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DISCOURSES AND PRACTICES AROUND COMPETENCES IN EDUCATION

Discursos y prácticas en torno a las competencias en educación

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ABSTRACT
In this paper, based on the knowledge obtained through different research projects carried out in recent years, I first outline the difficulty of creating discourses and proposals from the field of education due, among other factors, to the scarcity of means and resources for educational research. Secondly, I refer to the social, political, economic, cultural and technological changes that have led to the emergence and expansion, especially from the business field, of discourses on the importance and convenience of implementing competence-based teaching and learning processes. I also discuss the strengths, difficulties and dangers that this entails. Thirdly, I consider the proposals made by different international organizations and their application in the Spanish education system. Next, I explore the difficulty of generating substantive changes in teaching and learning based on the enactment of the royal decrees that stipulate the obligation to introduce the competences that are considered basic in the school curricula. The article ends with some conclusions and proposals that may be considered.

Key words: Educational change, digital competence, civic and social competences, teaching conditions, educational policy, educational practice.

RESUMEN
En este artículo, basado en el conocimiento elaborado a través de distintos proyectos de investigación realizados en los últimos años, en primer lugar, argumento la dificultad de crear discursos y propuestas desde el campo de la educación debido, entre otros factores, a la escasez de medios y recursos para la investigación educativa. En segundo lugar, se sitúa el contexto de los cambios sociales, políticos, económicos, culturales y tecnológicos que han dado lugar a la aparición y expansión, sobre todo desde el campo empresarial, de los discursos sobre la importancia y conveniencia de poner en práctica una visión de la enseñanza basada en las competencias. También discuto las fortalezas, dificultades y peligros que esto conllevan. En tercer lugar, considero las propuestas realizadas por distintos organismos internacionales y su aplicación en el sistema educativo español. A continuación, exploro la dificultad de generar cambios sustantivos en la enseñanza y el aprendizaje, a partir de la promulgación de los reales decretos que estipulan la obligatoriedad de introducir las consideradas competencias básicas en los currículos escolares. El artículo finaliza con algunas conclusiones y propuestas para pensar.

Palabras clave: Cambio educativo, competencia digital, competencias sociales y cívicas, condiciones de enseñanza, política educativa, práctica educativa.

1. INTRODUCTION

> For every complex problem there is an answer that is clear, simple and wrong. H. L. Mencken

Education, as a field of study and of practice that affects the entire population, entails a level of complexity which is hardly found in any other human activity. In a world that asks us to learn throughout our entire lives (Banks, Au, Ball, Bell, et al., 2007), the diversity of the communities that need, and in the best scenarios receive, access to education and training and the contrast and multiplicity of interests and views, lead to a field of extreme difficulty. If we add the persistent lack of resources for research in education, we will understand why education tends to adopt discourses from other fields (Psychology, Economy, Business Studies…), not as an interlocutor, but as an *adopter*.

What is paradoxical, and unacceptable to me, is that something so essential for individuals, communities and humanity as a whole lacks the resources to analyze its own problems in depth, to propose reasoned initiatives and to articulate a permanent system of transformation (rather than depending on passing fads) which is oriented to improving this field. This lack of interest is not only not new, but in countries like Spain it has worsened over the last years. In 1988, Torsten Husén explained that, in 1971, the president of the Select Subcommittee on Education of the US House of Representatives said that

> around 10 per cent of the Defense budget was dedicated to research and development, and in the Health Department, it was 4.6 per cent. "However, when we discuss education, something as important to the life of our minds as the defense of the nation or health to our bodies, we find in all education levels that the US spends in total less than one per cent of its budget on processes of research, innovation and planned renewal." (p. 44).

In 2017, the Spanish government increased the spending on Defense for the next seven years by 14 billion euros, until it reaches 2% of the GDP (Pardo, 2017). At the same time, it has reduced the already meager funds for research in education by an additional 41.9% (Álvarez, 2016).

This persistent image tends to forget the importance of considering the contributions from *all the disciplines*, but with a comprehensive approach focused on the main target of education: to contribute to individual growth that makes it possible to give others their own place in life itself (Gert Biesta); to know how to be part of the world without being the center of the world (Philippe Meirieu); and ultimately, from my point of view and taking into account the society that surrounds us, to contribute to the development of the set of personal and social capacities that allow us to inhabit the best of all possible worlds. We have to take into account that the economic and social undervaluing of research in education contributes to increasing its fragmentation, irrelevance, low quality and lack of effectiveness, productivity and usefulness (Sancho & Hernández, 1997). Above all, and as I have mentioned above, this situation helps us to understand the constant dependence of education discourses, theories and proposals on other disciplines and increasingly on the world of business, with a special emphasis in the last years on the fields related to digital technologies.

This introduction wants to illustrate the *success* in the last years of the discourse of competences on education guidelines and policies, but also to show the difficulty in transforming this discourse into an education practice. In this article, after discussing the appearance of the interest for competences and their multiple aspects, I will analyze, based on different studies in which I

have participated over the last years, the possibilities and difficulties that this perspective has provided to the improvement of education.

2. THE LONG SEARCH FOR MEANINGFUL LEARNING

The history of education can be interpreted like a fighting scenario or maybe, in the words of Feenberg (1991, p. 15), "a better metaphor would be a *parliament of things* in which civilizing alternatives are discussed and decided". In the western world, there are two views that could complement each other but that generally contrast each other, and which are underlying the existing education concepts and practices. There is the idea of guiding and accompanying the individual so that the best aspects of that person may flourish and be developed —because, according to Biesta (2016), the worst can also be developed— and he or she is not considered an empty head, but a biographic corporeity that carries experiences and a learning potential. This notion contrasts with the idea of training, leading and orienting the development process, often without taking the other (the student) into account "as a legitimate other" (Maturana, 1990, p. 24). Students are often asked to leave their identity at the door of the School (Berstein, 1973). The contraposition between a "full mind", with all the decisions it entails about *what* to fill it with, and a "well-structured mind" (Morin, 2000) in which we need to agree on what we consider a *good structure* is still in force. And the discourses and practices related to competences are just one more step in this long road.

This journey has been defined by the need to eliminate the notion of the role of the School as an entity that just preserves the past and transmits it (Debray, 2001). We need to revise the notions of teaching as recitation, of learning as repetition and of knowledge as a static container (Cuban, 1993). We must decolonize the notions of childhood and youth (Cannella & Viruru, 2004), which refuse others their knowledge and their capacity to exist.

> These visions have been imposed "by the pact among developmental psychology, medicine, education and government agencies" (James, Jenks & Prout, 1998: 17). To these notions we should add those that infantilize childhood and keep it in subordinate positions through consumption and overprotection, to restrict not only their capacity of learning and action, but also the progressive assumption of responsibilities (Sancho & Hernández, 2014, p. 17).

The time has come to question the role of assessment as a classificatory and repressive process oriented at identifying what the student does not know in a test with paper and pencil, and with all the consequences it involves (Nichols & Berliner, 2007).

All these questions, and some others, have marked the history of educational innovation since the appearance of the Modern School (Sancho, 2001), but particularly since the end of the 19th century. In this sense, the movements of pedagogical renewal associated to progressivism (Dewey), the Modern School (Freinet) and the large community of teachers that have tried to propose a meaningful education show the underlying intention to integrate knowledge, abilities and attitudes. This is the basis of what nowadays we call "competences". Along the entire innovative pedagogical school of thought we find proposals to promote student-oriented teaching and learning processes that pay attention to the problems and challenges of each historical moment, and which understand knowledge not as something that exists, but as something that becomes. For knowledge to be significant, it needs to be meaningfully appropriated by the student. We

need a view of assessment that goes beyond the ability to answer a specific set of questions and that can and must play an essential role in the learning process itself (Earl, Fink & Stoll, 2007). The important factor is no longer to know *what*, but *how, why* and *to what end*.

However, these education theories and practices have not had an easy, widespread and deep integration in most school systems, which in the words of Foucault (1994), have been shaped as a powerful *dispositif*, as a powerful structure

> which includes the discourses, institutions, architectural forms, regulatory decisions, laws, administrative measures, scientific statements, philosophical, moral and philanthropic propositions […]. The *dispositif* itself is always in a game of power and, at the same time, always tied to the limits of knowledge, which derive from it and, in the same measure, condition it. (p. 229).

The most disturbing aspect of this *dispositif* is the distance between those who do research, who theorize and propose initiatives, those in charge of educational policies and companies with economic interests on education, on the one hand (Rowan, 2002), and those who are immersed in the practice of education on the other.

In view of all this, my proposal in this article is to put discourses over competences in the field of education from the start —a subject on which I have already published some texts (Sancho, 2011; Sancho & Padilla Petry, 2016). This study aims to discuss the unsteady road towards practice and to set out some conclusions with which we can keep thinking, learning and improving education.

3. DISCOURSES ABOUT COMPETENCES

As I argued at the beginning of this article, the complexity and multiplicity of aspects and interests that converge in the field of education, together with the systematic lack of resources for research in education, let us understand the shortage of our own discourses and proposals and the adoption —sometimes not very critical— of premises created in areas with more social —and especially economic— relevance. In this section I will briefly outline those which are more directly related to competences.

3.1. THE PREAMBLE

In the organization of the educational institutions of the 20th century it is easy to identify elements from Taylorism and Fordism. Taylorism, which as an organization system represented the essence of "scientific management" (Taylor, 1961), became widespread within the context of the industrial development of factories, companies and production, as a tool for capital and economy. Its proposals for chain production and the division of tasks, time and spaces in the production process in order to increase productivity and prevent workers from having control over those elements, were an unquestionable success and became a *paradigm*, a model of effectiveness and rationality. Since it was applicable to any type of organization, the School did not escape its influence.

Taylor (1961, p. 30) was convinced that

> When an exact record is kept of the amount of work carried out by each worker, as well as their efficiency, and when the salary of the worker increases as their efficiency improves, and when workers who fail to reach a certain level are fired and a new group of carefully selected workers is hired, both natural laziness and systematic low performance at work can be largely eliminated.

Not far from these principles, Fordism, named for the automobile business magnate Henry Ford —who successfully implemented the assembly line technique—, contributed to Taylorism and added cost reduction, an improvement in the distribution of goods, an increase in the purchasing power of workers and compromise policies between organized workers (unions) and capitalists.

These principles match, in the first place, the predominant view of the School in the 20th century as a meticulously arranged organization under strict surveillance which was essential to build what Foucault (1978; 1999) would call a "disciplinary society", a "control society". This society is created through a diffuse red of *dispositifs* or apparatuses that produce and regulate the customs, habits and production practices. The required obedience to its rules and mechanisms of inclusion and/or exclusion is achieved through disciplinary institutions (prisons, factories, asylums, hospitals, universities, schools, etc.) which provide a social structure through a type of logic that adapts to the "reason" of discipline. Secondly, as the quality of life improves, there is a promise of access to education for all population groups. And finally, the discourse of behavioral psychology established that performance could be "measured", and that learning results could be standardized.

This perspective tends to focus on isolated microcompetences based on the idea of what someone does or should do, that consists of a description of an action or a result that can be proven and evaluated (Norris, 1991). This explains the widespread acceptance of standardized tests in countries such as the United States. (Sanders, 1994).

3.2. THE DAWN OF THE 21ST CENTURY

In the last decades of the 20th century there were different scientific, technological, social, political and economic advances that marked the transition to the 21st century. This stage was characterized by changes in production systems, the unstoppable advance of globalization, the outstanding development of digital information and communication technologies, the raise of political and social conservatism and the new spirit of capitalism (Boltanski & Chiapello, 2002), among others. This period gave way to an endless number of new terms to refer to society: postcapitalist (Drucker, 1993), postindustrial (Bell, 1976), postmodern (Lyotard, 1984), knowledge society (Böhme & Stehr, 1986), information society (Berleur), network society (Castells, 2000), risk society (Beck, 1992), etc.

3.2.1. IN THE BUSINESS SPHERE

In this context, the forms of organization of work become more flexible and new demands appear for workers who have to adapt fast to a market which is increasingly separated from social cohesion and the welfare state (Sennett, 2000, 2003). Meanwhile, Fordism, with its structure of unions and social and wage demands, gives way to Toyotism (Darling-Hammond, 1997). Toyotism, as a work management strategy, is a term which was also coined by the automobile in-

dustry, because it was developed by Toyota, the Japanese automotive manufacturer, to overcome the oil crisis at the beginning of the decade of 1970. The principles of this system are based on work flexibility and high rotation of the workforce and their roles in the company; social stimuli through the promotion of teamwork and horizontal leadership; and the just-in-time production system, which gives significance to the relationship between production time and availability of the product through the principles of a lower control of employees and a reduction of production costs. This system shifts the responsibility of managing the company to the performance of its employees. According to some authors like Rodrigues Ramalho (2011), it significantly contributes to the advance of the neoconservative agenda, because it promotes a new worldview in which, from the marginal theory of "human capital", the individual is solely responsible for his or her own success.

This new organization of work is associated with new approaches on the notion of competences. In the words of Winterton (2009, p. 683), the "measures" of competence started to be used at first in the United States to "help in the selection of workers, because traditional cognitive intelligence tests were considered poor predictors of performance at work." The tendency towards a holistic approach for the management of human resources, which started to consider the psychosocial attributes as well as the cognitive capacities of the employees, was applied and reinforced by the changes in work organization. The unstoppable development of service economy, with its emphasis on and demand of an immediate delivery —apart from the idea that products and services cannot be kept in stock— required, above all, flexible production processes supported by a malleable workforce that can react to the ever-changing demands of the market. The meteoric rise of "competences" is precisely a consequence of that need for flexibility, because it establishes a strategy that can give a swift response to an increasingly fast world. Authors like Westera (2001, p. 75) summarize this core principle of "competence" when they argue that:

> Employers demand graduates that can work in complex environments; that is, environments characterized by poorly defined problems, contradictory information, informal collaboration and abstract, dynamic and highly integrated processes. The concept of competence is strongly associated with the capacity to control complex situations, and "competence" is supposed to transcend the levels of knowledge and abilities to explain how that knowledge and those abilities are implemented effectively.

If we take into account that knowledge is necessarily partial and fragmented (Lyotard, 1984), this approach moves away from narrow and specific definitions of *content*, and suggests more general and encompassing capacities, such as the strategies for permanent learning, which should allow people to not remain stuck with what they learned during their training stage. This explains the renewed interest and value of personal attitudes such as disposition and motivation to learn. As the traditional regulations of specific workflows are displaced by lean production based on self-managed and flexible teams with distributed leadership, other elements that go beyond technical knowledge such as teamwork and the collective resolution of problems become crucial for a successful working performance. In the words of Payne (2000), technical abilities have been branded as personal attitudes because the pressure created by the demand of flexibility creates a set of holistic requirements for the individual worker, which must now act autonomously and display high motivation and leadership traits. The result is that the narrow functional conceptions focused on the contents of working abilities are now side by side with *soft capacities* oriented to communication —essential to shift towards a service economy. Competence consists of the combination of all three dimensions: attitude and disposition, practical orientation abilities

and the necessary theoretical knowledge to perform certain tasks (work) with efficiency and excellence.

3.2.2. IN THE FIELD OF EDUCATION

In the field of education there is an increasing number of voices and initiatives oriented at promoting the transformation of different educational institutions that seemed to be stuck in the past and were not aware of the challenges posed by a society in constant evolution. These organizations, according to Maria Ferraris (1992, p. 31) in the case of Italy, lacked a *soul*, a sparkle and meaning that they must have for millions of people with the right and the obligation to spend long years of their lives following their teaching methods.

This was the origin of proposals like the *School of the 21st Century*, promoted by the George W. Bush administration at the beginning of the 1990 in the United States (Finn-Stevenson, Linkins & Beacom, 1992). In a different political and social context, we can find the reform of the educational system promoted by the socialist government in Spain (BOE, 1990) and implemented through a considerable change in the education programs which did not only include factual and declarative *learnings*, but also conceptual, procedural, attitudinal and value-based learnings (BOE, 1991a & b). These initiatives were backed by international organisms like UNESCO, and there were extensively reviewed ideas, although not widely put into practice, like those in the report by Delors, J. et al. (1996). This study considered the following elements as the main pillars of education: (a) Learning to know. (b) Learning to do. (c) Learning to live together. (d) Learning to be. This is clearly in line with the ideas of progressive movements and of the Modern School from the end of the 19th century and the beginning of the 20th century, which were also studied, rather than put into practice. Difficult as changing the powerful mechanisms of the School may seem, the need to question and expand on the traditional views on knowledge is increasingly clear (Gibbons, Limoges, Nowotny, et al., 1994), and so is the need to take into account the development of abilities and attitudes. Behind these movements we can find the challenge of educating students of the 21st century with teachers from the 20th century and schools from the 19th century (Sancho & Brain, 2013), particularly considering the difficulty to change the pedagogical conceptions of most of the agents involved in education systems (Sawyer, 2008).

In this context, international organizations promote and develop the discourses associated to the need to provide an answer to the educational and training challenges of a changing world through teaching and developing competences.

According to Ananiadou and Claro (2009), the OECD approach to new competences and abilities has been shaped through two significant initiatives: the Definition and Selection of Competencies project (DeSeCo) and the the Programme for International Student Assessment (PISA). In the DeSeCo project of the OECD (2002), it seems clear that the notion of competence involves several dimensions —which are not far from the proposals included in the report by Delors— based on the capacity to (1) use a wide range of tools, (2) interact in heterogeneous groups, and (3) take responsibility for managing their own lives and act autonomously. The heart of these key competences in the document is *reflectiveness*. In keeping with the initial diagnosis of a globalized world, the capacity to manage differences and dealing with the contradictions posed by non-standard and complex situations seems evident. "Today's diverse and complex world demands that we do not necessarily rush to a single answer, to an either-or solution, but rather handle tensions […] by integrating seemingly contradictory or incompatible goals as aspects of the same reality." (OECD 2002, p. 9).

The educational impact of this proposal by the OECD is based on the fact that the results of the DeSeCo project laid the theoretical foundations for PISA, which as we know tries to supervise the extent to which students at the end of their compulsory education have acquired the knowledge and the skills that are considered necessary to participate actively in society. "It fo-

cuses on the capacity of young people to use their knowledge and their abilities to face the real challenges of life, rather than on finding out the extent to which they control a specific school curriculum." (Ananiadou & Claro, 2009, p. 7). We will not focus here on the multiple criticism around the PISA tests (Bautier & Rayou, 2007; Carabaña, 2015, among others), but we will briefly mention the "profusion" of definitions of and approaches to competences that we will discuss later. This situation is not easily controlled or understood by a sector of teachers who deal every day with a highly complex task.

The DeSeCo project establishes an important difference with regard to the terms "abilities" and "competences", and how they interact:

> A competence is more than mere knowledge or abilities. It involves the ability to meet complex demands, by drawing on and mobilizing psychosocial resources (including skills and attitudes) in a particular context. For example, the ability to communicate effectively is a competence that may draw on an individual's knowledge of language, practical IT skills and attitudes towards those with whom he or she is communicating (Rychen & Salganik, 2003, cited by Ananiadou & Claro, 2009, p. 8).

On the other hand, if we take into account the profound relationship between competences and the world of work, the significant ambiguity found in the literature refers to the confluence of competence seen as results (professional rules that describe what people must do at work), as tasks that people must perform (what they must do now) and as personal features or characteristics (how people are) (Mansfield 2004). Also, in the studies about competences associated to education, we can see a slightly different and even deeper contradiction. When competences start to be considered an educational standard that must guide assessment, their generic orientation becomes their main drawback. For Westera (2001, p. 86), "competences are associated to successful behaviors in non-standard situations", while this definition disagrees with "the use of competences as education standards." That is, the strength and the need to implement a learning approach based on "competences" and a curriculum become at the same time the main disadvantage, because facing complex situations (poorly defined, non-standardized) cannot be and is not based on preset solutions that can easily be operationalized and applied in educational contexts at a large scale.

In this context, in 2006, the European Commission defined the 8 key competences (interpreted as a combination of knowledge, skills and attitudes) that were considered necessary for personal fulfillment, active citizenship, social cohesion and employability in the knowledge society.

1. Communicating in a mother tongue.
2. Communicating in a foreign language.
3. Mathematical, scientific and technological competence.
4. Digital competence.
5. Learning to learn.
6. Social and civic competences.
7. Sense of initiative and entrepreneurship.
8. Cultural awareness and expression.

Here we can observe the difficulty to refer to a general competence, when often a more holistic approach is not specific enough. This can be related with the aspect that this article finds more interesting: digital, social and civic competences.

The definition of the European Commission establishes that:

> Digital competence involves the confident and critical use of Information Society Technology (IST) for work, leisure and communication. It is underpinned by basic skills in ICT: the use of computers to retrieve, assess, store, produce, present and exchange information, and to communicate and participate in collaborative networks via the Internet. (EC 2007, p. 15).

The EC also lists the essential knowledge, skills and attitudes related to this competence. The same applies to social and civic competences.

For the members of the Commission:

> These include personal, interpersonal and intercultural competence and cover all forms of behaviour that equip individuals to participate in an effective and constructive way in social and working life, and particularly in increasingly diverse societies, and to resolve conflict where necessary. Civic competence equips individuals to fully participate in civic life, based on knowledge of social and political concepts and structures and a commitment to active and democratic participation (EC 2007, p. 16).

However, as we know, neither the OECD nor the European Commission can intervene in the education systems of the different countries. Therefore, their proposals, including the PISA tests, would have never left the paper if the governments of the different countries had not decided to adopt them. This happened in Spain in 2006, with the Royal Decree 1631/2006, of 29 December, establishing the core curriculum for compulsory secondary education (BOE, 2007a). In this document, the 8 basic skills which every citizen must develop or at least acquire when they finish their compulsory education are:

1. Competence in linguistic communication.
2. Mathematical competence.
3. Competence in knowledge of and interaction with the physical world.
4. Management of information and digital competence.
5. Social and civic competence.
6. Cultural and artistic competence.
7. Competence to learn how to learn.
8. Autonomy and personal initiative.

According to this decree, through the inclusion of basic competences in the curriculum, which according to some voices is too full with *contents*, the knowledge from different areas or topics becomes integrated, as happens with informal and formal learning. This would allow all the students to interconnect their learning with different types of contents and to use them effectively whenever necessary in different situations and contexts. Therefore, teaching can have a clear orientation, because essential contents and assessment criteria can be identified and, in general terms, guide the different decisions that have to do with the process of teaching and learning (BOE, 2007a, p.285).

The decree, which is a legal norm with the status of a mandatory law because it was validated by the legislative power, still specifies a series of prescriptions:

> Work in the areas and subjects of the curriculum, oriented to the development of basic skills, must be complemented with different organizational and functional measures, which are essential for their progress. The organization and operation of schools and classrooms, the participation of students, the internal rules of the schools, the use of specific methodologies and educational resources, or the crea-

> tion, organization and operation of the school library, among other aspects, may favor or hinder the development of competences associated to communication, the analysis of their physical environment, creation, coexistence and civic values, or digital literacy. Similarly, the constant work of the tutors can be a determining factor that contributes to the acquisition of competences related to the regulation of learning, emotional development or social skills. Finally, planning complementary and extracurricular activities may reinforce the development of all the basic competences (Ibid., p.285).

The decree also specifies the concept and implications, in our case, of the development of digital competence and competence of information management.

> This competence involves providing individuals with the abilities to search, obtain, process and communicate information, and to transform it into knowledge […]. It means being an autonomous, effective, responsible, critic and reflective individual that can select, manage and use information and its sources, as well as the different technological tools involved. It also means having a critical and reflective attitude to assess the information available, contrasting it when necessary, and respecting the rules of conduct socially agreed upon to regulate the use of information and its sources on different supports (Ibid., p. 285).

The same occurs with the social and civic competence.

> This competence makes it possible to understand the reality we live in, to cooperate, coexist and practice a democratic citizenship in a plural society, as well as to accept the commitment to contribute to improving it. This competence integrates different types of knowledge and complex skills that make it possible to participate, make decisions, choose how to behave in different situations and take responsibility for the choices and decisions that were made […]. It involves understanding the social reality in which we live, facing the challenges of coexistence and conflicts by using an ethical judgment based on democratic values and practices; and exercising civil rights and duties with criteria of their own, contributing to the construction of peace and democracy and maintaining a constructive, solidary and responsible attitude towards the fulfillment of civil rights and duties (Ibid., p. 289).

At this stage, the main question we may ask ourselves is: How does the School enforce this mandatory Royal Decree?

4. THE LONG WAY FROM PAPER TO EDUCATIONAL PRACTICE

In the last years, our research group has carried out different studies which made it possible to see the possibilities and challenges of taking teaching to practice in order to move beyond the rigid limits of traditional competences over knowledge, teaching and learning.

The European Project "School+ More than a Platform to Build the School of Tomorrow" (European Union. IST Programme. V Framework Programme. 2000-IST-25162), which was carried out in 25 secondary schools of five European countries, placed students in the center of a meaningful learning process oriented to comprehension. To do so, we developed a digital platform for collaborative work, in order to promote the educational use of ICT together with contemporary perspectives on teaching and learning based on research projects (Hernández & Ven-

tura, 2008). At the same time, we wanted to promote the rearrangement of the school environment in order to promote the integration and adaptation of ICT to the emerging needs of the different schools and to assist them in their task to educate individuals with a predisposition for lifelong learning.

Teachers in secondary schools, together with researchers from the university and a company involved in the project, participated with a collaborative and horizontal scheme in the entire process in which decisions were made and implemented, which made it possible to achieve the goals of the study and a considerable transformation of the situations of teaching and learning. The project also revealed that the problems of implementing new perspectives of teaching and learning through the use of ICT were the following:

- Excessive contents and levels in the curriculum.
- Restrictions from the Administration.
- Organizational arrangements of teaching (classes of 45-50 minutes)
- Spatial arrangement —access to computers, number of students per classroom, etc.
- Systems of continuing education for teachers which prevent changes in education.
- Disciplinary contents of the curriculum which make it difficult to apply cross-sectional proposals and problem-based learning.
- Restrictions in the organization of time and space.
- Lack of motivation among teachers to introduce new methods.
- Low autonomy of teachers and students (Sancho, 2006, p. 32).

The development of the projects I mention below led us to analyze a large amount of official documents. In this study, with regard to competences, we have been able to observe the distance between the recommendations issued by international organizations, the prescriptive nature of educational policies and the practices in the school centers. The lack of an operational definition of the meaning and significance of putting competence-based teaching into practice within the context of discipline-oriented teaching has led the departments of the different regional administrations to publish a series of documents with different levels of specificity, development and more or less practical proposals (Departament d'Educació, 2010; Departamento de Educación, Universidades e Investigación, s/f; Departament d'Ensenyament, 2017; http://www.juntadeandalucia.es /educacion/agaeve/profesorado-primaria-evaluacion.html, among many others). These documents generally do not reach the teachers, who do not have the time and training spaces to analyze the meaning of this teaching perspective, or to design the necessary conditions to put it into practice.

This situation reveals that, as Grugulis, Warhurst and Keep also claim (2004, p. 8), the rhetorical attractive of the generic competences promoted by governments needs to be contrasted with the "inescapable difficulties to implement them". For van der Klink and Boon (2003), the biggest problem is that, in spite of understanding the limited value of functional definitions, a more holistic comprehension is based precisely on the fact that it is too diffuse a concept. Also, although the definition of competence in the field of education clearly suggests more generic transversal characteristics, Fischer, Bullok, Rotenberg and Raya (1993) insist that competence depends on the specific position in which individuals are operating. However, this means that the definition of competence is as varied as the different social, cultural and professional contexts.

All the institutions with which we have done our research —*with* being the operative word, because we do not do research *on* people and organizations, but *with* them (Hernández, 2011; Nind, 2014)— include, in their Center Guidelines and Curriculums, specific references to the development of the competences established in the official documents. The elements that shape social and civic competences are generally found in the guidelines for the organization of the center, and they act as a guarantee for coexistence. The forms of assessment of these competences, which are generally not specific, can be found both in the visible behavior of students in general and in their behavior in the different teaching spaces that exist there. The topic of information management and digital competence entails other difficulties.

In the project "Políticas y prácticas en torno a las TIC en la enseñanza obligatoria: Implicaciones para la innovación y la mejora" [Policies and practices around ICT in compulsory teaching: Implications for innovation and improvement] (MICINN. SEJ2007-67562), we focus our study on how educational policies around ICT were implemented in two secondary and two primary schools. The theme of the project made us direct our attention at information management and digital competence, which of course was present in the organizational documents and the curriculums of the four centers. On the other hand, the presence of these competences in the educational practice could be found specifically in subjects devoted to ICT teaching and learning, or in subjects in which ICT were used to teach (show) and learn (practice); that is, the more instrumental part of this competence. To a far lesser extent, we can find this competence in other moments which were always associated with a *rupture* from the traditional curriculum — like the synthesis project with students in the 3rd year of secondary education, or the research project with students in their 4th year (Sancho, Padilla Petry, Domingo, Müller & Giro (2012), or with the integration of several disciplines (Ornellas, Moltó, Guitert & Romeu, 2012).

This project let us observe what we consider to be the four pillars for the improvement of ICT-mediated education, as a basis for the development of information management and digital competence (Sancho, Giró, Ornellas, Sánchez, Fraga, Guitert & Alonso, 2012). The first pillar refers to the need to pay constant attention to the (un)stable relationship between policies and practices. A major percentage of the teachers involved in the project showed a significant degree of exhaustion caused by the constant changes in educational policies which did not take them into account at all. What they said and what they did not say gave the impression that they assumed that politicians would have a passive attitude and the problems of the centers would remain unsolved. That was the origin of the title of the book which includes the result of the research: *La fugacidad de las políticas, la inercia de las prácticas* [The fleetingness of policies, the inertia of practices] (Sancho & Alonso, 2012). The second pillar is related to infrastructure and obsolescence, due to the fact that it is impossible for centers to maintain their equipment and applications up to date, because they advance at an exponential speed. The third pillar deals with the complexity of the dimensions and conditions of ICT for innovation and improvement, because neither the Administration nor the education centers seem able to approach this issue. Last, but not least, the fourth pillar is related to teacher training, which in the cases in which it exists seems to be more focused on technology than on pedagogy.

The project "Identidoc - La construcción de la identidad docente del profesorado de educación primaria en la formación inicial y los primeros años de trabajo" [The construction of a teaching identity among teachers of primary education during their initial training and the first years of work] (MICINN. EDU2010-20852-C02-01), with the collaboration of over 50 primary education teachers from different regions of Spain, revealed an important problem. These teach-

ers, who in 2012 found themselves between the first and the fifth year of their professional careers, and who were supposed to continue in that position for the following 30 years, had a very uncertain professional situation and they claimed that they did not have enough training to face the challenges of digital society (Sancho & Hernández, 2012). They had had a multidisciplinary and compartmentalized training based on the traditional subjects and generally oriented to the transmission of *contents*, and the approach of competences in knowledge had not been present in their training experience. The teaching curriculums that were developed after university degrees adopted the new plans derived from the Bologna Process which created the European Higher Education Area do not seem to have improved this situation. In fact, the competences established in the Spanish Ministry of Education and Science Order/3857/2007 of 27 December establishing the requirements for the verification of official university degrees that enable the students to work as Teachers in Primary Education (BOE, 2007b), refer to the capacity to teach the different subjects in the curriculum for primary education. On the other hand, although different universities have a list of competences that Education students must develop, the curriculums are still extremely discipline-oriented and fragmented (Sancho-Gil, Sánchez-Valero & Domingo-Coscollola, 2017), and references to digital competences are mere echoes (Sancho & Brain, 2013).

In the project "Vivir y aprender con nuevos alfabetismos dentro y fuera de la escuela secundaria: aportaciones para reducir el abandono, la exclusión y la desafección escolar de los jóvenes" [Living and learning with new literacies inside and outside of the secondary school: contributions to reduce dropping out, exclusion and disillusionment among the youth]. (MICINN. EDU2011-24122), 39 young students from five high schools in Catalonia, together with 14 researchers and teachers, created 5 ethnographic projects about how, with whom and with what they expressed themselves, learned and communicated inside and outside of their schools (Hernández-Hernández, 2017). This study showed how students have a higher capacity than teachers to connect what happens inside with what happens outside of the classroom, and how young people develop and benefit more from information management and digital competence outside the schools. It also revealed a lack of critical education about the personal and social implications of the development and use of digital technologies.

Finally, in the European project "DIYLab Do it yourself in Education: Expanding Digital Competence to foster Student Agency and Collaborative Learning – DIYLab (European Commision). Education, Audiovisual and Culture Executive Agency. 543177-LLP-1-2013-1-ES-KA3MP", with three primary and secondary schools and two universities from Spain, Finland and the Czech Republic, we wanted to explore the challenge of introducing the "do it yourself" culture with a collaborative approach to focus on digital competence. A rigorous process of research in participatory action (Reason & Bradbury, 2001; Sancho-Gil & Rivera-Vargas, 2016), allowed us to operate from the notion of leadership for learning (Domingo-Coscollola, Arrazola-Carballo & Sancho-Gil, 2016). This approach made it possible to involve agents in all the stages of the education community, identify institutional and informal spaces in which that learning approach could be established, carry out research projects with a high degree of autonomy and development of digital competences among students, and show the progress of the students through the creation of digital visual pieces shared through a digital platform: http://hub.diylab.eu/.

It also led to the development of rubrics for self-assessment, co-assessment and hetero-assessment of the digital competence. However, the most important aspect, for the members of the Virolai School in Barcelona —one of the centers that participated in it— was that the project

> has begun to settle in the educational community and the DIY culture has become part of our educational approach: "a school to learn, a school that learns". That has led us to rethink our teaching roles to foster students learning through a relevant and meaningful autonomy and a collective creativity, approaching real situations in a transdisciplinary and collaborative manner, taking into account skills and knowledge of all participants. This has promoted the implementation of curricular, methodological and organizational changes, especially in the assessment system, basing all it on the individual and shared reflection on the process of learning what, how, when, where, why, with who and for what. (DIYLab, 2016, p. 19).

This was possible because it was not an *imposed* idea, but a process that had been discussed, analyzed and promoted by all the participants, because, in the words of Lawrence Stenhouse, we are not good at implementing the ideas of others.

5. CONCLUSIONS. FOOD FOR THOUGHT

This article highlights a series of topics related to current education and to the matter of competences. The first of them refers to the persistent and increasing dependence of education on the discourses, demands and interests of the world of business. The analyses about the challenges of education in the current world are increasingly marked by a neoconservative perception of economy and work, and the topic of competences seems to be the penultimate step in that process.

The second topic, closely related to the first, has to do with the role of international organizations in the design of education agendas. These agendas are then adopted by governments, for various reasons, but they did not include the opinion of those who were directly involved in their implementation and they did not guarantee the necessary conditions to actually put them into practice.

The third one is directly associated with the set of dimensions and dilemmas that accompany the requirement to introduce a competence-based perspective into school traditions which are strongly rooted on disciplines. Also, the necessary resources to guarantee the training of teachers and the implementation of that perspective have not been provided.

The fourth topic stems from the idea that the introduction of a perspective which in itself is already controversial and multifaceted —that of competences— without taking into account all or most of the participants in the analysis and planning of potential scenarios in which it can be put into practice seems —as this text shows— doomed to fail.

The considerable amount of knowledge available about the education change (Fullan, 2007a; 2007b; Hargreaves & Shirley, 2012; Sarason, 2003) warns us of the difficulty to introduce significant transformations into teaching institutions without taking into account those who must implement them. They also warn about the dangers of proposing one change after another so that everything remains exactly the same.

Finally, the scenario outlined in this text is a wake-up call to all educators, but particularly to those who work on research and training, so that we can pay special attention to how the neoco-

lonial thoughts that emerge from large corporations are created, and to the consequences they have for the education of the majority of the population. To me, the most important challenge is the need to contribute to the creation of discourses and education practices that are inclusive, in the broadest sense, even for our mistreated environment.

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