

Education Matters



CEOE 2017

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The analysis of the global context and its trends, the orientations of multilateral organizations, the response of the European Union and its Member States, the opinion of international business organizations and the opinion of the experts, all point in the same direction and highlight that education and training are key strategic instruments for countries to prepare their economic and social future.

Spanish entrepreneurs also consider that **Education Matters**. For this reason, we want to convey this message to the Spanish society through this White Paper on Education which describes the essential features in the global context, its challenges and opportunities, the position of the European Union, the analysis of five basic shortfalls in the Spanish education system as well as formulating ten key proposals to solve them.

The context

One of the most structuring elements of the progressive changes experienced in the economic, cultural and social spheres has been globalization, as a set of processes through which events, decisions and activities occurring in a certain place on the planet have a relevant impact in other places, in other individuals and in other groups.

Two major engines have provided tremendous energy to this worldwide process. On one side, the dynamics of the market, with the increasing liberalization of the flows of products, services, capital and people; and, on the other side, the development of Information and Communication Technologies (ICT).

The progressive advance of globalization has led to the phenomenon of offshoring, particularly in the industrial sector, but also in some other economic sectors that involve the realization of offshoring labor tasks. Nevertheless, the digital revolution has had and will continue to have a clear impact on productive efficiency, particularly in developed countries. Both phenomena produce cumulative effects on the net destruction of employment, which are felt with greater intensity in some Western economies. Added to this is the so-called "Fourth Industrial Revolution" –which relies on technologies supported in physical, biological and digital systems, and their interactions– to define a new, highly complex panorama with frequent disruptive changes. Adaptation to this new context, in economic and employment terms, is strongly dependent on STEM (Science, Technology, Engineering and Mathematics) competences, on digital competences, on innovation, on entrepreneurship, and, therefore, transfers new requirements and new responsibilities both to education and training systems and to the transition mechanisms from education to employment, which must be adapted to the future market challenges and demands.

The European Union is aligning its approach with the new challenges and, despite the validity of the 'principle of subsidizing' in education and training, a priority of clear action priority has been assigned to policies, proposals, quantifying progress of Member States, evaluating their achievements, guiding their actions and making support and resources available.

In this scenario, it is necessary and urgent to implement the right reforms in our educational system. Such reforms must provide students, from mainstream education, with a stable core of knowledge, attitudes and skills in accord with the needs of this new era. At the same time, a highly flexible programme in vocational and university education must be laid out and implemented in such a way that it rapidly responds to the labour skills employment is demanding, which will certainly reflect the changes inherent in a dynamic and complex labor, economic, and social context.

Figure 1

Globalization engines and their interdependency

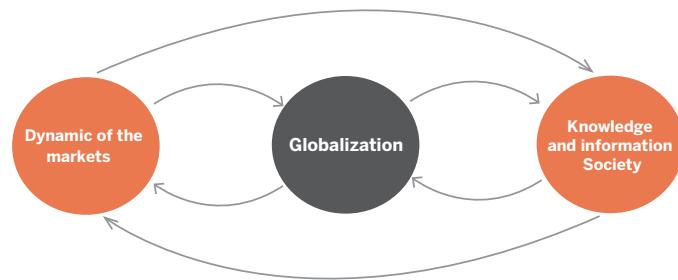
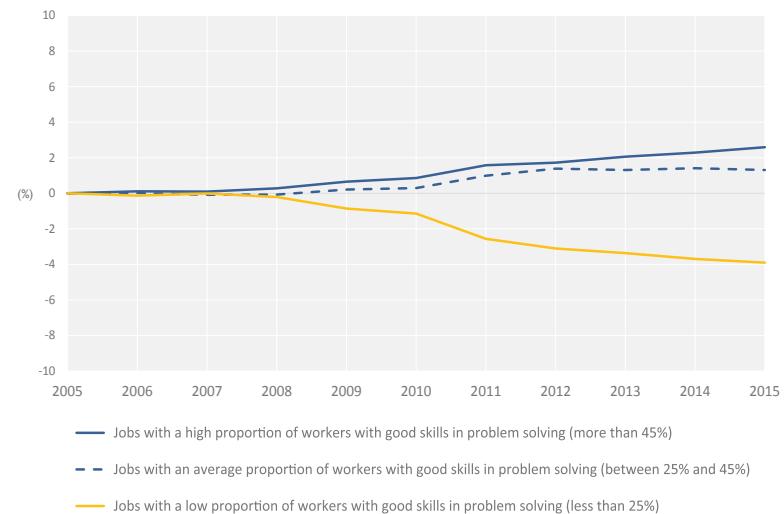


Figure 2

Evolution of employment in occupations defined by the average competence of workers in problem solving within the European Union. 2005-2014



Source: own elaboration based on Eurostat and PISA 2012 Results: Skills for Life (Volume V). **Student Performance in Problem Solving, OECD 2014.**

Five basic deficits

Despite the prolific diagnoses on our educational system, currently available, this white paper on education by Spanish entrepreneurs has focused only on five basic shortfalls that are, however, of the greatest interest for the business world. Some of these diagnoses reveal serious deficiencies in the processes and outputs of the mainstream education system; others refer to a defective interaction between the worlds of training and employment; and others are found, either direct or indirectly, in investors' and international companies' portfolios related to human capital, in such a way that the destination of their investments may be conditioned accordingly to one or another country.

- D1.** The mediocrity of the results.
- D2.** The inefficiency of expenditure.
- D3.** The gap between training and employment.
- D4.** The slowness of the political response.
- D5.** The deficiencies in regulatory frameworks.

D1. The mediocrity of the results

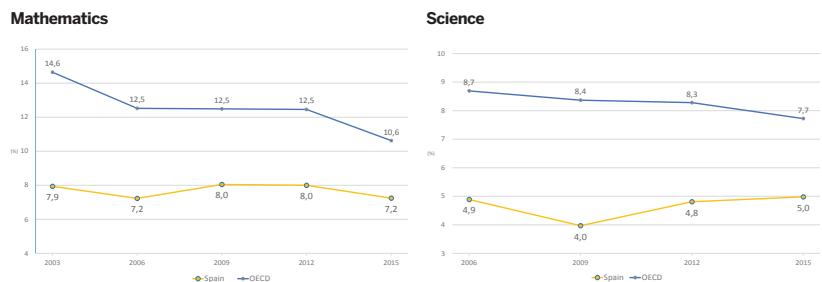
A broad analysis of the outputs of the Spanish educational system reveals striking mediocrity. When they are subjected to the test of international contrast, and even in comparison with themselves through the consideration of trends over sufficiently long periods of time, there are pronounced deficiencies which constitute real obstacles for the economic and social progress of our country.

Main results

- 1.1** A stagnation revolving around mediocre values of school performance, as measured by PISA tests over the last 15 years.
- 1.2** Precarious levels of excellence, as measured by PISA tests.
- 1.3** Major territorial differences among autonomous regions that equates to a difference of up to two academic courses.
- 1.4** An inadequate position on knowledge of foreign languages within the EU.
- 1.5** Early drop-out figures for education or training, which are double those of the UE and are not improving.
- 1.6** Stagnation, in terms of the generation of basic human capital generation, reflecting figures well below that of the vast majority of EU countries.
- 1.7** A favorable position in STEM in higher education compared to the EU average, but with a negative prognosis.

Figura 3

Evolution of the percentage of students achieving a level of performance of 5 or higher, in Mathematics and Science in Spain and the average of OECD countries. 2003-2015



Source: OECD, PISA 2015 database.

D2. The inefficiency of expenditure

It is often assumed, in a very simplistic way, that all expenditure on education is an investment. However, the truth is that how and on what the money is spent are key factors to distinguish between good and bad investments.

Main results

- 2.1** With regard to public expenditure on education in relation to GDP, Spain, at 4.2%, is 1.1 percentage points below the EU-28 in 2013, showing a divergent behaviour during the economic crisis.
- 2.2** Spain, at 18%, is one of the European countries where the proportion of private expenditure coming directly from households, with respect to total expenditure on education, is higher. Furthermore, it shows an increasing tendency which diverges from the European Union.
- 2.3** The Spanish educational system is not very efficient and the relation between expenditure and results diverged in the first decade of the present century, with a slight subsequent convergence due to adjustments.

Figure 4

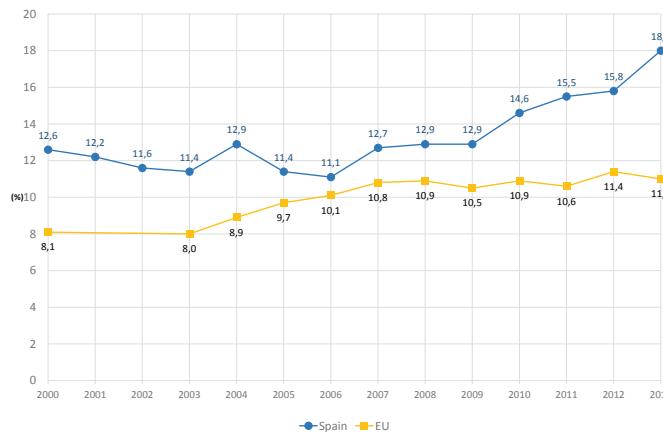
Evolution of public spending on education as a percentage of Gross Domestic Product (GDP) in Spain and in the European Union average. 2000-2014



Source: own elaboration based on Eurostat.

Figure 5

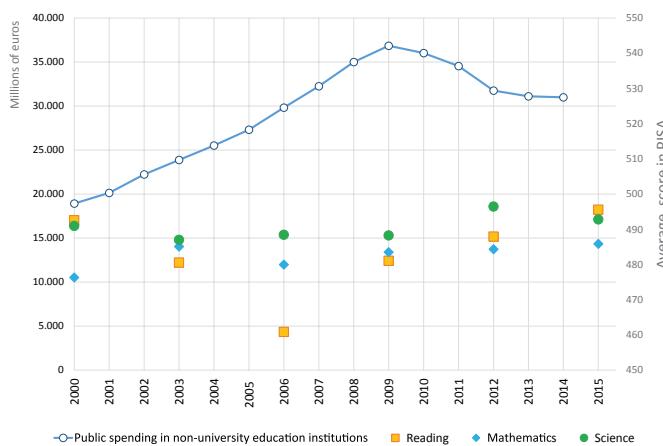
Evolution of the percentage of private expenditure, with respect to total expenditure, ISCED 1-8 education levels in Spain and European Union average. 2000-2013



Source: own elaboration based on *Education at a Glance, OECD*.

Figure 6

Evolution of public expenditure in non-university education institutions in Spain and the average scores obtained by Spanish students in the PISA tests. 2000-2015



Source: OECD, Eurostat and PISA 2015 database.

D3. The gap between training and employment

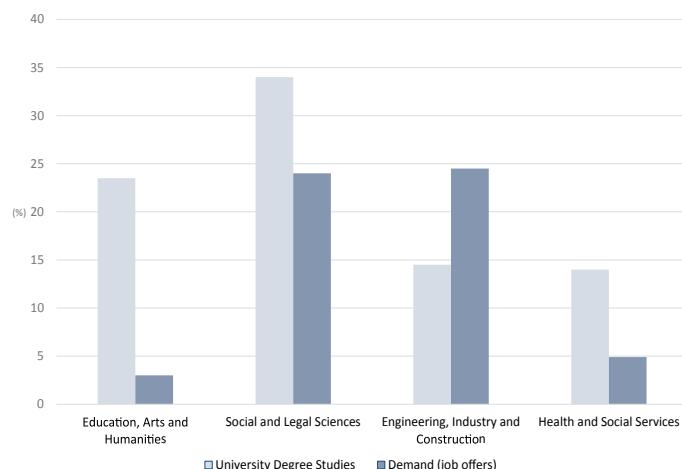
The developed world lives in a seemingly contradictory situation, with high levels of youth unemployment affecting skilled individuals and, at the same time, with a shortage of the skills and the competences which the labor market demands. Although such a mismatch is a multi-causal phenomenon that concerns the education system, the productive system, and their interactions, the education and training system is not providing quick and adequate responses to the changes that are taking place in the labor market. This is contributing to the widening of the gap between training and employment.

Main results

- 3.1** In university education, in the field of "Education, Arts and Humanities", there is a huge mismatch between supply and demand of qualifications, the former being the affected area; the opposite happens in the field of "Engineering, Industry and Construction", where the demand is the affected.
- 3.2** In vocational education, although the mismatch is not so big, there can be found professional families for which the gap between supply and demand is considerable.
- 3.3** The Spanish educational system has failed to provide professional guidance, in favour of psycho-pedagogical orientation, and has not provided students with enough information to make sound choices.

Figure 7

Distribution of job offers and students enrolled at the university, by vocational families



Source: 03/2015 Report. Professional competencies and employability. Economic and Social Council (CES).

D4. The slowness of the political response

Even though accelerated changes in the context do not easily allow for the advancement into the future, they at least make it possible to react quickly whenever they become present and affect the preparation of the new generations. One of the failures of the Spanish education and training system consists in a very slow political response to the demands of the context, despite the growing influence of the European Union in the orientation and definition of key education policies.

Main results

- 4.1** Poor use of the new lifelong learning approach as an updated, guiding framework for the design and implementation of effective policies in a knowledge-based economy and society.
- 4.2** A notable delay in the elaboration and implementation of dual vocational training models or school-business combinations.
- 4.3** Extreme delays in the design and implementation of integrated policies for the management of teacher talent.

D5. The deficiencies in regulatory frameworks

Despite the prescriptive nature of the laws, the presence of serious deficiencies in the regulatory frameworks –be it of form, focus or content– contributes to its devaluation and, with some frequency, to its non-compliance, evident or less evident as the case may be. This results in a lack of respect for our rule of law, which is the basis of our freedoms and the foundation of our democracy.

Main results

- 5.1** Increasing regulation, with a significant increase in regulatory pressure and an exaggerated specification of details.
- 5.2** A total confrontation, both ideologically and politically, which has often transformed education into a field of conflict.
- 5.3** A frequent mismatch between the rules and, on one hand, the purpose of the public policies that are intended to be implemented, and, on the other hand, the real problems that are intended to be solved.

Ten Key Proposals

The challenges of the social and economic context, their rapid evolution, and the impact on the structure of the labor market; the STEM hi-tech jobs of the fourth industrial revolution and a possible multiplier effect in relation to other types of jobs; the importance of non-cognitive skills and attitudes towards people; the uncertainty of the future and the weakening of personal frames of reference; and citizen distrust of the State's ability to guarantee social and political stability and to facilitate the economic growth of other times, are some of the features that call for a strategic vision for the educational system. A vision that looks to the future with proper foresight, that transcends that historical present, which is articulated around only a legislature, and that guides the path and action in a pertinent way.

To this end, Spanish entrepreneurs are presenting ten key proposals that specify this necessary strategic vision and the implementation of which will make it possible to correct, to a large extent, our basic deficiencies in education and training.

P1. A new curriculum for a new time.

P2. Promoting innovation, entrepreneurship and the use of technologies.

P3. Making teaching a robust profession.

P4. Strengthening the autonomy of the centers, their governance and their accountability.

P5. Defining an effective and efficient evaluation system for improvement.

P6. Consolidating freedom of education.

P7. Facilitating the transition from education to employment.

P8. Intensifying reciprocal links between education and business as well as the relevance of the business in the executive governance of training for the practice of a profession.

P9. Ensuring a basic, modern and effective framework common to the whole State.

P10. Promoting a social and political agreement that shares a vision and ensures an effective course for our educational system.

P1. A new curriculum for a new time

"Companies should work side by side with governments, training providers and other actors to imagine what a true 21st century curriculum should look like". We accept this recent recommendation from the World Economic Forum and, from the Spanish business world, we focus on what should be the basis of that 21st century school curriculum. We intend to respond to a convergence of common needs to both the business world and the society itself, which is capable of simultaneously fostering the training of good employees and of good citizens.

Recommended actions

- 1.1** To articulate the curriculum according to: knowledge, skills, character and meta-learning.
- 1.2** To produce a modern selection of content in traditional areas.
- 1.3** To reduce its extent in order to enable "deep learning".
- 1.4** To promote STEM teaching by reinforcing laboratories practice and workshops.
- 1.5** To ensure the humanistic approach in secondary education.
- 1.6** To develop creativity, critical thinking, communication and team work.
- 1.7** To reinforce both oral and written expression in the mother tongue and in foreign languages, especially English.
- 1.8** To incorporate character education from primary education through the design of cross-curricular learning situations.
- 1.9** To rigorously promote meta-learning, starting in secondary education.

P2. Promoting innovation, entrepreneurship and the use of technologies

From international analysis and the vision of the European Union itself, three main areas of reform, all linked to each other, must be the objective of renewed policies: digital technologies, entrepreneurship, and innovation. Based on the available reports and compared to the European average, in none of these three areas does the position of the Spanish economy move from the level of mediocrity.

Recommended actions

- 2.1** To introduce the appropriate orientation of digital technologies in the curriculum, and more specifically, in Technology as a subject.
- 2.2** To introduce workshops aimed at training students in the use of advanced digital software in the curriculum, and more specifically, in Mathematics as a subject.
- 2.3** To promote the use of ICT among teachers, as a powerful tool to improve teaching.
- 2.4** To involve companies in the development of digital platforms and technological solutions to allow more effective teaching methodologies.
- 2.5** To develop and implement an entrepreneurial education policy at the national level, that avoids wasting efforts and initiatives..
- 2.6** To promote activities which help students to develop their entrepreneurial skills with the aid of mentors and team work.
- 2.7** To encourage students to develop an entrepreneurial spirit, stimulating their creativity, improving their ability to take risks, and teaching them to learn from their mistakes.
- 2.8** To provide teachers with initial and long-life training opportunities to make use of entrepreneurial education into their teaching practice.
- 2.9** To involve companies and the civil society in the development of student projects in the economic, cultural and social sectors.
- 2.10** To familiarize teachers with the processes of educational innovation and with the evaluation of their effectiveness.
- 2.11** To recognize and disseminate from the educational administrations those innovation that have proved to be effective in a reliable way.
- 2.12** To involve companies in the generation of a culture of innovation in schools and in the education system as a whole.
- 2.13** To involve business organizations in advising educational administrations on the management of effective innovation.

P3. Making teaching a robust profession

In the last decade, experts, international agencies, and governments of the most developed countries emphasize teachers as a key factor in the quality of education systems. To achieve such high expectations, introducing talent management in the teaching profession becomes essential. The teaching profession, in the field of pre-university education, is at present a weak and bureaucratic profession when compared to updated standards that other more valued professions share.

Recommended actions

- 3.1** To adapt the MIR model when selecting and initiating the training of teachers without weakening its basic principles.
- 3.2** To articulate different types of career paths –academic and managerial or administrative– of career progression through a “Career Plan”.
- 3.3** To establish a system of incentives for both remuneration and promotion.
- 3.4** To implement a permanent training programme to satisfy the priorities of the system, to prepare the teachers for better professional practices and to make them progress according to their “Career Plan”.
- 3.5** To link teacher evaluation with incentives and promotion, guaranteeing their fairness and objectivity.

P4. Strengthening the autonomy of the centers, their governance and their accountability

As in a layered model, after the classroom, the school is what has the heaviest influence on the pupil. This is well known, not only by experts but also by families, given the fact that making the right decision when choosing the school for their children becomes for them a serious issue, especially at the enrolment period. Yet, the quality of the schools, according to consolidated evidence, clearly depends on three interrelated factors: their level of autonomy, the quality of their management, and the mechanisms of accountability for the results obtained by managing that greater freedom.

Recommended actions

- 4.1** To reduce regulatory pressure on schools and articulate an appropriate delegation of competences in the processes.
- 4.2** To facilitate and promote both their adaptability to the requirements of the local context and their alignment with the challenges of the global context.
- 4.3** To establish individualized improvement plans focused on student outcomes and school climate.
- 4.4** To facilitate and promote responses of education centers adapted to the characteristics of their environment through differentiated educational projects.

- 4.5** To introduce external evaluation systems that affect each center, taking into consideration the socioeconomic and cultural level of its students.
- 4.6** To promote transparency of results so that citizens know how their taxes are spent.
- 4.7** To establish fair and effective forms of intervention if the results of a center repeatedly place it below its socio-economic and cultural level, in a framework of accountability and responsibility.
- 4.8** To promote a systematic and quality self-evaluation of the centers to promote behaviors of "intelligent autonomy".
- 4.9** To promote greater professionalization of school management within the possibilities offered by the "Career Plan" of teachers.
- 4.10** To improve ongoing training procedures for current directors.
- 4.11** To give the school management greater competences in the area of human resources management, particularly in state schools.
- 4.12** To link management leadership to accountability in accord with the results.
- 4.13** To apply an attractive system of economic incentives for the directive function in order to bring Spain closer to the models of other advanced countries.

P5. Defining an effective and efficient evaluation system for improvement

The available empirical evidence on the role of evaluation as a powerful instrument for improvement is so robust that it serves as a basis for the application of this principle across all levels of the education system: the classroom, the school and the system, both at regional and national levels. However, the truly decisive component of evaluation is feedback as a mechanism for harnessing the information generated by the evaluation. That information will reasonably allow us to operate on the evaluated reality and to take relevant action for the achievement of the previously formulated objectives. The most important issue regarding evaluation is not evaluation itself but what is done afterwards.

Recommended actions

- 5.1** To promote and facilitate the implementation of internal assessment systems in all educational centers.
- 5.2** To establish an efficient system of external, census, and autonomous training assessments.
- 5.3** To use information from the PISA program to avoid redundant sample external evaluations.
- 5.4** To define a state-level certification assessment at the end of upper secondary education.

P6. Consolidating freedom of education

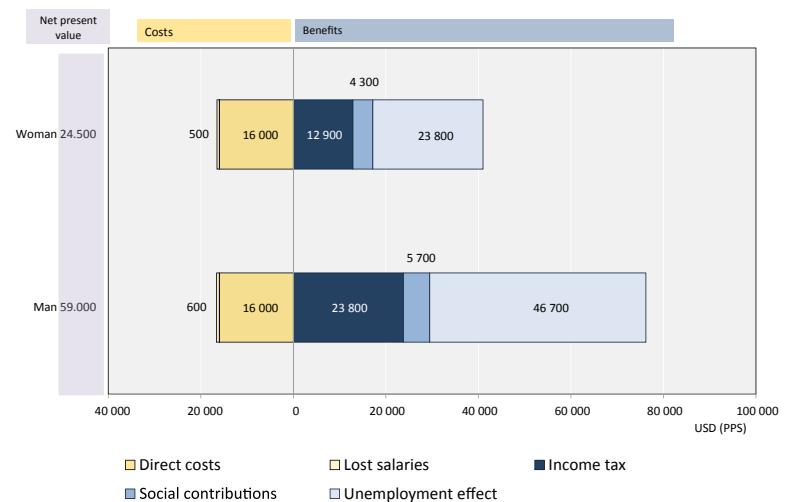
The increase in the level of preparation and openness of the new generations, with respect to the previous ones, together with the dynamics of the society of knowledge and information, suggests looking at the future from an update of the interpretative principles of the constitutional framework in the field of freedom of education (article 27 of the Spanish Constitution), and its criteria of application, which allows better attention to the greater complexity of expectations, needs and interests that is characteristic of advanced societies in the 21st century. This modernization of the criteria for the application of the constitutional framework in educational matters can be considered from both the supply and the demand sides.

Recommended actions

- 6.1** To update the subsidized system.
- 6.2** To allow the use of the "school bonus" in Infant education in the whole state.
- 6.3** To introduce tax relief in the mandatory stages.

Figure 8

Private costs and public benefits associated to the attainment of a degree from middle studies with respect to the completion of basic studies in Spain. 2012



Lost salaries: public costs generated by non perceived taxes over incomes during training years. USD (PPS): US dollars at equivalent international prices (PPS, purchasing power standards).

Source: Education at a Glance. OECD Indicators 2016, OECD.

P7. Facilitating the transition from education to employment

"With a growing mismatch between the skills demanded by rapid changes in the labor market and those of unemployed workers, companies have serious difficulties recruiting employees with the skills they need. [...] The expected growth of employment is concentrated in occupations for which, up to now, workers are not adequately prepared". This diagnosis made in *The Global Risks Report* of the World Economic Forum is widely shared in the business world. One way to contribute to the reduction of this gap is to reduce it ab initio, that is to say, operating from the world of training and improving the transition from education to employment.

Recommended actions

- 7.1** To guarantee training alternatives to avoid early drop-out in education and training.
- 7.2** To promote excellence in both general education and vocational training.
- 7.3** To promote the integration of the network of vocational training centers.
- 7.4** To promote dual vocational training models adapted to the different characteristics of the Spanish production system.
- 7.5** To establish a national program of comprehensive information and guidance.
- 7.6** To improve the organization of regulated vocational training.

P8. Intensifying reciprocal links between education and business as well as the relevance of the business in the executive governance of training for the practice of a profession.

The World Economic Forum's recommendation that "companies can no longer be mere passive consumers of" pre-cooked "human capital", reflects very well an opinion widely shared not only among analysts but also among the leaders of the companies themselves. Despite its generic nature, this recommendation is implicitly suggesting that entrepreneurship must be more actively involved in the training of young people. A way of making this possible is by betting on a more fluid relationship between education and business with a greater role of business in the executive governance of training for the practice of a trade or a profession.

Recommended actions

- 8.1** To increase the role of entrepreneurs and their organizations in the management of vocational training, as well as in the decision-making mechanisms of the training offer.
- 8.2** To involve the business world in the necessary reform processes for the simplification of the National Qualifications System.
- 8.3** To recognize a greater role of companies in the definition of both the diplomas of vocational training and certificates of professionalism.
- 8.4** To involve entrepreneurs and their organizations in a system of periodic evaluation of the functioning of the National Qualifications System, still to be established.

8.5 To incorporate business organizations in the Council of Universities and involve them in the governance of university institutions, particularly those oriented towards the productive system.

8.6 To incorporate the business world in the definition of the degree and postgraduate curricula and its updating.

8.7 To encourage work experience and relationship with the company during the university training period.

8.8 To establish systematic frameworks for university-enterprise collaboration to effectively guide R&D and knowledge transfer efforts.

P9. Ensuring a basic, modern and effective framework common to the whole State

The consolidation in Spain of the system of autonomous regions has gradually blurred, both in fact and in the eyes of the citizens, the distribution of responsibilities between the state and its autonomous regions in educational matters. However, in the light of both the current results and the challenges that our country has to face in terms of education and training, it is necessary to have a calm reflection and clarify, from the principles of reciprocal loyalty and respect for the Constitutional framework in force, the jurisdictional competence that corresponds to each territorial area.

Recommended actions

- 9.1** To define a clear and manageable system of priorities that provides a shared strategic vision for the Spanish education and training system.
- 9.2** To establish, for the whole State, a basic normative framework, coherent with this system of priorities and sufficiently simple and adaptive in its regulatory developments.
- 9.3** To establish a new system of autonomous financing in education that tries to compensate differences in results through accountability.

P10. Promoting a social and political agreement that shares a vision and ensures an effective course for our educational system

In recent times, a state of opinion favorable to the so-called “educational pact” has been generated in the political sphere and in the Spanish society. This desirable social and political agreement must not only provide sufficient stability to the structure of the system, but must also ensure its effective modernization. The agreement is not an end in itself, no matter how important it may be to achieve a fundamental level of consensus. It should be interpreted as an effective instrument to adapt our education and training system to local and global challenges which, in the current context, are imperative.

Recommended actions

- 10.1** To agree on a widely shared view of goals and course of actions.
- 10.2** To set aside the purely ideological approaches from education.
- 10.3** To accept the basic consensus already established.
- 10.4** To take into consideration the most robust evidence available.

The following table shows the correspondence between the key proposals and the basic deficits of the Spanish education and training system which each of the first ones, in a coordinated action, will help to correct.

KEY PROPOSALS	BASIC DEFICITS				
	The mediocrit of the results	The inefficiency of expenditure	The gap between training and employment	The slowness of the political response	The deficiencies in regulatory frameworks
1. A new curriculum for a new time.	✓	✓			
2. Promoting innovation, entrepreneurship and the use of technologies	✓	✓			
3. Making teaching a robust profession	✓	✓			
4. Strengthening the autonomy of schools, their governance and their accountability	✓	✓			
5. Definir un sistema eficaz y eficiente de evaluación para la mejora	✓	✓			
6. Consolidating freedom of education	✓	✓			
7. Facilitating the transition from education to employment			✓		
8. Intensifying reciprocal links between education and business as well as the relevance of the business in the executive governance of training for the practice of a profession			✓		
9. Ensuring a basic, modern and effective framework common to the whole State				✓	✓
10. Promoting a social and political agreement that shares a vision and ensures an effective course for our educational system				✓	✓

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