confidence, curiosity, critical sense and creativity. In the case of Catalonia, the Primary School curriculum has defined a transversal competence entitled "Autonomy and personal initiative". In Secondary Education, the programme *"Young entrepreneurs"* is offered as an optional course, and in some cases it is integrated in other subjects (MEN, 2010). With the modifications of the Education Act in 2013, this competence is more relevant, as it is reflected in point 2 of chapter 6 (LOMCE, 2013).

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4   Programme for consolidating Basic Competences as a essential element of the curriculum' (2010–2011) and 'Programme for Deepening Knowledge (Profundiza)' (2010–2011).

5   The most ambitious programe, *Escuela 2.0*, contains different programes as *Agrega2* and educ@CONTIC http://www.agrega2.es/web/ http://www.educacontic.es/

The Competence-based curriculum at the Universitat Autonoma of Barcelona: a new perspective

At Higher Education level, the framework of reference in Spain was the *Tuning project* (2003). The conclusions of this international work were the starting point for the definition of competences for the degree profiles in European universities, while developing an approach to (re-)design, develop, implement, evaluate and enhance quality in first, second and third cycle of university degree programmes.[6] The Spanish National Agency for Quality and Acreditation (ANECA) and the Catalan National Agency of University Quality (AQU) took the Tuning proposal as an impulse towards the implementation of the competence approach at university level. Each degree was defined by its specific core competences but also by the generic ones (Consell Escolar de Catalunya, 2008). In year 2010, new degrees were approved in accordance with the European Higher Education Area (EHEA) regulatons that stablished a four years degrees of 240 ECTS and a final Degree Dissertation based on a research study or an innovative proposal.

The Spanish official regulations concerning the reform of the university degrees within the framework of the European Space of Higher Education established the general and basic competences to be achieved by all graduate students as it can be seen in table 2:

Table 2
Basic competences of University graduates

Ability to advance in knowledge from the Secondary studies to an advanced level with the support of textbooks but also with specialised literature of the specific field.
Ability to apply knowledge into professional work. To argue and solve problems in their field of study
To collect and interprete relevant data, argue on social, scientific and/or ethic relevant issues
To transmit information, ideas, problems and solutions to both general or specialised audience
To develope learning skills with great level of autonomy to be applied in a further study

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[6] TUNING Educational Structures in Europe started in 2000 as a project to implement the political objectives of the Bologna Process and, at a later stage, the Lisbon Strategy to the higher educational sector. Over time Tuning has become a process or an approach to (re-)designing, develop, implement, evaluate and enhance quality first, second and third cycle degree programmes.

The Universitat Autonoma of Barcelona, in the process of adaptation of its studies to the new structure, added four competences that were considered as general and that were expected to be adquired also through the different subjects and academic activities (see Table 3).

Table 3
General competences to be achieved by graduates at the UAB

To develop critical thinking and to communicate in a effective way in more than two languages.
To develop strategies for an autonomous and individual learning
To repect diversity and plurality of ideas, persons and situations.
To be able of generating innovative and competitive ideas, both in research and in other professional activities

1.2 21st century competences in intial Teacher Training

Currently, the Faculty of Education has 2836 students and 314 lecturers[7] and offers four degrees: Early Childhood and Primary Education teaching, Education Studies and Social studies. In the context of the curriculum reform debate, some methodological questions arose related to the efficient achievement of these competences and about their evaluation. Some of the specific competences could be faced from specific subjects but there was a need of an instrument to assure the transversal knowledge and competences for all students willing to work in the field of education and not fully covered by specific curricular areas. This need became in a proposal that merged the objectives of the curriculum with the objective of the Faculty to create new degrees with a basic common training for teachers, pedagogists and social educators as to train professionals able to work in interdisciplinar groups.

The Faculty made a bet for what was called *Common Basic Training* to fulfill these objectives. Three subjects were conceived as a learning package or module and were considered as a common basic framework (36 ECTS). These subjects were placed at the first year of all degrees (Infant and Primary teaching, Education Studies and Social Education) as a way to support the interdisciplinar work of the professionals in education as well as to facilitate the mobility within studies (see Table 4).

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[7] Figures for academic course 2014–2015.

Table 4

Common basic training at the Faculty of Education

Subject	ECTS
Education and educational contexts	12
Educational communication and interaction	12
Society, Science and Culture	12

Each subject (12 ECTS) has the objective to facilitate to students the building of their own fundamental learning process making them aware about the mutual influences between science, society, technological development and discourse strategies. Due to the high amount of students, the team of teachers involved in this module is large and requires a very complex management and organisation.

The structure of this Module requires a wide team of teachers from different fields of knowledge (pedagogy, health and natural sciences, geography, history, literature, philosophy, visual arts, music, and so on) willing and aiming to find a common framework and some points of confluence where to organise an interdisciplinar work with an innovative methodology. In one of these subjects, *Society, Science and Culture,* the team of teachers undertook a step further in search of a crossdisciplinar methodology that allows a new perspective on the way of working with students. This team is now involved in a research on the evaluation of this methodology after six years of application.

1.3 Competences in the Primary School Degree

The Primary Education degree aims to provide training to work as a teacher for the 6 to 12 age group in compulsory education. Candidates can opt for a general school training or to specialise in musical education, physical education, foreign languages or inclusive education. In Table 5, the basic, specific and crosscurricular skills are compared twith the 21st Century competences; some academic subjects have been highlighted as they directly focus on these competences.

Table 5

Primary School Degree competences

21st Century competences	GRADE	
	Basic competences/ Specific competences/ Transversal competences	**Subjects**
	To manage work-related information and use it properly. To analyse critically the work done.	
Critical Thinking and Doing	To analyse and recognise socio-emotional behaviours and to develop those required for a good professional development.	Linguistic Reception at School
Creativity	To work in teams in the same field and also in those interdisciplinar	
Collaboration	To adopt an ethical attitude and acting in accordance with the ethical professional principles. To keep a respectful attitude towards one's natural, social and cultural environments in order to to promote sustainable values and practices.	Educational Communication and Interaction II
Cross-cultural Understanding	To willingly participate in meetings and events of their own institution.	Society, Science and Culture
Communication	To use information and communication technologies to learn, communicate and share in educational contexts.	
Computing ICT Literacy	To have a postitive attitude towards life long learning.	Social Context and School Management
Career & Learning Self-reliance		

1.4 Competences in Master Degree in Secondary school teaching

Master degrees constitute the second cycle of university education. Student-Teachers undertaking a Master degree are expected to acquire specialised education in academic and professional areas as well as to be initiated in the field of educational research. In the case of Secondary Education, graduated students in different faculties need to enrol in a professional master in secondary teaching (60 ECTS). In Table 6, the basic competences for this degree are compared with those on the 21st century reference and the subjects that specifically are dealing with the development and achievement of those competences:

Table 6

Competences in Master Degree

21st century competences	GRADE	
	Master Degree in Secondary and Vocational schools Teaching	
	Basic competences/ Specific competences/Transversal competences	Specific Subjects
Critical Thinking and Doing	To develop critical thinking and reasoning and to communicate in an effective way both in mother tongue and in other languages.	Social and Educational Psychology Training
Creativity	To generate innovative and competitive proposals regarding research and professional activity.	
Collaboration	To work in teams and to develope attitudes of participation and cooperation as an active member of the community. To be able to work and participate in the planning of the school curriculum, to apply individual and collective methodologies and to adapt them to students' diversity.	Specific Module for each speciality
Cross-cultural Understanding	To respect the diversity of ideas, persons and situations. To plan and design learning espaces with special attention to equity, emotional and values education, equal gender opportunities, citizenship and respect to Human Rights.	
Communication	To find out, to process and communicate information and to transform them into knowledge to be applied in the teaching-learning processes of each subject. To communicate in an effective way, verbal and non verbal.	
Computing and ICT Literacy	To be able to use ICT in a effectively and integrated way.	Practicum and Master's Dissertation
Career & Learning Self-reliance	To develop strategies of individual learning.	

2 Final reflections

The Spanish educational system experienced a great shift in earliest nineties: Primary and Secondary Education curricula changed from a conception based on conceptual knowledge that was meant to be learn by heart, to a educational system that focused on learning knowledge, skills, attitudes and values. That shift implied a massive training of in-service teachers. More than one decade after, the incorporation of the competence-based approach has shaken again the confort zone of teachers, but this time lower training opportunities have been provided.

Taking into account this period of academic years, one thing has became evident: a competence-based curriculum is challenging the teaching methods, the role and perspective of teachers and the role and personal involvement of students. Under our

opinion and experience, we have found out that the main barriers that are preventing a successful implementation of the competence-based approach are:

– Despite the reforms and efforts for implementing the competence-based approach, there are many internal contracdictions in the educational system that hinder a proper development;
– It persists a disciplinar way of teaching and learning that does not help in the development of interdisciplinarity and crossdisciplinarity, what would help to work under the competence perspective. Disciplinarity prevents students and teachers to think holistically, to work cooperatively and to be more creative;
– Teachers are struggling with the assessment of competences achievements. It is not fully clear how to handle it, and how to split it into learning outcomes units of assessment;
– At the Universidad Autonoma de Barcelona the number of students per class is over eighty and it is seen as a barrier for working and assessing properly the achievement of the competences;
– There are not stable teaching groups at the university that are committed with the project and is properly trained for crosscurricular work;
– Schools and universities still have problems of full access to the ICT resources;
– Innovation is not rewarded as it should be and teachers are not stimulated.

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