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Each year we publish four issues. Starting next issue (No. 361), the magazine will have three sections: Research, Essays and Education Experiences, all of them submitted to referees. In the first issue of the year there is also an index of bibliography, and in the second number a report with statistic information about the journal process of this period and the impact factors, as well as a list of our external advisors.

From 2006 to the second number of 2012 (May-August 358), *Revista de Educación* was published in a double format, paper and electronic. The paper edition included all the articles in the especial section, the abstracts of articles pertaining to the rest of sections, and an index of reviewed and received books. The electronic edition contains all articles and reviews of each issue, and it is available through this web page (www.mecd.gob.es/revista-de-educacion/), where it is possible to find more interesting information about the journal. From the 358 number *Revista de Educación* becomes exclusively an online publication.

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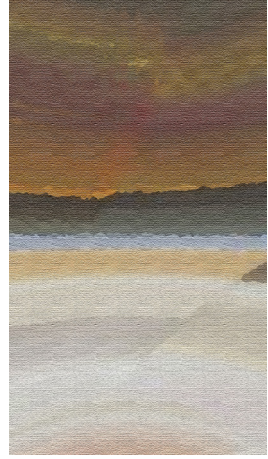
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Research

Origins of the institutionalization of film training in Spain. The academies for the training of actors in the early 20th century¹

Inicios de la institucionalización de la enseñanza cinematográfica en España. Las academias para la formación de actores de principios del siglo XX

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Abstract

This paper addresses the beginnings of the institutionalization processes of film training in Spain; it specifically focuses on the “film academies”, which appeared in the twenties in twentieth-century Barcelona. The interest in these schools, which were pioneers in teaching performing arts for cinema, lies in the role that they played in promoting filmmaking and in the fact that it is a subject which has received little attention in Spanish communication studies. Thus, this paper aims to explain the emergence of such entities and demonstrate the fundamental role that they had in the institutionalization processes mentioned above. This objective has been achieved through the study of documentary

⁽¹⁾ This text is financed by the “University Teacher Training” programme (FPU15 / 02162) of the Ministry of Education, Culture and Sports (now the Ministry of Universities) and carried out within the framework of the R&D project “Transmedia Narratives. Transmedialization and crowdsourcing in audio-visual, journalistic, dramatic and literary fiction and non-fiction narratives” (CSO2017-89657-P) of the State Plan for the Promotion of Scientific Research of the Ministry of Economy, Industry and Competitiveness (now the Ministry of Science and Innovation and the Ministry of Universities).

sources whose information has been analysed by means of the construction of descriptive systems and by examining them based on theory. Consequently, a historical reconstruction of the educational panorama of the period, as well as a detailed analysis has been obtained, which are supported by Peter Berger and Thomas Luckmann's theory of social constructionism. The results achieved reveal the vital role that these academies played in the institutionalization of film training in Spain by helping to establish, through their activity, the belief in the usefulness of academic training for the film professions.

Keywords: Communication, film media, sociology of knowledge, filmmaking training, drama education, institutionalization, film academies, Spain.

Resumen

El presente trabajo aborda los inicios de los procesos de institucionalización de la enseñanza cinematográfica en España, centrándose específicamente en las «academias cinematográficas» aparecidas durante la segunda década del siglo XX en Barcelona. El interés de estas escuelas, pioneras en la instrucción del arte dramático para cine, reside en el papel que estas cumplen en el fomento de la cinematografía y en su carácter de materia poco atendida por los estudios españoles de comunicación. Así, el objetivo de este artículo es explicar la emergencia de dichas entidades y demostrar la trascendencia que las mismas tuvieron en los referidos procesos de institucionalización. Un propósito que se ha llevado a cabo mediante el estudio de fuentes documentales cuyos datos han sido analizados a través de la construcción de sistemas descriptivos y del examen apoyado en la teoría, obteniéndose con ello una reconstrucción histórica del panorama formativo de la época así como un análisis explicativo del mismo apoyado en la teoría de la construcción social de Peter Berger y Thomas Luckmann. Los resultados alcanzados ponen de manifiesto el importante papel que las academias objeto de estudio cumplieron en la institucionalización de la enseñanza cinematográfica en España al coadyuvar a establecer, con su actividad, la creencia en la utilidad de la formación académica de los oficios cinematográficos.

Palabras clave: Comunicación, cine (medios), sociología del conocimiento, formación de cineastas, enseñanza de arte dramático, institucionalización, academias cinematográficas, España.

Introduction and state of affairs

This article is situated within the framework of a broader longitudinal investigation aimed at describing and explaining the institutionalization

processes through which the “training of and about cinema” in Spain has been developed – with training “of cinema” being understood as instruction on the language and filmic technique of film production; and “about cinema” as the teaching of content on history, aesthetics or film criticism (Tessonneau, 1966, p. 2). This theme, the backdrop to the study carried out here, is a pertinent point in the context of a society in which audio-visual fiction has been, and continues to be, an essential piece of the culture that builds it. And it is that, throughout the development of the cinematographic medium in Spain, and like in other countries of Continental Europe, film training has been a constituent part of “the organic measures established to execute the development policy” of cinema (Vallés-Copeiro-del-Villar, 1992, p. 26, 28). Therefore, due to the possibilities it offers for the continuous development of this industry, it is of interest to theoretically and empirically develop the forms and meanings of this training. This is a task that has already begun in the international context through the production of comparative studies on the different typologies of existing film training (Lods, 1951; UNESCO, 1975; Rawlinson, 1961; Petrie & Stoneman, 2014; Hort, 2016; Hort, 2016a), as well as with the development of case studies specific to each cinematography, which cannot be specified here. At the national level, however, although important advances have been made on the issue since the 1980s (Medrano-García, 1981; Blanco-Mallada, 1990; Alberich, 1999; William-Evans, 2007; Seguín-Vergara, 2007; Feenstra, 2007; Lariccia, 2007; Castro-de-Paz, 2007; Ramos-Arenas, 2016; Odriozola-Cuevas, 2016; Deltell, 2016; Blanco-Mallada, 2016; García-Marcos, 2016; Méndez-Leite, 2016; Parés, 2016; Pérez, 2016; García-Sahagún, 2016), research continues to be fragmentary and exceptional, with the only longitudinal work carried out to date being by Rodríguez Merchán (2007).

Thus, the present research has the specific objective in the context of said framework to describe and explain the beginnings of the processes of institutionalization already mentioned by means of a detailed examination of its first institutions: the academies for the training of actors that emerged during the second decade of the 20th century. And it is the case that, with the general topic of film training having not been an issue especially served by Spanish communication studies, then any investigation covering these academies has been to all intents and purposes exceptional, of little reference and always from a strictly historical perspective (Cabero, 1949; González-López, 1984; Pérez-Perucha, 1989; Porter-i-Moix, 1992; Porter-

i-Moix, 1992a; Rimbau-i-Möller, 1995; Gubern, 1999; Crusells, 2008; Iribarren-i-Donadeu, 2008; Pérez-Perucha, 2009). Likewise, and because “the topics studied by communicative research are not only important in themselves but are important because they are being socially recognized as important” (Calhoun, 2011 cited by Saperas-Lapedra, 2016, p. 29), this research also aims to demonstrate the importance that these institutions harbour in the general context of the institutionalization of film training in Spain; this coming from the hypothesis that beyond the value judgments that can be made today about the suitability with which these entities were proposed, their very existence has constituted an essential step in the processes by which a fundamental idea has been shaped in our society: the fact that film is not only capable of being taught in academic settings, but also that it is desirable to do so because of its contribution to strengthening the film quality of our industry.

In other words, it is about showing how human activity has socially constructed the academic reality of film training that we know today, and therefore, inquiring about the evolution of “common sense” – that knowledge that “constitutes the fabric of meanings without which no society could exist” (Berger & Luckmann, 1991, p. 27 – by means of which this training, even while having its detractors, is currently perceived as legitimate. For this reason – due to the fact that the fundamental interest of the study is “the processes by which any body of ‘knowledge’ comes to be socially established as ‘reality’” (Berger & Luckmann, 1991, p. 15), in this case in which film training comes to be constituted like this –, this research rests on the disciplinary framework of the sociology of knowledge, specifically from the perspective of the phenomenological sociology of Peter Berger and Thomas Luckmann; a theory considered suitable here for the objectives of this research, both for its extension of “current interests [...] to social structures and institutions” (Ritzer & Casado-Rodríguez, 1993, p. 282) and for its advance “on the ways in which certain meanings and habits are stabilized by forming structural conglomerates and crystallizing in social institutions as products of human action” (Retamozo, 2012, p. 333). Thus, a point of view is used that allows the study to finally “consider social reality as a historical construction that can be known through its reconstruction” (Retamozo, 2012, p. 333) due to the fundamental approach that “It is impossible to understand an institution adequately without an understanding of the historical process in which it was produced” (Berger & Luckmann, 1991, p. 72).

Likewise, and in coherence with the interest that the sociology of knowledge has for “the concrete relationships between thought and its historical situations” – that is, for the history and use of the historical method (Berger & Luckmann, 1991, p. 17, 19) – this research is also based on historical sociology, that “current of trans-historical, trans-disciplinary and multi-paradigmatic studies” whose disposition is “to end the divorce between sociology and history due to its proven sterility when approaching the study of social change” (Ramos-Torre, 1993, p. 8–9). And it is that, as Mills pointed out, social science – whose problems to be dealt with are biography, history and its intersections within social structures – cannot “Without the use of history [...] adequately state the types of problems that should now be the focus of its studies” (1961, p. 157). In line with all these approaches, the research presented here makes use of the fundamental elements of this discipline – that is, narration, analysis, and comparison – (Ramos-Torre, 1993, p. 13) resulting in a diachronic-analytical study that tries to help explain why the current panorama of film teaching is as it is today.

Material and methods

The qualitative methodological strategy used in this work has been the “study of documentary sources”, specifically the investigation of that “accumulation of information collected or published by various institutions without specific purposes of social research, but with other very varied purposes, fundamentally, to provide information to State organs or the public” (Almarcha et al. cited in Valles-Martínez, 1999, pp. 121–122).

The development of these sources was undertaken in the Spanish Film Archive, in the National Library, and in the Library of the San Fernando Royal Academy of Fine Arts, as well as through the Digital Periodical and Newspaper Library of the National Library and the digital repository of the Film Archive of Catalonia. However, the fundamental corpus of data has been obtained through access to the latter’s digitized magazine collection, among which the publications *Mundo Cinematográfico* (1913–1921) and its sister-paper *Mundo Cinematográfico. Edición Popular* (1917–1921) have been the most useful for research.

All the documentation obtained has been processed using systematization techniques and evaluated in relation to the authenticity,

veracity, significance and representativeness of its data (Bresciano, 2004, pp. 46–47), to be later analysed through two of the procedures identified by Barton and Lazarsfeld for the analysis of qualitative data: the construction of descriptive systems – lists, categories or preliminary types of situations and actors that are not systematized, but fruitful for an exploratory investigation – and theory-based examination (in Valles-Martínez, 1999, pp. 358–365).

Analysis and results

The first film-related training entities, the aforementioned film academies, emerged as a “fever” in the city of Barcelona (González-López, 1984, p. 694) between 1917² and the beginning of the 1920s – with there being no evidence of similar centres in other Spanish provinces during this period.³ These entities were schools dedicated to the teaching of film performance. However, not all of them were aimed at the same type of student, since that depended on the type of pioneer that started them. Thus, there were, on the one hand, those who were founded and directed by actors and to whom “young people dazzled by the glories of cinema” went with the desire to become good performers (González-López, 1984, p. 694). Examples of this were the schools created by the Italians Alfredo Mateldi (or Goffredo Mateldi Belli) and Lorenzo Petri; the “American Cinema School” of Alfonso Roure; the “Academy of Lydia Bottini”,⁴ directed by the Italian actress and journalist of the same name; the “Spanish School of Cinematographic Art and Pose Education for Singing Artists”⁵; as well

² There is evidence of the existence of two centres in 1916: (1916). *El Cine. Revista Popular Ilustrada*, no. 233, 13–15. Recovered from <http://hdl.handle.net/11091/12097>. However, these cannot have had much relevance since shortly before the most important ones were inaugurated in 1917, *Mundo Cinematográfico. Edición Popular* pointed out that they had no knowledge of the existence of any, and if indeed they existed, their importance should be so small that it was “as if it did not exist”: (1917). *Ecos Mundiales. Mundo Cinematográfico. Edición Popular*, no. 21, 4. Recovered from <http://hdl.handle.net/11091/9919>

³ However, there were some established after the decline of those in Barcelona, with there being up to now records of three that appeared between 1923 and 1924, two in San Sebastián and one in Bilbao. For more information see *El cine en el País Vasco. La aventura de una cinematografía en la periferia* (Zunzunegui, 1985).

⁴ (1921). *Mundo Cinematográfico. Edición Popular*, no. 9, 15. Recovered from <http://hdl.handle.net/11091/10070>

⁵ (1920). *Mundo Cinematográfico. Edición Popular*, no. 17, 14. Recovered from <http://hdl.handle.net/11091/10021>

as the academies of the performers Bianca Valoris and Ramón Quadreny – in whose “Estudio Cirera” the actor Pablo Prous de Vendrell and Ray de Baños also taught⁶ – (González-López, 1984, p. 801). On the other hand, there were also those established by representative producers in the film industry of the period, which were launched to train the actors that these firms already had on their staff – although, in view of advertisements published by Segre Films, it can be inferred that it was not necessarily always the case. Examples of this were the one belonging to Studio Films, active at least between 1918 and 1919 (González-López, 1984, pp. 800–801); the “Pose Academy” opened by Segre Films in 1917 (González-López, 1984, p. 694) and directed by Mateldi⁷; or the “Academy of Hispanic Films”, conducted by E. Adams, with proof of its activity in 1918⁸; among which the first is worth noting because of the constancy of good results obtained training its artists – which could be reflected in the quality of the acting of the last films produced by the company: *Codicia* and *Mefisto* in 1918; *El Protegido de Satán* and *La Dama Duende* filmed in mid-1918 and released in the spring of 1919 (González-López, 1984, pp. 800–801).

However, the nature of the founders of these academies (individuals or legal entities) and the people at whom they were directed were not the only aspects that differentiated them. There was also another issue that concerned only the first academies and that separated, on the one hand, those that only trained their students – without precluding that any of them excelled and could be contacted by a producer – and on the other, those which set up societies for film production, through which they shot films acted by their students. Among the latter were three of the aforementioned academies. The first one, the one founded by the Italian actor Alfredo Mateldi in 1917⁹ – simply called the “Cinematographic Academy” – was associated with the “Estrella Films” company shortly after its founding (González-López, 1984, p. 694). This firm constituted by Mateldi himself together with José Usall and Enrique M. Llopis¹⁰,

⁶ (1921). *Mundo Cinematográfico. Edición Popular*, no. 18, 12. Recovered from <http://hdl.handle.net/11091/9859>

⁷ (1917). *Mundo Cinematográfico. Edición Popular*, no. 261, 12 Recovered from <http://hdl.handle.net/11091/12664>

⁸ (1918). *Cine. Revista Popular Ilustrada*, no. 332, 11. Recovered from <http://hdl.handle.net/11091/12814>

⁹ (1917). *Mundo Cinematográfico. Edición Popular*, no. 23, 14. Recovered from <http://hdl.handle.net/11091/9921>

¹⁰ (1917). *Mundo Cinematográfico. Edición Popular*, no. 133, 2. Recovered from <http://hdl.handle.net/11091/9921>

produced a series of films (*Pero el Amor Venció*, 1917; *La Mano Roja*, 1917; *Amor Parricida*, 1918; *Los Aventureros del Crimen*, 1918; *El Bastardo*, 1918; *Culpa y Expiación*, 1918; and *Nobleza del Alma*, 1918) starring Margarita Marín, the outstanding student of his classes, as well as others from the school (González-López, 1984, p. 694). In these films, the actor himself did the work of artistic director and, if what the magazine *Mundo Cinematográfico. Edición Popular* refers to in advertisements by the production company¹¹ was finally fulfilled – as other studies do not confirm this¹²– Fructuoso Gelabert had to be the cameraman for some of them. However, after Mateldi produced his last film in 1920 (*La Fuerza de los Débiles*, with photography by José Pons and José Maristany) and because of what Porter i Moix points out in connection with his comment on the filming of *Don Juan Tenorio* (Ricardo Baños, 1921), both projects had to be abandoned by their director, since his participation in said film – along with other personalities who had made a fortune in the previous decade – happened “after his academy had failed” (1992a, p. 104).

The second entity to highlight is the “Cinematographic Academy” created by the Italian correspondent Lorenzo Petri together with the actor Francisco Aguiló around November 1917 – considered one of the most reputable schools of the moment (Pérez-Perucha, 1989, p. 54) – which was linked from 1918 to the “International Films” company, also constituted by the journalist (Cabero, 1949, p. 178; González-López, 1984, p. 816; Porter-i-Moix, 1992, p. 151). This school, recognizable in the ambiguity of its name by the subtitle that always accompanied it, “Italo-American System”¹³ (called, from approximately February 1919, the “Catalan School of Cinematography”¹⁴ and, from May 1919 by its best-known name, “National School of Cinematographic Art”¹⁵) was active until at least 1922 (Cabero, 1949, p. 77). In this way, through said “International Films” the director of this school produced a single film in

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⁽¹¹⁾ (1917). *Mundo cinematográfico. Edición Popular*, no. 133, 2. Recovered from <http://hdl.handle.net/11091/9813>

⁽¹²⁾ González López only puts Gelabert, between 1915 and 1923, as a cameraman for the companies “Boreal”, “Barcinógrafo”, “Segre” and “Gelabert” (1984, p. 522).

⁽¹³⁾ (1917). *Mundo Cinematográfico. Edición Popular*, no. 22, 4. Recovered from <http://hdl.handle.net/11091/9920>

⁽¹⁴⁾ (1919). *Mundo Cinematográfico. Edición Popular*, no. 6, 6. Recovered from <http://hdl.handle.net/11091/10016>

⁽¹⁵⁾ (1919). *Mundo Cinematográfico. Edición Popular*, no. 22, 6. Recovered from <http://hdl.handle.net/11091/9949>

1919: *Hidalguía Española* (González-López, 1984, p. 490; Porter-i-Moix, 1992, p. 151), starring María Tarrés (Cabero, 1949, p. 164) – although taking into account what other authors have pointed out, there may have been another (Pérez-Perucha, 1989, p. 54; Cabero, 1949, p. 164¹⁶). However, in 1922 the Petri academy was linked to the “Narciso Films” company founded again by the Italian, this time together with the actor Narciso Puignau, who starred with Petri students in two more films (*El Abijado de los Muertos*, 1922 and *Mi Primera Aventura* or *Las Aventuras de un Estudiante*, 1922), which were probably the result of a script contest called by the producer (González-López, 1984, p. 816; Porter-i-Moix, 1992a, p. 106) and the last films produced by this director.

Lastly, although of less importance, also of note is the “American Cinema School” established in 1918¹⁷ and related from July 1919 to a production company created by Alfonso Roure under the name “Ibero Films”.¹⁸ Regarding the foundation of this academy and prior to other comments, it is necessary to clarify that although Roure should have been the original pioneer of the school (Porter-i-Moix, 1992a, p. 106; Crusells, 2008, p. 212; Iribarren-i-Donadeu, 2008, p. 24; Rimbau-i-Möller, 1995), data suggests that it was actually “Mr Cabañas, known by the pseudonym Ralph Allen”¹⁹ (or Raphlys Allen) who was responsible for it during the period between March 1918 and July 1919, with Roure becoming its director only after Cabañas left. This is indicated by *Mundo Cinematográfico. Edición Popular* by stating that the “basis of the new orientation undertaken [the creation of and association with Ibero Films] has been the entry into the “American Cinema School” company of a popular writer and cinematographic artistic director, who works in the field of silent art under the pseudonym Alf R. Baldo”.²⁰ Be that as it may, the photographer Samuel Sune i Farando and the cameraman Albert Gasset i Nicolau should also have been part of the project, at least in some of its stages (Porter-i-Moix, 1992a, p. 106). However, returning to the link between this academy and what was originally

¹⁶) According to Cabero, prior to this, a script by Remedios Villalonga would have been filmed.

¹⁷) (1918). *Mundo Cinematográfico. Edición Popular*, no. 13, 14 and 15, 11. Recovered from <http://hdl.handle.net/11091/10009>

¹⁸) (1919). *Mundo Cinematográfico. Edición Popular*, no. 28, 14. Recovered from <http://hdl.handle.net/11091/9989>

¹⁹) (1919). Separación. *Mundo Cinematográfico. Edición Popular*, no. 28, 13. Recovered from <http://hdl.handle.net/11091/9989>

²⁰) (1919). Nueva marca española. *Mundo Cinematográfico. Edición Popular*, no. 28, 13. Recovered from <http://hdl.handle.net/11091/9989>

going to be its reference producer – the aforementioned “Ibero Films” – it is necessary to mention that no film was ever produced by this association (González-López, 1984, p. 797), although one did come about in 1919 through association with the production company “Reme Films” – launched by Roure with Pons as cameraman (González-López, 1984, p. 503) – and through which he produced his first film in 1920: *Vida Cruel* (Porter-i-Moix, 1992a, p. 106), starring students from his school (Crusells, 2008, p. 212) Remedios Villalonga and Federico Llovet (González-López, 1984, p. 333; Cabero, 1949, p. 164). That same year, the “Mediterranean Films” company produced *El Expósito* by Magín Muriá (1920), a film that, although not made by a firm associated with the academy, is of note due to the collaboration that Roure and Pons²¹ had in it, as well as for the acting of their student Llovet (Cabero, 1949, p. 164). Finally, a new link occurs in 1921 when the “American Cinema School” joined with the new “Union of Cinematographic Artists” company, a production company launched that same year by the person who at that time was in charge of the academy, a certain Gustavo Suñé Tarando²² (whose similarity to the name of the photographer Samuel Suñé i Farando, a former partner of the academy, perhaps suggests a possible error by the editor of the magazine *Cine*). In this way, through “Union of Cinematographic Artists” the academy produced what would be the last of its productions and possibly the last of the films related to the phenomenon of the film academies of Barcelona: *El Lobo* (1921)²³ – a film according to the specialized press but a short film according to Porter i Moix (1992a, p. 106) –, ending with it the boom of these centres that were part of the emergence of the film medium in the Catalan city over the space of six years.

Discussion and conclusions

The results obtained in this study complement the data found by historical research that has made reference to film academies (Cabero, 1949; González-López, 1984; Pérez-Perucha, 1989; Gubern, 1999; Pérez-

⁽²¹⁾ Ruíz, M. (1920). Producción Nacional. *Arte y Cinematografía*, no. 223. Recovered from <http://hdl.handle.net/11091/8931>

⁽²²⁾ (1921). Películas españolas. *Cine*, no. 474, 8. Recovered from <http://hdl.handle.net/11091/12040>

⁽²³⁾ (1921). Películas españolas. *Cine*, no. 474, 8. Recovered from <http://hdl.handle.net/11091/12040>

Perucha, 2009). However, explaining the role that these had in the general trajectory of the institutionalization of film training also requires that the data shown be contrasted with some of the social theories related to institutions. As such, this discussion starts from the definition that characterizes institutionalization as the “reciprocal typification of habitualized actions by types of actors” which “are always shared [and] are available to all members of the particular social group” – with an essential requirement for institutionalization to exist being the typification by the institution of “individual actors as well as individual actions” (Berger & Luckmann, 1991, p. 72) – thus confirming that due to the typifications carried out by these institutions (both regarding the type of actors, that is directors, teachers and students, as well as their actions, that is coordinating, teaching and learning) these academies start, with the development of their standardized activities, a process of institutionalization.

Likewise, the data found shows how these typifications were shared, revealing with them two of the channels through which the members of the cinematographic social world accessed the typifications necessary to begin their institutionalization. The first of these was the medium of publishing (*Mundo Cinematográfico* and *El Cine*) through which, from the beginning of the second decade, news was received on training ventures aimed at actors, artists and camera operators from places like Canada, the United States, England, France and, especially, from Italy (characteristically expansive in the establishment of these centres²⁴). And the second was the immigrant artists who came to Spain in the second decade to “develop in our cinema careers that they had not been able to undertake in their country of origin, which had developed in a haphazard way or which were hampered by the European conflict” (Pérez-Perucha, 2009, p. 76) since they brought with them the knowledge of the training initiatives launched in their native places – the Italian influence being especially notable once again because the two most important academies were established by actors from that country.

However, although it can be affirmed that the film academies established during the historical period analysed initiate the institutionalization of film training in Spain through the described access of certain individual

²⁴ In 1915 it already had nine film schools: (1915). La industria cinematográfica italiana. Algunos datos. *Mundo Cinematográfico*, no. 70, 9. Recovered from <http://hdl.handle.net/11091/9775>

actors to the typifications initiated by others in other parts of the world, the data shows how the objectivity of these institutions was still “tenuous [and] easily changeable” (Berger & Luckmann, 1991, p. 76). For this reason, these first training entities cannot yet be characterized as true “historical and objective facticities”, since their densification is not yet sufficient to be experienced as undeniable facts that exert on the individual a power of coercion both by the force of their facticity as well as due to the control mechanisms they make use of (Berger & Luckmann, 1991, p. 78). All in all, the institutional trajectory had already been set in motion by these institutions and for this reason it gradually acquired such historicity and objectivity as the habituation of film training was transmitted to new generations, thus finally allowing us to speak of “a social world [...] in the sense of a comprehensive and given reality confronting the individual in a manner analogous to the reality of the natural world” (Berger & Luckmann, 1991, p. 77).

Finally, it is appropriate to contrast the micro-process of training addressed here in relation to two fundamental questions in the analysis of the macro-process of institutionalization of a society: the economic surplus and the degree of division of labour; for it is thanks to the availability of the first that specialized activities can arise without direct link to subsistence, the huge surplus of industrial societies being the reason why their individuals can devote themselves “full-time to even the obscurest pursuits” (Berger & Luckmann, 1991, pp. 102–103). In this sense, the environment in Spain at the beginning of the 20th century was not favourable for the development of activities such as filmmaking, since at this time its society could not be characterized as industrialized – due to the limited development of its industries during the 19th century and the state of crisis of its contemporary industries, which were strongly held back by the scarce purchasing power of a population dedicated to agrarian activities (Tuñón-de-Lara, 1974, pp. 19–20). However, although temporary, the First World War produced an “exceptional economic situation” (Tuñón-de-Lara, 1974, p. 27) for the national economy and, particularly, for the Catalan economy (González-López, 1984, p. 608). At that time and for the first time in the century, Spain’s trade balance was favourable, reaching “in 1918 a surplus of 385 million pesetas” (Tuñón-de-Lara, 1974, p. 34), which generated a climate of better conditions for industrial development that explains both the heyday of the Barcelona film industry – whose companies and producers were increasing at

this time (González-López, 1984, p. 610) – and the emergence of film academies. Likewise, the weak industrialization of Spain at the beginning of the 20th century does not yet allow us to identify the characteristically high degree of division of labour of an industrial society which favours institutionalization (Berger & Luckmann, 1991, p. 143). However, the country was already at that moment on the verge of all the transformations that other countries had already undergone (Tuñón-de-Lara, 1974, p. 52), thus beginning to glimpse the emergence of specialization within different industries, including film. For this reason, due to the increasing complexity of films, “the progressive professionalization of different functions and the consequent division of tasks” of film production began in 1905 (López-Martín, 2009, p. 84) as well as the emergence of specialists through the “social distribution of knowledge, with role-specific knowledge coming to be reserved to certain types” of actors (Berger & Luckmann, 1991, p. 95, 100). Consequently, among other specific tasks arising from the new needs of production, there was also the idea of a new interpretation – up to that date theatrical – adapted to the new technical and aesthetic requirements of cinematography whose renovation is beginning to be required due to the more general need of finding the specificity (ergo the legitimacy) of the cinematographic medium. In addition, and as a consequence of all this specialization, the social demand to study these activities also emerged, with it being logical that the first most insistent issue was precisely the profession of actor due to the greater visibility that it has in the whole of cinematographic work.

In short, the economic circumstances – due to the availability of a surplus – as well as the social circumstances – due to the emergence of specialization and the demand to study it – favoured the emergence of the processes of institutionalization of film training in Spain through the academies for training actors. However, just as institutionalization of one or more social areas is possible, their “de-institutionalization” is also viable due, for historical reasons, to a decrease in institutionalized actions (Berger & Luckmann, 1991, p. 99). This was precisely what happened with the first film training, because with the decline and disappearance of the film industry between 1918 and 1922 (González-López, 1984, pp. 783–791), film academies also began to disappear. Consequently, the processes of institutionalization of film training that had begun in Spain with these institutions were practically paused from here on, having to

wait another decade for their attempts at consolidation to begin to yield results.²⁵

The importance that the film academies had in the process of institutionalizing film training in Spain can be drawn from all the aforementioned. First, because of the contribution they made to establishing a belief in academic training as an alternative route of access to the trade for individuals outside the industry, which was shown by the demand for the services of these entities that occurred during the period studied. And second, because of the successful and recognized results that some of these entities obtained by applying such training in their productions, thus contributing to the belief in the usefulness of training as an impulsive element in the quality of work produced by the Spanish film industry. Likewise, it can be concluded that in order to look deeper into the role that these academies had in the institutionalization of film training in Spain, more historical research needs to be carried out on which to support other analyses – taking into account, for example, the mechanisms that the academies set up to undertake the legitimization of their activities.

References

- Alberich, F. (1999). El Instituto de Investigaciones y Experiencias Cinematográficas y La Escuela Oficial de Cinematografía en el Cine Español. In Llinás, F. (Ed.). (1999), *50 años de la Escuela de Cine* (pp.11-32). Madrid: Filmoteca Española.
- Berger, P. L. & Luckmann, T. (1991). *The social construction of reality. A treatise in the sociology of knowledge*. England: Penguin Books.
- Blanco-Mallada, L. (1990). *I.I.E.C. y E.O.C.: Una escuela para el cine español*. (Tesis inédita de doctorado). Universidad Complutense, Madrid.

²⁵ Those cases that appeared after 1922 in other provinces appear too isolated to be considered as a continuation of the phenomenon described here; however, they can be identified as a constituent part of its expanding wave.

- Blanco-Mallada, L. (2016). La enseñanza oficial de cine en España. *Área Abierta*, vol. 16, nº 2, 3-12. https://doi.org/10.5209/rev_ARAB.2016.v16.n2.52026. Recovered from <https://bit.ly/3bWYO5W>
- Bresciano, J. A. (2004). *Investigar en humanidades. Pautas metodológico técnicas para el diseño y la presentación de proyectos*. Montevideo: Psicolibros Waslala.
- Cabero, J. A. (1949). *Historia de la Cinematografía Española: Once jornadas. 1896-1948*. Madrid: Gráficas Cinema.
- Castro-de-Paz, J. L. (2007). La encrucijada de la historia del cine español. [Crossroads of Spanish Film History]. *Comunicar*, vol. 15, nº 29, 39-45. <https://doi.org/10.3916/26007>. Recovered from <https://bit.ly/3aMHZrH>
- Crusells, M. (2008). *Directores de cine en Cataluña: De la A a la Z*. Barcelona: Publicacions i Edicions de la Universitat de Barcelona.
- Deltell, L. (2016). Víctor Erice en la Escuela Oficial de Cinematografía. Elogio de la incomunicación. *Área Abierta*, vol. 16, nº 2, 55-69. https://doi.org/10.5209/rev_ARAB.2016.v16.n2.52303. Recovered from <https://bit.ly/2Xeqwer>
- Feenstra, P. (2007). La enseñanza del cine en Holanda: Cinefilia y emergencia del cine español. [Filmstudies in the Netherlands: the migration of cinephilia and the emergence of Spanish cinema]. *Comunicar*, vol. 15, nº 29, 31-38. <https://doi.org/10.3916/26006>. Recovered from <https://bit.ly/34quX7z>
- García-Marcos, E. (2016). La Escuela Oficial de Cine como creadora de maestros: Juan Julio Baena, Luis Enrique Torán y Luis Cuadrado, los primeros profesionales de la luz realista del cine español. *Área Abierta*, vol. 16, nº 2, 27-39. https://doi.org/10.5209/rev_ARAB.2016.v16.n2.51942. Recovered from <https://bit.ly/2Xc7dSU>
- García-Sahagún, M. (2016). La música como reivindicación de género en «Margarita y el lobo», de Cecilia Bartolomé. *Área Abierta*, vol. 16, nº 2, 71-87. https://doi.org/10.5209/rev_ARAB.2016.v16.n2.52137. Recovered from <https://bit.ly/2V4wT1e>
- González-López, P. (1984). *El cine en Barcelona, una generación histórica: 1906-1923*. (Tesis inédita de doctorado). Universitat de Barcelona, Barcelona.
- Gubern, R. (1999). *Proyector de luna: La generación del 27 y el cine*. Barcelona: Anagrama.

- Hort, M. (Ed.). (2016). *Education of the filmmaker in Africa, the Middle East, and the Americas*. Nueva York: Palgrave Macmillan.
- (2016 a). *Education of the filmmaker in Europe, Australia, and Asia*. Nueva York: Palgrave Macmillan.
- Iribarren-i-Donadeu, T. (2008). De cine: La intelligentsia catalana reverencia Hollywood a l'època daurada del cinema mut. *Els Marges: revista de llengua i literatura*, vol. 86, 21-40. Recovered from <http://bit.ly/2SyJR7r>
- Lariccia, F. (2007). La enseñanza del cine en el sistema educativo italiano. [Cinema teaching in the Italian educacional system]. *Comunicar*, vol. 15, n° 29, 47-49. <https://doi.org/10.3916/26008>. Recovered from <https://bit.ly/2x5LCkg>
- Lods, J. (1951). *La formación profesional de los técnicos de cine*. París: UNESCO.
- López-Martín, L. (2009). Aproximación a los oficios de cine en España (desde sus inicios hasta 1936). *Espacio Tiempo y Forma. Serie V, Historia Contemporánea*, n°. 21, 77-100. <https://doi.org/10.5944/etfv.21.2009.1530>. Recovered from <https://bit.ly/34dXQ6C>
- Medrano-García, A. (1981). *La enseñanza universitaria de la realización cinematográfica*. (Tesis inédita de doctorado). Universidad Complutense, Madrid. Recovered from <http://bit.ly/37rMgVr>
- Méndez-Leite, F. (2016). El primer recuerdo de la EOC. Área Abierta, vol. 16, n° 2, 90-91. Recovered from <http://bit.ly/2vyd9tD>
- Mills, C. W. (1961). *La imaginación sociológica*. México: Fondo de Cultura Económica.
- Odziozola-Cuevas, L. (2016). La conservación y las prácticas del IIEC y de la EOC. Área Abierta, vol. 16, n° 2, 92-94. Recovered from <http://bit.ly/2TIH10c>
- Pares, L. E. (2016). Introducción al fondo documental de la Escuela Oficial de Cinematografía. Área Abierta, vol. 16, n° 2, 95-96. Recovered from <http://bit.ly/2UTDTzm>
- Pérez, L. (2016). «Paseo por una guerra antigua» (Juan Antonio Bardem, 1948-49): Una contramemoria de la Guerra Civil. Área Abierta, vol. 16, n° 2, 41-53. https://doi.org/10.5209/rev_ARAB.2016.v16.n2.52065. Recovered from <https://bit.ly/2XeBPTC>
- Pérez-Perucha, J. (1989). 1896-1929. In Torres, A. M. (1989), *Cine español (1896-1988)* (pp. 17-87). Madrid: Instituto de la Cinematografía y de las Artes Audiovisuales.

- Pérez-Perucha, J. (2009). Narración de un aciago destino (1896-1930). In Gubern, R., Monerverde, J. E., Pérez-Perucha, J., Rimbau, E., y Torreiro, C. (2009), *Historia del cine español* (pp. 19-118). Madrid: Cátedra.
- Petrie, D. J. & Stoneman, R. (2014). *Educating film-makers: Past, present and future*. Bristol: Intellect.
- Porter-i-Moix, M. (1992). *Història del cinema a Catalunya (1895-1990)*. Barcelona: Generalitat de Catalunya, Departament de Cultura.
- (1992a). Un Període poc conegut del cinema català: 1921-1930. *Cinematògraf*, 99-120. Recovered from <http://bit.ly/2SOeVP7>
- Ramos-Arenas, F. (2016). El Instituto antes de Salamanca. Los primeros años del Instituto de Investigaciones y Experiencias Cinematográficas (1947-1955). *Área Abierta*, vol. 16, nº 2, 13-26. https://doi.org/10.5209/rev_ARAB.2016.v16.n2.52170. Recovered from <https://bit.ly/2RwhOof>
- Ramos-Torre, R. (1993). Problemas textuales y metodológicos de la sociología histórica. *Revista Española de Investigaciones Sociológicas (REIS)*, nº 63, 7-28. Recovered from <http://bit.ly/38wRjVP>
- Rawlinson, D. (1961). *A comparative survey of the training in cinema offered by selected educational institutions in the United States and other countries*. (Tesis inédita de doctorado). University of Southern California, California.
- Retamozo, M. (2012). Constructivismo: Epistemología y Metodología en las ciencias sociales. In Garza Toledo, E. de la, y Leyva, G. (2012). *Tratado de metodología de las ciencias sociales: Perspectivas actuales* (pp. 325-350). México: Universidad Autónoma Metropolitana, Fondo de Cultura Económica.
- Rimbau-i-Möller, E. (1995). *Excepciones a la norma: La incidencia de la lengua catalana en la producción cinematográfica barcelonesa del periodo mudo (1896-1931)*. Recovered from <http://bit.ly/2UWEEaW>
- Ritzer, G. & Casado-Rodríguez, M. T. (1993). *Teoría sociológica contemporánea*. Madrid: McGraw-Hill.
- Rodríguez-Merchán, E. (2007). La enseñanza del cine en España: Perspectiva histórica y panorama actual. [Cinema teaching in Spain. A historical perspective and a contemporary view]. *Comunicar*, vol. 15, nº 29), 13-20. <https://doi.org/10.3916/26003>. Recovered from <https://bit.ly/3aM8KD2>
- Saperas-Lapiedra, E. (2016). Cuatro décadas de investigación comunicativa en España. Los procesos de institucionalización y de profesionalización

- de la investigación (1971-2015). *Anuario electrónico de estudios en Comunicación Social Disertaciones*, vol. 9, n° 2, 27-45. <https://doi.org/10.12804/disertaciones.09.02.2016.02>. Recovered from <https://bit.ly/3aQdszJ>
- Séguin-Vergara, J.C. (2007). La enseñanza del cine en el sistema educativo francés. [Teaching with films in the French educational system]. *Comunicar*, vol. 15, n° 29, 21-25. <https://doi.org/10.3916/26004>. Recovered from <https://bit.ly/3aOOXD4>
- Tessonneau, R. (1966). *Projet de collaboration entre les écoles professionnelles de cinéma et les universités pour une éducation visuelle*. Table ronde de Rome, París, 25-03-1966, 1-68. Recovered from <http://bit.ly/37tRDUD>
- Tuñón-de-Lara, M. (1974). *La España del siglo XX. 1: La quiebra de una forma de Estado (1898-1931)*. Barcelona: Laia.
- UNESCO (Ed.). (1975). *The Education of the film-maker: An international view*. París: Unesco Press
- Valles-Martínez, M. S. (1999). *Técnicas cualitativas de investigación social: Reflexión metodológica y práctica profesional*. Madrid: Síntesis.
- Vallés-Copeiro-del-Villar, A. (1992). *Historia de la política de fomento del cine español*. Valencia: Ediciones de la Filmoteca, Instituto Valenciano de Cinematografía Ricardo Muñoz Suay.
- William-Evans, P. (2007). La enseñanza de cine en el sistema educativo británico. [Film teaching in the British Educational System]. *Comunicar*, vol. 15, n° 29, 27-29. <https://doi.org/10.3916/C29-2007-03>. Recovered from <https://bit.ly/2XeCsMY>
- Zunzunegui, S. (1985). *El cine en el País Vasco. La aventura de una cinematografía en la periferia*. Murcia: Filmoteca Regional de Murcia.

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University student's employment and labor placement

Empleo de los estudiantes universitarios y su inserción laboral

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Abstract

The implications linked to student employment represent a research topic that must be rigorously evaluated in order to find the most appropriate formula for university students to achieve a successfully labor placement once they have completed their training. Therefore, the main objective of this article is to find the effect of being employed during studies, differentiating the kind of employment, on the success of university graduates in their placement into the labor market. We made several probit models with sample selection in order to assess the effects concerning the mentioned relationship. As dependent variables, we used four indicators that include the quality of employment based on the stability, adequacy and remuneration of them. Our principal explanatory variable, work during studies, will be classified based on the work-time and its relationship with the graduate's studies. In order to have a broader view, we study both the first job after graduating, and the employment that the individuals have at the time of carrying out the sample. The data used to carry out these models are those collected from Labor Market Placement of University Graduates (EILU) survey, made by the Spanish National Institute of Statistics. The main results show a positive effect of full-time student employment on the probability of having a more stable and better-paid job. On the other hand, the connection of student work with the field of studies of the graduate will mean a lower probability of being overqualified, as well as a greater probability of being in the highest quintiles of contribution base. Finally, we found that the magnitude of the effects is less at the time that the survey collected data than if we compare it with the first work.

Keywords: Labor placement, university students, job quality, higher education, student employment

Resumen

Las implicaciones vinculadas al empleo durante los estudios representan un tema de investigación que debe ser valorado rigurosamente con el fin de encontrar la fórmula más adecuada para que los estudiantes universitarios tengan una inserción laboral exitosa una vez acaben su formación. Por ello, el principal objetivo de este artículo es encontrar el efecto de estar empleado durante los estudios, diferenciando la naturaleza del empleo, sobre el éxito de los egresados universitarios en su inserción al mercado de trabajo. Se realizan varios modelos *probit* con corrección de selección con el fin de valorar los efectos concernientes a la citada relación. Como variables dependientes, se utilizan cuatro indicadores que recogen la calidad del empleo a partir de la estabilidad, la adecuación y la remuneración del mismo. La variable explicativa de interés, el trabajo durante los estudios, se clasificará atendiendo al tipo de jornada y su relación con la formación del egresado. Con el fin de tener una visión más amplia, se estudia tanto el primer empleo tras terminar la universidad, como el empleo que tienen los individuos en el momento de realización de la encuesta. Los datos utilizados para realizar estos modelos proceden de la Encuesta de Inserción Laboral de Titulados Universitarios (EILU), elaborada por el Instituto Nacional de Estadística. Los principales resultados muestran un efecto positivo del empleo estudiantil a jornada completa sobre la probabilidad de tener un trabajo estable y mejor remunerado. Por otro lado, la conexión del trabajo estudiantil con el área de estudios del egresado supondrá una menor probabilidad de estar sobrecualificado, así como una mayor probabilidad de situarse en los quintiles más altos de base de cotización. Por último, se encuentra que la magnitud de los efectos es menor en el momento que se realiza la encuesta si se compara con el primer trabajo.

Palabras clave: Inserción laboral, universitarios, calidad del empleo, educación superior, trabajo estudiantil.

Introduction

Students who decide to obtain professional work experience during their studies, within a heterogeneous conception of human capital,

will be choosing factors that essentially favor successful post-graduate careers (Willis, 1986). If they decide against a work/study experience, students overlook an important part of their preparation and thus may overestimate the effect of their achievement within formal academics (Light, 2001; Molitor and Leigh, 2005). Both academic institutions and companies should find it quite useful to examine the implications of students working while studying, since the information can be used by the former for developing their curricula and by the latter to define potential candidates' profiles more precisely.

Early acquisition of on-the-job skills can give students different learning trajectories that complement their formal education, and, a priori, create positive synergies that will help graduates enter the labor market after completing their studies (Baert, Neyt, Omey, and Verhaest, 2017; Quintini, 2015; Neyt, Omey, Verhaest, and Baert, 2019). Positive aspects of a work/study experience include acquisition of work habits and other general skills, application of knowledge acquired in formal education, or added motivation arising from setting new professional goals. In addition, based on the theory of signaling (Spence, 1978), pre-graduation employment can act as a signal in a first job placement, or, based on Granovetter's theory (1977) of social networks, facilitate contacts within the sector where the graduate's professional career will be pursued (Baert, et al., 2017).

Accordingly, the main objective of this article is to study the relationship between students at Spanish universities having a job while at college and their success in entering the labor market once they finish studying. A student's success in entering the job market after completing studies will be defined according to the stability, salary, and qualifications required for the job. These characteristics will be identified with four indicators that we examine in detail further on.

In pursuance of this objective, we undertook an econometric analysis using the data collected in the Survey of Labor Market Entry of University Graduates (*Encuesta de Inserción Laboral de Egresados Universitarios*, EILU), prepared by the National Institute of Statistics (INE). Employment during college was differentiated according to the type of workday (part time or full time) and a potential relationship with the university degree held by the graduate (Geel and Backes-Gellner, 2011).

In the following section, we review the literature on the aforementioned relationship. Further on, we discuss the methodology behind the study

and the sample data. In the third section, we review the main results. In the fourth section, we discuss the conclusions of our research.

Work experience during studies: a review of the theoretical framework

In studies of student employment, a common assumption is that a trade-off exists between gaining job experience and possibly lower academic outcomes, since students have to shift time from study to work. This problem has been interpreted by at least two theories: the zero-sum theory, associated with Becker's theory of time allocation (1965) and the theory of primary orientation (Warren, 2002).

Zero-sum theory is based on how time is distributed from a microeconomic point of view (Becker, 1965). Students have a limited number of hours per day to be allocated to each of the activities they perform, among which is study time. If students work, they will devote a certain number of hours to their jobs, which cannot be used for studying, assuming that both activities are interchangeable. Thus, academic performance should be lower. However, the time on the job may actually come from leisure or rest activities, such as watching television or playing video games (Kalenkoski and Pabilonia, 2012; Schoenhals, Tienda and Schneider, 1998; Triventi, 2014). If the hours spent on the job are not too burdensome, the two activities may be complementary. Therefore, the main conclusion of the zero-sum theory would not be entirely correct, since academic performance would not have to decrease or could even increase due to positive synergies (Dundes and Marx, 2006; Ruesga, Da Silva and Monsueto 2014).

Furthermore, the theory of primary orientation (Baert, Marx, Neyt, Van Belle and Van Casteren, 2018; Warren, 2002) is based on priorities decided by students according to their vocational preferences. Students' preferences will lead them to opt for work activity or exclusive dedication to academics. If students prefer to work, they will let their academic performance decline, focusing on job training. If, however, they prefer to study, they will reduce their working hours as much as possible to avoid diminishing their academic outcomes. This conclusion is valid assuming that students do not have financial obligations that force them to continue working the same number of hours.

Empirical work on how jobs taken during studies affect students' academic performance reaches disparate conclusions, depending on the sample's level of education, the number of hours spent on the job, and the target variable that measures academic performance.

Some research has found that this relationship has a negative effect (Darolia, 2014; DeSimone, 2008; Hotz, Xu, Tienda and Ahituv, 2002; Kalenkoski and Pabilonia, 2010; Stinebrickner and Stinebrickner, 2003), increasing in magnitude as weekly hours on the job increase. Yet other studies have found that a few hours working will not have a significant impact on students' grades (Nonis and Hudson, 2006; Ruesga et al., 2014), and in some cases, academic outcomes improve (Dundes and Marx, 2006). These positive results are attributed to the skills gained and better time management. When there is a heavy workload, however, research has found a negative effect on grades, although on some occasions the drop in academic performance is hardly noticeable (Body, Bonnal and Giret, 2014; Gleason, 1993; Ruesga et al., 2014). Furthermore, there is greater consensus in scholarly research that when students work, graduation is delayed and the likelihood of students dropping out of school increases¹ (Bozick, 2007; Darolia, 2014; Ehrenberg and Sherman, 1987; Tinto, 1982).

The literature suggests a negative effect of this relationship when the workload is high, and assuming that grades will have a positive but indirect impact on students' work outcomes (Jones and Jackson, 1990; McGuinness, 2003), then holding a job during studies may have a negative effect on employment once students graduate. However, the direction of this relationship will depend on the importance of this supposed negative effect, as opposed to the positive effect that occurs when skills are gained in the job market.

There is less academic research that analyzes the relationship between employment during studies and employability, or its effects on students' employment earnings after graduation. Among the few studies that exist, there seems to be a certain consensus that points to a positive or, in any case, not negative effect in terms of post-graduates' ability to find a job and the salary earned (Geel and Backes-Gellner, 2011; Gleason, 1993; Jewell, 2014; Molitor and Leigh, 2005). However, the effects on employability and working conditions do not always coincide (Häkkinen,

¹ In the case of Spain, several studies pointed to the incompatibility of holding a job while studying as one of the main causes behind the high rate of graduation delays and dropouts (Cabrera, Bethencourt Benítez, González Alfonso and Álvarez Pérez, 2014; Corominas, 2001)

2006). Further, given that the population that interests us here is very diverse (mainly at the age of secondary education, but also considering higher education), it is important to control for individual differences, since failing to do so may lead the relationship to be overestimated (Häkkinen, 2006; Hotz et al., 2002).

The literature also indicates that the type of working day faced by a student worker is relevant to a certain degree. Different implications were found depending on the hours on the job. Likewise, Geel and Backes-Gellner (2011) find that the relationship of a student's job with that student's major is relevant when interpreting its effect on job placement after graduation.

Methodology

In order to identify the aforementioned relationship, we undertook an empirical study based on different indicators that gather information on the job placement of students, once they finish their university studies.

To study the success in job placement, besides the salary, there are other nonmonetary factors that influence the well-being of the worker (Becker, 1964). For this reason, different indicators that specify the conditions of the employee can be very useful when it comes to obtaining a complete description of employees' job situation. The variables chosen to represent on-the-job success are the following:

- Job stability, an approximation of which is the type of contract.
- Quintile in which the salary falls on the scale of social-security taxes (a wage-level proxy).
- Level of adequacy of the training acquired previous to being hired vis-à-vis that required by the job.
- Type of workday.

The effect of the different types of student employment on the different indicators will be reviewed separately. In this way, we can identify individual effects, which will allow us to obtain more precise information than if we used a single aggregate indicator (Baquero and Ruesga, 2019).

Sample

The source of our data is the Survey on Labor Market Entry of University Graduates (EILU), prepared by the INE. This survey encompassed a sample of university graduates during the 2009/2010 academic year. The information included data from all universities in Spain, with the exception of Universidad Pablo Olavide. The breadth of the sample is very relevant when constructing different econometric models that were prepared for this article. The data provide information on the first job obtained after graduating (given the nature of the variable, we use the 2011 social-security tax scale), as well as the job-related information at the time the survey was conducted. This makes it easier to study job placement dynamically, since it allows us to track each graduate's progress. The year data was collected also allows us to examine how graduated students evolved on the job during the Great Recession, which means that the results are situated within this economic scenario.

The subsample chosen for this study only includes individuals under 35 years of age, since older graduates have very different characteristics from the rest. We also eliminated those who had the same job since 2005 or earlier, since they are not of interest in terms of the population we wish to study. Table I depicts the main characteristics of the survey.

TABLE I. Survey characteristics

CONCEPT	DATA
Sample of interest	Spanish university graduates titled in the 2009/2010 academic year
Observations of the sample	30.379
Sample representativeness	15.38% of the total of graduates in the 2009/2010 academic year
Observations of the selected subsample	25.393
Data collection period	From September 2014 to February 2015
Students who worked during their studies	14.108
Students who work at the end of their studies	23.925
Students working at the time of the survey	18.767

Source: Own elaboration on INE data.

Dependent variables

The success of university graduates in job-market placement is determined according to the aforementioned factors that allow the quantitative analysis to be broken down into four sections, relating each of these factors with our explanatory variables (Baquero and Ruesga, 2019), defined below.

Job stability, approximated with the type of contract

The duality in the Spanish job market is one of the endemic problems that young people have to face in finding a job. The proliferation of internship contracts, together with the temporary nature in all strata of the job market, means that getting a permanent contract (employment stability) is identified as a success factor in job market placement. The lack of stability that underlies this situation means that young people see their development in adulthood hindered, which can mean, as an example, a delay in becoming independent and/or becoming a parent (Ortega and Martín, 2012).

Quintile of salaries on the social-security tax scale

Since the database lacks information on the specific salary received by the graduates, we use as a proxy the quintile in which salaries fall in the scale of social-security taxes. The salary obtained in relation to having obtained work experience during students' university studies is one of the central focuses of the research literature in this area (Gleason, 1993; Ruesga et al., 2014).

According to the theory of human capital (Becker, 1964), individuals with university studies should obtain monetary returns on their investment in education. Moreover, by acquiring experience in the job market during their university years, especially if this activity is related to their professional career, graduates should increase their productivity and, therefore, from a theoretical point of view, this would be reflected in their salary. For these reasons, we would expect these university graduates to be in the highest tax quintiles.

Level of adequacy of the training required in relation to that acquired

Over-education is a relevant problem within the Spanish labor market. Being over-educated (with respect to the job held) may mean that graduates are receiving lower salaries than those that could be expected for a job in line with the degree they obtained (Iriondo and Pérez-Amaral, 2016; Nieto and Ramos, 2017). This may also lead to a lack of motivation by the degree holder in fulfilling tasks and, therefore, lower productivity.

Alba-Ramírez (1993), a pioneer in addressing this issue, studied the transitory nature of the phenomenon in Spain. More recent studies indicate that Spain has a much greater problem than other European countries in terms of over-education (Barone and Ortiz, 2011). This situation arose due to the combination of an expansion of higher education, which brings it close to the OECD average (Ministry of Education and Professional Training, 2019) and the inability of the economy to absorb this increase in the population's qualifications. The fact that sectors that are intensive in low-skilled labor, such as construction or the hospitality industry, have a disproportionate weight in Spain's economy means that individuals who invest in human capital often do not receive the expected returns. Figures provided by the Observatory of University Employability and Employment in 2017 place the over-qualification of master's degree graduates at 30.88% in their first job, revealing that the available human capital is not used to good advantage.

This study measures over-qualification with a subjective indicator (McGuinness, 2006). Individuals answered the question, *What do you think was the most appropriate level of training to undertake this job?*² The variable was then generated from the answer provided.

Type of workday

In Spain, according to data from the EPA (Labor Force Survey), more than 52% of part-time employees do not work full-time because they were unable to find a full-time job. Therefore, we can reasonably interpret that having a full-time job is an indicator of success in job placement, in line with the stability and higher salary it entails.

⁽²⁾ Referring to the employment they held at the various times they were asked about their jobs in the survey

In addition, women make up more than two thirds of the people who work fewer hours than they would like, so it seems important to control for gender differentiation in our model. Moreover, historically, part-time jobs have been mainly occupied by women. This is due to the fact that gender roles have assigned women domestic and care work, making their job offer more elastic and prompting them to invest fewer hours in paid work (Baquero, Gómez and Ruesga, 2019; Booth and Van Ours, 2009;).

TABLE II. Dependent variables

VARIABLES	CHARACTER	VALUES
Job stability, approximated with the type of contract	Binomial	1, if they have a permanent contract, 0, if they have a temporary or internship contract
Quintile of salaries on the social-security tax scale	Binomial	1, if their salary fall in quintiles 4 or 5 on the social-security tax scale, 0, if their salary fall in quintiles 1, 2 or 3
Level of adequacy of the training required in relation to that acquired	Binomial	1, if their job requires university or doctoral studies, 0, if it requires a lower educational level
Type of worktime	Binomial	1, if they have a full-time job, 0, if they have a part-time job

Source: Own elaboration on INE data.

Explanatory variables

Our research focuses on the variables that refer to work during studies, differentiating them according to the type of workday (part or full-time) and their relationship with graduates' training, i.e., "unrelated", "related," or "not controlled by the job's relationship with the studies completed."³ By constructing a model in which this relationship is controlled and another in which it is not, we can identify how important this factor is (Geel and Backes-Gellner, 2011). In this way, four econometric models will be tested for each indicator, two for each moment of placement. In this way we can observe how the process evolves.

³ Only jobs that last more than three months are included, given that sporadic jobs are difficult to interpret, since this category could include jobs that last too little time.

TABLE III. Explanatory variables⁴

VARIABLES	DESCRIPTION	INFORMATION GROUP	FREQUENCY (% ON SAMPLE)
Mobility in Spain	Binomial variable that indicates whether the student has completed part of his studies at another Spanish university	1	8,05%
Study abroad	Binomial variable that indicates whether the student has completed part of his studies abroad		16,32%
Master	Binomial variable that is worth 1 if the individual has completed a master degree	2	36,81%
Level in Tics	Discrete variable that indicates whether the individual has a basic, advanced or expert ability in the use of the computer		Basic: 17,73% Medium: 66,42% Advanced: 15,85%
Number of languages that they can speak	Discrete variable that indicates the number of languages that the individual speaks in addition to their mother tongue, and it includes from 0 to 8 languages		0 languages: 6,80% 1 languages: 50,20% 2 languages: 31,98% 3 or more languages: 11,03%
Male	Binomial variable that takes the value 1 if the individual is male	3	38,59%
Age	Discrete variable that takes value one if the individual is under 30 and value 2 if he is between 30 and 34		Under 30: 70,51% Between 30 and 34: 29,49%
Field of study	Variable that takes the value 1 for the field of study to which the his degree belongs	4	Arts and humanities: 9,57% Science: 19,86% Social sciences and law: 44,19% Engineering and architecture: 21,87% Health sciences: 14,07%

⁽⁴⁾ In the case of binomial variables, the frequency indicates the percentage of times that this variable takes the value of 1.

Private university	Dummy variable that takes value 1 when the individual has studied at a private university	5	12,95%
General scholarship	Dummy variable that takes the value 1 if the individual has received a general study scholarship		39,26%
Excellence scholarship	Dummy variable that takes the value 1 if the individual has received an excellence scholarship	6	2,64%
Collaboration scholarship	Dummy variable that takes the value 1 if the individual has received a collaboration scholarship		5,00%
Training scholarship	Dummy variable that takes the value 1 if the individual has received a training scholarship		3,97%

Source: Own elaboration on INE data

Furthermore, during recent decades, people from different social strata (different from the usual ones associated with college education) have entered the ranks of university students, swelling the pool of higher-education graduates, and increasing their diversity. In a sample of people with the same educational level at the same moment of time, we find individuals who belong to different socioeconomic backgrounds with different levels of motivation and ability (Chevalier, 2003). This bias can lead to incorrect estimations, which will lead to erroneous inferences in the interpretation of results. For this reason, we believe it is important to include a large number of control variables to isolate the causality of interest. TABLE 1 lists all the variables included in this vector.

Analytical model

Given that the indicators chosen as dependent variables reflect the characteristics of employment, we can only observe this relationship for graduates who are working at the time the survey was taken. Thus, there is a bias regarding the differences between graduates who work and those who do not. If the previous self-selection made by the individuals is ignored, results inferred as valid will lead to an erroneous interpretation. To avoid this problem, we use the methodology developed by Heckman

(1979), who proposed testing a previous-selection equation based on a probit model, which generates a correction factor that will be included in the target equation to correct this bias. In order to avoid multicollinearity problems, the vector of explanatory variables of the selection equation will include the vector used in the target equation, in addition to the variable that indicates *anyone who rejected a job offer after finishing studies because the graduate did not think it was appropriate*.

Given the binomial nature of the dependent variables, we tested binomial probit models with Heckman's sample correction (Van de Ven and Van Praag, 1981), with the following estimation:

$$\Pr (Y_i = 1) = \Phi (\beta X_i + u_{2i}) \quad (1)$$

where Y_i is the dependent variable (one of the four factors cited), Φ is the normal cumulative distribution function, β is the set of coefficients estimated by maximum likelihood, X_i is the vector of explanatory variables of the model, and u_{2i} is the error-correction variable.

Further, the selection equation used to implement the sample restriction is

$$\Pr (Y_i = 1) = 1(\beta Z_i + u_{1i} > 0) \quad (2)$$

In this case, Y_i represents the binary variable of a graduate having worked at some time after completing studies (i.e., the first job after graduating) or working at the time the survey was carried out (when studying the job at this time). Z_i is a vector of explanatory variables that includes X_i in addition to the binomial variable that represents *rejecting a job because it was considered inappropriate*. Also, u_{1i} is the error-correction variable.

In the case of the models regarding the quintile in which the graduate is located on the tax scale, we used a binomial probit model without controlling the selection bias⁵. This is because Wald's test is not rejected, so the inverse of the Mills ratio will not be significant.

We calculate the marginal effects in order to depict the effects of each variable of interest regarding the probability of each work-quality indicator.

⁵ Except for the case in which employment is studied at the time of the survey and is not controlled by the relationship of student employment with the degree.

Outcomes

Our discussion of the main results involves differentiating two periods: a graduate's first job after completing studies and the job held at the time of the survey. For each time scenario, two models are estimated for each indicator: one that solely differentiates the type of workday and another that, in addition, differentiates whether the work is related to the studies pursued by the graduate.

First job after graduation

With reference to the effect that working during college studies will have on the first job after completing a university degree, we ought to take into account the importance of continuity since, immediately after obtaining a degree, some graduates will keep the same job and working conditions they had as students.

With regard to the marginal effects on the probability of having a permanent contract, we find that the effect of working while studying is positive and significant, showing a significant difference in magnitude that depends on what kind of workday the job involves, which increases when the job is full-time. By differentiating whether the job is related to the studies undertaken, we see that the effect is greater when such a relationship does not exist. In fact, when a job is related to studies and it is part-time employment, the significance of the effect disappears.

In terms of the probability of a jobholder belonging to the highest quintiles of the tax scale, the effects differ depending on the type of workday. We see a positive effect when the job held during studies is full-time and negative when it is part-time, both effects being significant. For this indicator, the relationship with the field of study is important, because when it exists, its effect is greater when it is a full-time job, and the negative effect of part-time employment is minimized to the point of not being significant.

In terms of the probability of finding employment that requires university or doctoral studies, the relationship of student employment with the degree studied acquires greater relevance. Working while undertaking college studies, when no control is exercised over the relationship of both activities, generates negative effects on both types of workday, once again penalizing a part-time job to a greater degree. However, when we disaggregate according to the nature of the job, we see that the effects are

antithetical. When there is a relationship between student employment and the degree, we find positive effects, although in the case of the part-time workday it is only significant at 10%. More clearly, when this relationship does not exist, we find significant negative effects.

Finally, the probability of working full time after receiving a degree is greatly influenced by the type of workday students had at their jobs during their university studies. The results show that jobs that have to do with students' majors have more significant effects in both directions, but their direction is clearly marked by the type of workday.

In summary, students' full-time jobs held during their college studies lead to better outcomes, in general, in terms of the quality of the first job after graduating. This is particularly true of indicators relating to salary levels and the probability of working full-time. A job's relationship with studies has special relevance in the educational suitability of the job, also leading to better results in terms of being in the high quintiles of the tax scale.

TABLE IV. Marginal effects on the conditions of the first job after studies

FIRST JOB AFTER GRADUATION	PERMANENT CONTRACT		HIGH REMUNERATION		SUITABLE QUALIFICATION		FULL-TIME JOB	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
Part-time job	0.049*** (0.01)		-0.073*** (0.012)		-0.101*** (0.008)		-0.237*** (0.008)	
Full-time job	0.125*** (0.013)		0.093*** (0.019)		-0.04*** (0.01)		0.195*** (0.009)	
Part-time job unrelated to the degree completed		0.066*** (0.012)		-0.049*** (0.013)		-0.19*** (0.01)		-0.221*** (0.01)
Full-time job unrelated to the degree completed		0.136*** (0.017)		0.123*** (0.019)		-0.179*** (0.015)		0.177*** (0.013)
Part-time job in relation to the degree completed		0.017 (0.013)		-0.014 (0.014)		0.02* (0.011)		-0.252*** (0.011)
Full-time job in relation to the degree completed		0.116*** (0.015)		0.17*** (0.017)		0.063*** (0.012)		0.199*** (0.011)

Standard deviations are in parentheses. Significance levels: *10%, **5%, ***1%

Source: Own elaboration on INE data

Employment at the time of the survey

When we look at the medium-term results in TABLE V, the effects are of a lesser magnitude, so that jobs during college studies lose some relevance as the entire pool of graduates acquires professional experience.

In terms of the probability of having a permanent job, having worked part-time in a job related to the degree shows a significant effect, but the effect is negative.

With regard to salary levels, the positive effect of full-time student employment persists, while the negative effect in the short term, if the job was part-time, becomes not significant. The differentiation, in terms of its relation to the studies undertaken, is also lessened, given that, even when there is a connection with them and the effect continues to be greater, it converges to a similar magnitude in the case that this connection does not exist.

TABLE V. Marginal effects on working conditions at the time of the survey

EMPLOYMENT AT THE TIME OF THE SURVEY	PERMANENT CONTRACT		HIGH REMUNERATION		SUITABLE QUALIFICATION		FULL-TIME WORDAY	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
STUDENT EMPLOYMENT								
Part-time job	-0.011 (0.01)		-0.039* (0.02)		-0.039*** (0.007)		-0.089*** (0.007)	
Full-time job	0.021 (0.012)		0.069** (0.027)		-0.032*** (0.008)		0.063*** (0.009)	
Part-time job unrelated to the degree completed		0.006 (0.012)		-0.004 (0.011)		-0.074** (0.009)		-0.068*** (0.009)
Full-time job unrelated to the degree completed		0.017 (0.017)		0.111*** (0.018)		-0.087*** (0.013)		0.046*** (0.012)
Part-time job in relation to the degree completed		-0.041*** (0.013)		0.003 (0.013)		0.016* (0.009)		-0.115*** (0.011)
Full-time job in relation to the degree completed		0.022 (0.015)		0.123*** (0.015)		0.07 (0.01)		0.074*** (0.01)

Standard deviations are in parentheses. Significance levels: *10%, **5%, ***1%

Source: Own elaboration on INE data.

In terms of over-education, here again it becomes more important that the job be related to the studies undertaken. However, in the medium term, being over-educated no longer means that a student has a greater probability of being correctly qualified. On the contrary, students who worked in a job unrelated to their majors continue to have greater chances that, upon graduating, they will be overqualified.

The probability of working part-time shows similar results to short-term study in terms of their direction, however, their magnitude is considerably reduced.

In this case, we note a general decrease of the effect of working during college studies in terms of the conditions of the first job after graduating.

Conclusions

The main objective of this paper was to analyze the effect of jobs held during university studies on potential success in job-market placement, once students graduate from the university. In turn, considering the typology of jobs during college studies, we found that the effects of having a job differ depending on the type of workday students had at their jobs and the relationship that the jobs had with students' major area of studies.

How this paper's conclusions are interpreted is subject to certain considerations. First, it proved impossible to control for students' social origin, due to the lack of data in this regard. Including this information would have been useful, since it may have an influence on the success in job-market placement because of social capital and, also, on the decision to work during college studies. It would also be interesting to have information on the willingness of students to work part-time during studies, since opting to work reduced hours is not a disadvantage. It would also be interesting to control for individuals' other activities outside the working world, since they consume time in the same way as working and can also be valued by employers. Finally, in the future, similar studies will find it very beneficial to have data from longitudinal studies that follow how individuals evolved in job placements, as is the case of the Continuous Work Life Sample.

One of the main conclusions of this article is that, in general, working full-time while studying has positive implications on employment

conditions after studies. Overall, the literature on this subject indicates that intense job activity during college studies will lead to poorer academic outcomes (Body et al., 2014; Cabrera, Bethencourt Benítez, González Afonso and Álvarez Pérez, 2014; Corominas, 2001; Gleason, 1993; Ruesga et al., 2014). This could put these individuals at a disadvantage when it comes to entering the job market (Jones and Jackson, 1990; McGuinness, 2003). Yet, studies that have dealt with the relationship between student work and job market placement in a direct way do not always coincide in their conclusions (Häkkinen, 2006; Hotz et al., 2002). In addition, generally speaking, the literature has focused on the implications of part-time⁶ work. However, in the case of our study, we verified clear positive effects on the probability of finding stable, better-paid⁷ jobs when student employment is full-time. This result indicates that, given the trade-off between lower academic performance and the acquisition of on-the-job experience, the latter factor has greater weight in defining subsequent placement into the job market, tilting the balance towards a positive effect (greater success).

Further, when we account for the implications on graduates' ability to adapt their skills to the job's requirements, the relation between students' jobs and the major that they pursued is important. In the model, when the types of job are separated according to their connection with students' academic majors, we find contradictory results with regard to the probability of being overqualified. Having worked at a job related to students' majors decreases the probability of graduates finding themselves in a job that does not require university studies or, in any case, the effect is not significant. When this connection does not exist, results show that the probabilities of having a higher level of education than required are greater. There is also a greater probability of being in the highest quintiles of the tax scale. These effects underscore the importance of horizontal adjustment in student employment, along the lines proposed by Geel and Backes-Gellner (2012). Aligning one's career from the beginning with one's studies can lead the student to forge new goals and create positive synergies. However, we also found that a job not related to students' majors will lead to a greater probability of having

⁶ Martín (2003) also studied the impact of having participated in company internships on job-market placement of a sample of students from the University of Granada. Martín found that this type of labour relations facilitates finding a job, but often in precarious conditions.

⁷ In this case it would have to be contrasted with hourly wage data, which are not available.

a permanent contract. This can be negative, since, in light of an unstable employment scenario, graduates could remain in a position that is not in line with the skills they have acquired, given the risk of not finding a job that is appropriate for their level of education.

Further, we concluded that the effects of student employment decrease the further we move away in time from a student's graduation. As the total pool of graduates acquires experience in the labor market and, in some cases, completes their graduate studies, it is reasonable to think that those who began working early will lose their initial advantage.

This research makes an important contribution to the way higher education is approached, both by students and institutions. The connection between the job market and higher education is a process to be improved in its content and application in order to increase productivity and, at the same time, to contribute to reducing the precariousness of employment, based on the use of human capital in an increasingly educated society.

Finally, we should continue to analyze even further the consequences of students working during their studies in terms of their placement as graduates in Spain's job market. Compared to other European countries, in Spain it is not common for students to engage in work/study arrangements, which in part explains why research on these topics is scarce.

Bibliography

- Alba-Ramirez, A. (1993). Mismatch in the Spanish labor market: overeducation? *Journal of Human Resources*, 259-278. doi: 10.2307/146203.
- Baert, S., Marx, I., Neyt, B., Van Belle, E. and Van Casteren, J. (2018). Student employment and academic performance: an empirical exploration of the primary orientation theory. *Applied Economics Letters*, 25(8), 547-552. doi: 10.1080/13504851.2017.1343443.
- Baert, S., Neyt, B., Omey, E. and Verhaest, D. (2017). Student work, educational achievement, and later employment: A dynamic approach. *IZA Discussion Papers* (No. 11127).
- Baquero, J. and Ruesga, S. M. (2019). Factores determinantes del éxito en la inserción laboral de los estudiantes universitarios. El caso de

- España. *Atlantic Review of Economics: Revista Atlántica de Economía*, 2(2), 1, 1-24. ISSN-e: 2174-3835
- Baquero, J., Gómez, V. and Ruesga, S.M. (2019). Reflexionando sobre la brecha salarial de género. *Revista de Derecho de la Seguridad Social, Laborum* 19, segundo trimestre, 265-274. ISSN 2387-0370
- Barone, C. and Ortiz, L. (2011). Overeducation among European University Graduates: a comparative analysis of its incidence and the importance of higher education differentiation. *Higher Education*, 61(3), 325-337. doi: 10.1007/s10734-010-9380-0.
- Becker, G. S. (1964). *Human Capital: A Theoretical and Empirical Analysis, with Special Reference to Education*. New York: Columbia University Press.
- Becker, G. S. (1965). A Theory of the Allocation of Time. *The Economic Journal*, 493-517. doi: 10.2307/2228949.
- Body, K. M. D., Bonnal, L. and Giret, J. F. (2014). Does student employment really impact academic achievement? The case of France. *Applied Economics*, 46(25), 3061-3073. doi: 10.1080/00036846.2014.920483.
- Booth, A. L. and Van Ours, J. C. (2009). Hours of work and gender identity: Does part-time work make the family happier? *Economica*, 76(301), 176-196. doi: 10.1111/j.1468-0335.2007.00670.x.
- Bozick, R. (2007). Making it through the first year of college: The role of students' economic resources, employment, and living arrangements. *Sociology of education*, 80(3), 261-285. doi: 10.1177/003804070708000304.
- Cabrera, L., Bethencourt Benítez, J. T., González Afonso, M. and Álvarez Pérez, P. (2014). Un estudio transversal retrospectivo sobre prolongación y abandono de estudios universitarios. *RELIEVE-Revista Electrónica de Investigación y Evaluación Educativa*, 12(1). doi: <https://doi.org/10.7203/relieve.12.1.4241>
- Chevalier, A. (2003). Measuring over-education. *Economica*, 70(279), 509-531. doi: 10.1111/1468-0335.t01-1-00296
- Corominas Rovira, E. (2001). La Transición a los estudios universitarios: abandono o cambio en el primer año en la universidad. *Revista de Investigación Educativa*, 2001, Vol. 19, núm. 1, 127-151. ISSN: 0212-4068
- Darolia, R. (2014). Working (and studying) day and night: Heterogeneous effects of working on the academic performance of full-time and part-time students. *Economics of Education Review*, 38, 38-50. doi: 10.1016/j.econedurev.2013.10.004.

- DeSimone, J. S. (2008). The impact of employment during school on college student academic performance (No. w14006). *National Bureau of Economic Research*. doi: 10.3386/w14006.
- Dundes, L. and Marx, J. (2006). Balancing work and academics in college: Why do students working 10 to 19 hours per week excel? *Journal of College Student Retention: Research, Theory and Practice*, 8(1), 107-120. doi: 10.2190/7ucu-8f9m-94qg-5wwq.
- Ehrenberg, R. G. and Sherman, D. R. (1987). Employment while in college, academic achievement, and postcollege outcomes: A summary of results. *Journal of Human Resources*, 1-23. doi: 10.2307/145864.
- Geel, R. and Backes-Gellner, U. (2012). Earning while learning: When and how student employment is beneficial. *Labour*, 26(3), 313-340. doi: 10.1111/j.1467-9914.2012.00548.x.
- Gleason, P. M. (1993). College Student Employment, Academic Progress, and Postcollege Labor Market Success. *Journal of Student Financial Aid*, 23(2), 5-14. ISSN: 0884-9153
- Granovetter, M. S. (1977). The strength of weak ties. *In Social networks*, 347-367. Academic Press. doi: 10.1016/B978-0-12-442450-0.50025-0.
- Häkkinen, I. (2006). Working while enrolled in a university: does it pay? *Labour Economics*, 13(2), 167-189. doi: 10.1016/j.labeco.2004.10.003.
- Heckman, J. (1979). Sample selection bias as a specification error. *Econometrica* 47: 153-161. doi: 10.2307/1912352.
- Hotz, V.J., Xu, L. C., Tienda, M. and Ahituv, A. (2002). Are there returns to the wages of young men from working while in school? *Review of Economics and statistics*, 84(2), 221-236. doi: 10.1162/003465302317411497.
- Iriondo, I. and Pérez-Amaral, T. (2016). The effect of educational mismatch on wages in Europe. *Journal of Policy Modeling*, 38(2), 304-323. doi: 10.1016/j.jpolmod.2015.12.008.
- Jewell, S. (2014). The impact of working while studying on educational and labour market outcomes. *Business and Economics Journal*, 5(3), 1. doi: 10.4172/2151-6219.1000110.
- Jones, E. B. and Jackson, J. D. (1990). College grades and labor market rewards. *The Journal of Human Resources*, 25(2), 253. doi: <https://doi.org/10.2307/145756>
- Kalenkoski, C. M. and Pabilonia, S. W. (2010). Parental transfers, student achievement, and the labor supply of college students. *Journal of Population Economics*, 23(2), 469-496. doi: 10.1007/s00148-008-0221-8.

- Kalencoski, C. M. and Pabilonia, S. W. (2012). Time to work or time to play: The effect of student employment on homework, sleep, and screen time. *Labour Economics*, 19(2), 211-221. doi: 10.1016/j.labeco.2011.10.002.
- Light, A. (2001). In-school work experience and the returns to schooling. *Journal of Labor Economics*, 19(1), 65-93. doi: 10.1086/209980.
- McGuinness, S. (2003). University quality and labour market outcomes. *Applied Economics*, 35(18), 1943-1955. doi: 10.1080/0003684032000158442.
- McGuinness, S. (2006). Overeducation in the labour market. *Journal of Economic Surveys*, 20(3), 387-418. doi: 10.1111/j.0950-0804.2006.00284.x.
- Ministerio de Educación y Formación Profesional (2019). *Panorama de la educación indicadores de la OCDE 2019*. Madrid: Ministerio de Educación y Formación Profesional. Recovered from: <https://www.educacionyfp.gob.es/dam/jcr:b8f3deec-3fda-4622-befb-386a4681b299/panorama%20de%20la%20educaci%C3%B3n%202019.pdf>
- Molitor, C. J. and Leigh, D. E. (2005). In-school work experience and the returns to two-year and four-year colleges. *Economics of Education Review*, 24(4), 459-468. doi: 10.1016/j.econedurev.2004.09.003.
- Neyt, B., Omeij, E., Verhaest, D. and Baert, S. (2019). Does student work really affect educational outcomes? A review of the literature. *Journal of Economic Surveys*, 33(3), 896-921. doi: 10.1111/joes.12301.
- Nieto, S. and Ramos, R. (2017). Overeducation, skills and wage penalty: Evidence for Spain using PIAAC data. *Social Indicators Research*, 134(1), 219-236. doi: 10.1007/s11205-016-1423-1.
- Nonis, S. A. and Hudson, G. I. (2006). Academic performance of college students: Influence of time spent studying and working. *Journal of Education for Business*, 81(3), 151-159. doi: 10.3200/JOEB.81.3.151-159.
- Ortega, A. S. and Martín, P. M. (2012). La juventud española en tiempos de crisis. Paro, vidas precarias y acción colectiva. *Sociología del trabajo*, (75), 93-110. ISSN: 2603-9710
- Quintini, G. (2015). Working and learning: A diversity of patterns. *OECD Social, Employment and Migration Working Papers* No. 169. doi: 10.1787/5jrw4bz6hl43-en.

- Ruesga Benito, S.M., Da Silva Bichara, J. and Monsueto, S.E. (2014). Estudiantes universitarios, experiencia laboral y desempeño académico en España. *Revista de Educación* 365. Julio-septiembre 2014, pp. 67-95. doi: 10.4438/1988-592X-RE-2014-365-265
- Schoenhals, M., Tienda, M. and Schneider, B. (1998). The educational and personal consequences of adolescent employment. *Social forces*, 77(2), 723-761. doi: 10.1093/sf/77.2.723.
- Spence, M. (1978). Job market signaling. In P. Diamond and M. Rothschild (Eds.), *Uncertainty in economics* (281-306). Academic Press. doi: 10.1016/B978-0-12-214850-7.50025-5.
- Stinebrickner, R. and Stinebrickner, T. R. (2003). Working during school and academic performance. *Journal of Labor Economics*, 21(2), 473-491. doi: 10.1006/jvbe.1998.1665.
- Tinto, V. (1982). *Defining dropout: A matter of perspective*. En E. T. Pascarella (Ed.), *Studying student attrition* (pp. 3-15). San Francisco: Jossey-Bass. doi: 10.1002/ir.37019823603.
- Triventi, M. (2014). Does working during higher education affect students' academic progression? *Economics of Education Review*, 41, 1-13. doi: 10.1016/j.econedurev.2014.03.006.
- Van de Ven, W. P. and Van Pragg, B. M. (1981). The demand for deductibles in private health insurance: A probit model with sample selection. *Journal of Econometrics* 17: 229-252. doi: 10.1016/0304-4076(81)90028-27.
- Warren, J. R. (2002) Reconsidering the relationship between student employment and academic outcomes: a new theory and better data. *Youth and Society*, 33, 366-93. doi: 10.1177/0044118X02033003002.
- Willis, R. J. (1986). Wage determinants: A survey and reinterpretation of human capital earnings functions. *Handbook of Labor Economics*, 1, 525-602. doi: 10.1016/S1573-4463(86)01013-1.

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Early intervention in morphological awareness in pupils with Developmental Language Disorders¹

Intervención temprana en conciencia morfológica en alumnado con Trastornos en el Desarrollo del Lenguaje

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Abstract

Introduction: The main objective of this research has been to verify the effectiveness of an intervention program on morphological awareness of pupils with Typical Development and with Developmental Language Disorder. **Methodology:** A total of 99 5-year-old pupils from schools in Tenerife Island (Canary Islands, Spain) participated. The CELF-4 word structure subtest was used. The intervention program consisted of 40 sessions lasting 15 minutes each and was implemented by early childhood teachers and speech language therapists. **Results:** The results indicated that pupils diagnosed with DLD initially presented worse performance in word structure than those diagnosed with typical development. On program completion, the pupils with DLD, in addition to improving their performance, showed the greatest gains in word structure. **Conclusions:** There are educational implications for organizing an early intervention of an inclusive and collaborative nature, but this must be explicitly planned to draw the attention of pupils with DLD to the morphology of words and

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transfer this to other, more complex words. Collaboration between professionals and running the program in groups considerably increase the number of teaching episodes, a circumstance that favors morphological awareness and awareness of the relationships between base words and their derived and inflected forms.

Key words: early intervention, morphological awareness, developmental language disorder, early childhood education, inclusion.

Resumen

Introducción: El objetivo principal de la presente investigación ha sido comprobar la efectividad de un programa de intervención sobre la conciencia morfológica de alumnado con Desarrollo Típico y con Trastornos del Desarrollo del Lenguaje. **Metodología:** Participaron un total de 99 niños y niñas de 5 años de edad de colegios de la Isla de Tenerife (Islas Canarias, España). Se utilizó el subtest de estructura de palabras del CELF-4. El programa de intervención constó de 40 sesiones de 15 minutos de duración, y fue implementado por profesoras de Educación Infantil y logopedas, principalmente en el aula ordinaria. Su organización está cercana a los modelos de respuesta a la intervención con múltiples niveles de apoyo educativo. **Resultados:** Los resultados indicaron que el alumnado diagnosticado con TDL presentaba inicialmente un peor rendimiento en estructura de palabras que el diagnosticado con desarrollo típico. Una vez finalizado el programa, el alumnado con TDL además de mejorar su rendimiento, es el grupo que presenta mayores ganancias en estructura de palabras. **Conclusiones:** Existen implicaciones educativas para organizar una intervención temprana de naturaleza inclusiva y colaborativa, pero que debe planificarse de manera explícita para atraer la atención del alumnado con TDL sobre la morfología de las palabras y lograr su transferencia a otras palabras de mayor complejidad. La colaboración entre profesionales y el desarrollo del programa en situaciones grupales aumenta considerablemente el número de episodios de enseñanza circunstancia que favorecerá la conciencia morfológica y las relaciones entre las palabras base y sus formas derivadas y flexionadas.

Palabras clave: intervención temprana, conciencia morfológica, trastorno del desarrollo del lenguaje, educación infantil, inclusión.

Introduction

The design of oral language intervention objectives for pupils with Developmental Language Disorder (DLD, Bishop et al., 2016, 2017) has been largely based to date on stimulating phonological, lexico-semantic and morphosyntactic skills. However, morphosyntactic intervention has

been more focused on improving the structural length of sentences and on reducing grammatical errors (both categorical, for example, in the case of incomprehensible sentences or in changing the order of their elements, and functional, for example, in the omission or substitution of relational words) than in the achievement of morphological objectives. In general, there is a predominance of programs, both implicit and explicit (Finestack, 2018), aimed at improving the learning of grammatical rules, the production and understanding of sentences, or the mastery of structural complexity, for example, through the production of relative clauses (Ebbels, 2014; Ramírez, Acosta, Moreno, Del Valle, & Axpe, 2018). Similar marginality has been observed in interventions designed to improve reading processes. In these cases, the need to prioritize phonological awareness skills has been emphasized, leaving interventions on morphological awareness (MA) in the background. In other words, educational practices for teaching reading to pupils with DLD have been more focused on stimulating phonological processing and decoding skills (Tambyraja, Farquharson, Logan, & Justice, 2015) than on other skills that are more connected to reading comprehension, as is the case of explicit and regular stimulation of MA (Bowers, Kirby, & Deacon, 2010). A clear example of all of the above, as Goodwin and Ahn (2010) remind us, is the fact that the teaching of MA was not taken into account in the expert report commissioned by the United States Congress on the best strategies for reading improvement (National Institute of Child Health and Human Development, 2000).

However, the panorama has changed substantially in recent years, and we now increasingly see calls to teach MA skills from the early childhood stage onward (Mendoza, 2016). The positive effects of this approach on learning and academic progress in pupils with DLD have favored this trend (Goodwin & Ahn, 2013). MA is understood as the explicit recognition, understanding and use of morphemes, the smallest units that make up words and that are endowed with meaning, such as the base words or affixes used to form new words. The promotion of MA seems to contribute significantly to learning to read words (Apel, Wilson-Fowler, Brimo, & Perrin, 2012; Bowers et al., 2010), to reading comprehension (Carlisle, 2010; Deacon & Kirby, 2004), and to vocabulary building (Ramírez, Walton, & Roberts, 2014). Therefore, it is important to highlight that intervention in MA is considered vital for at-risk pupils in the acquisition and development of oral language and reading skills. This

is because it both contributes to the consolidation of language learning in one's community and offers an additional strategy when decoding words (Reed, 2008).

Various studies have pointed to morphological deficits as one of the clinical markers of pupils with DLD. For example, some authors have observed a weakness in marking verbal inflections in languages such as English (Rice & Oetting, 1993) or Swedish (Hansson & Leonard, 2003). In Spanish and Catalan, morphological errors appear mainly in the production of plurals, gender markers, and verbal inflection (Sanz-Torrent & Andreu, 2013).

Recently, the importance of offering intervention in MA to pupils in vulnerable situations from early developmental ages has been underlined (Apel & Diehm, 2013; Apel, Brimo, Diehm, & Apel, 2013; Blancaflor, 2016; González et al., 2011; Ramírez et al., 2014; Wolter & Dilworth, 2013; Zoski & Erikson, 2017). Pupils diagnosed with DLD should be included in this group. In such cases, morphological intervention has been proposed for a plurality of teaching objectives, including adding suffixes or prefixes to base words, compound words, awareness of morphological inflection, morphological rules, word families, derivative modifications, and others. Furthermore, this teaching has proven to be effective, at least when very specific techniques, such as self-discovery or solving morphological problems, are used, and these techniques are embedded in playful situations.

To further our knowledge and help develop early intervention strategies in this area, the present research has been proposed, with a dual aim. The first is to verify that a group of pupils diagnosed with DLD will present deficits in word structure when compared to a group of pupils with typical language development. The second is to demonstrate the effectiveness of an intervention program in improving word structure. Specifically, the hypotheses are as follows:

Hypothesis 1: Pupils diagnosed with DLD will perform worse on word structure than pupils with typical language development.

Hypothesis 2: Pupils diagnosed with DLD will improve their performance on word structure following an intervention program.

Hypothesis 3: Pupils diagnosed with DLD will show greater gains in word structure following an intervention program than a control group of pupils with typical language development and a control group of pupils with DLD.

Method

A longitudinal design was developed with an (experimental) group of pupils with developmental language disorder (DLD). To complete the design, a non-equivalent experimental group (made up of pupils with typical development) and two control groups (one equivalent and one non-equivalent) were included in the study. The independent variables were group and evaluation time. The dependent variable was word structure (CELF-4 morphological subtest). After the subjects and the control variables were identified, the intervention pretest was administered. The program was then implemented and, finally, the posttest was carried out. Both the tests and the intervention were administered in the children's schools. Prior authorization was obtained from schools and families. Compliance with ethical standards was also positively evaluated by the University Ethics Committee.

Sample

A total of 99 children enrolled in schools on the island of Tenerife (Canary Islands, Spain), selected during the 2017-2018 school year, participated in this study. They were divided into four groups: (1) a control group of pupils with developmental language disorder (CL); (2) a control group with typical development (CT); (3) an experimental group of pupils with developmental language disorder (EL) and (4) an experimental group with typical development (ET). The normality of age was verified using the Kolmogorov-Smirnov test ($z = 0.08$; $df = 99$; $p = .174$). To verify that the groups coincided with this variable, a hypothesis test was performed. As a preliminary step, the homogeneity of the variances was determined using Levene's test ($F(3,95) = 0.6$; $p = .591$). The ANOVA did not show significant differences ($F(3,95) = 3.0$; $p = .520$; $\eta^2 = .01$). The K-BIT Intelligence Test was used to assess nonverbal IQ (Kaufman & Kaufman, 2000). The normality of nonverbal IQ was verified using the Kolmogorov-Smirnov test ($z = 0.10$; $df = 99$; $p = .098$). To verify that the groups coincided with this variable, a hypothesis test was performed. As a preliminary step, the homogeneity of the variances was determined using Levene's test ($F(3,95) = 1.9$; $p = .139$). The ANOVA did not show significant differences ($F(3,95) = 5.1$; $p = .097$; $\eta^2 = .04$). Table I shows the descriptive statistics of each group in both variables.

TABLE I. Descriptive statistics for age and nonverbal IQ by study group.

Study group	n	Sex		Age				Nonverbal IQ			
		Male	Female	Min	Max	M	SD	Min	Max	M	SD
CL	25	14	11	5.2	6.3	5.6	0.3	80	106	96	7
CT	25	14	11	5.2	6.3	5.7	0.3	89	113	111	6
EL	25	15	10	5.3	6.2	5.7	0.3	80	106	98	8
ET	24	15	9	5.2	6.3	5.8	0.3	80	120	107	8

Note: CL = Control group DLD (n = 25). CT = Control group TD (n = 25). EL = Experimental group DLD (n = 25). ET = Experimental group TD (n = 24).

Two of the groups (CL and EL) were selected by convenience sampling, since the pupils had to meet specific selection criteria. To select the pupils for the DLD groups, an initial evaluation was carried out in all the schools on the island of Tenerife, in collaboration with the school management and psycho-pedagogical guidance teams. These professionals were asked to refer all pupils showing possible signs of DLD, that is, comprehension or expression problems in one or more components of language, but especially in morphosyntax and semantics, or pupils with a history of several years of unresolved language difficulties. A total of 147 boys and girls were referred, and a language evaluation protocol was administered to them to confirm the diagnosis. This consisted of a language test, specifically the Clinical Evaluation of Language Fundamentals CELF-4 (Semel, Wiig, & Secord, 2006), and a phonological skills test, the RFI-Induced Phonological Registry (Monfort & Juárez, 1989). This administration of the evaluation protocol led to the selection of a sample of 50 pupils diagnosed with DLD, who were randomly assigned to one of the two equivalent groups in the study, based only on gender. A total of 65 subjects were excluded from the study for presenting simple language delay, that is, a slight chronological delay in development characterized more by phonological difficulties than by structural deficits, and 32 subjects were excluded for not completing the tests, due to repeated absences or lack of collaboration.

Pupils in the typically developing groups were selected to ensure that the four groups were as similar in age and gender as possible. A total of 50 pupils with typical development were selected from the classmates of the pupils with DLD. The subjects in this group had no language difficulties

and were being educated within the usual parameters. One pupil was excluded for not completing the tests, due to repeated absences.

Therefore, the final sample consisted of 99 pupils enrolled in schools of all the municipalities of the island of Tenerife, which gave rise to a heterogeneity of the participants, covering contexts with different socioeconomic status and both rural and urban areas.

Instrument

The CELF-4 standardized test (Semel et al., 2006) has been used to assess the language skills of Spanish speakers. In particular, it evaluates the general processes of linguistic comprehension and expression, through tasks that involve the structuring and formulation of sentences, concepts and directions, structure and classes of words, and remembering sentences. The average reliability coefficients for the Spanish CELF-4 index scores range from .90 to .96. The test structure was validated by several confirmatory analyses (by age group) to verify the hierarchical structure of the model. All showed adequate goodness of fit.

The word structure subtest was selected. The items consisted of responding appropriately to the stimuli presented in a grammar cloze task. For example, “Here is a boy (point) and here is (point) ____ (a girl)”; “These cats are eating (point) and these cats (point) _____ (are sleeping)”; “Here is a little mouse (point) and here are (point) ____ (two little mice)”. The analyzed categories of word structure were the following: nouns (plurals), derivations (nouns and adjectives), verbs (third-person singular and plural, *ser* or *estar*, future, conditional, present subjunctive, past subjunctive, past indicative of regular and irregular verbs), possessives and reflexive pronouns.

To measure nonverbal IQ the K-BIT Intelligence Test was used (Kaufman & Kaufman, 2000). This test evaluates the ability to solve reasoning problems through both figurative and abstract visual stimuli.

Procedure

The intervention program was implemented during the 2018-2019 school year by a total of 45 early childhood teachers and 30 speech language therapists. They were given 20 hours of training. In addition

to being provided with a detailed dossier with all the materials, they received training in a practical workshop format. They were given two notebooks. The first was called the Teacher's Notebook, and it included a short introduction to the main objectives of the MA intervention for five-year-old children. Examples were also provided of the correct use of the intervention techniques. Finally, the sequence of activities was presented in detail for the entire group (inflectional morphology, gender, number and verb forms) and for work with small groups (compositional morphology and derivative morphology). The second notebook, called the Student's Notebook, contained most of the material required for carrying out the different activities, that is, pictures depicting actions, story texts, word pairs with drawings, word pairs without drawings. During the intervention, the teachers received weekly visits from members of our research group; during these visits, possible doubts were resolved and explicit support was provided in the classroom context. In addition, over the course of the program, four additional plenary meetings were held to verify the reliability of the program and evaluate the process.

A total of 40 daily intervention sessions of 15 minutes each were held, following the same sequence and with identical materials. The first four days of the week, each teacher worked in the context of the regular classroom, combining situations with all the pupils (Level 1) and in small groups (Level 2), while every Friday the pupils with DLD met, together with two other classmates, outside the regular classroom (Level 3) to work with the speech language therapist and repeat the program activities. This type of organization closely approximates intervention response models with multiple levels of educational support.

The main objectives of the program were to learn the morphological properties of words, such as nominal gender inflection (masculine and feminine), nominal number inflection (singular and plural markers), and verbal inflection (person, number, tense and mode). The program also covered the use of base elements, called roots, to add other, secondary elements, called affixes or bound morphemes, prefixes and suffixes (derivative morphology). Finally, it was also meant to start work on combining lexical morphemes to generate new words. To achieve the above objectives, the teachers employed two intervention techniques. First, modeling was used, that is, presenting a correct model and waiting for it to be repeated at some point, spontaneously, by the pupil. For example, the teacher would say: "He is very happy (*muy feliz*). He is

extremely happy (*felicísimo*). He is very quiet (*muy tranquilo*). He is.... (*tranquilísimo*). If the pupil did not respond, the teacher added "*tranquilísimo*". The second technique was bootstrapping or external facilitation. For example, if the pupil said: "I don't know what that is called", the teacher replied with a semantic bootstrapping, "the child is very relaxed, very calm (*muy relajado, muy tranquilo*)". And if he did not answer, he was offered a phonological bootstrapping, "the child is *tranquilí.....*", so that the pupil would answer: "*tranquilísimo*".

The materials used were simple and easy to prepare. They included the following: hand puppets or marionettes that allowed the teacher to improve interaction as well as make comments, ask questions, offer clues, and even inspect words; a magnifying glass to focus on the different morphological variations; cards and sheets; blackboards and stories.

The sequence of activities was as follows. In the regular classroom, first thing in the morning, the work began with all of the pupils playing a game of "detective" adapted from the original game developed by Zoski and Erickson (2016). Specifically, pupils were encouraged to become "word detectives". In this game, they became active participants in identifying the morphological features of words (root, suffixes, etc.). Like real detectives, they were to use a magnifying glass. This allowed them to focus on different morphological variations in words. For example, the teacher would explain that for verbs whose infinitive ends in -ar, the gerund ends in "-ando", as in *andar – andando, cantar – cantando, amar – amando*. For verbs whose infinitive ends in -er or -ir, the gerund is built by adding the ending -iendo, as in *correr – corriendo, comer – comiendo, mentir – mintiendo and decir – diciendo*. Then, the pupils would be shown a picture of *cortando*. The suffix -ando is added to *corta* to show that the action is happening right now. "Se está *cortando* su pelo" (he is cutting his hair). Then, during a listening exercise, the teacher would read words with the affix (for example, a gerund ending in -ando) and define the word (for example, *cortando* – cutting at this very moment, right now). For the second part of the activity, the pupils would raise their magnifying glasses when they heard a word with the affix in question (for example, "Listen... *saltando*; and an image is shown. Listen... *cortando*). Next, they would act as "detectives" to complete a guided word classification. The teacher would have a puppet on one hand while the pupils sat around her. To one side there would be a large card with the letters -I-E-N-D-O or -A-N-D-O written on it. The teacher

would point to the card, say each letter out loud, and then pronounce the suffix. At the same time, the puppet would be used to repeat the pronunciation and prompt the pupils to “say it with me”. They would then repeat the ending three times. The teacher then continued: “Let’s see if we can find words that end in –IENDO or –ANDO. I am going to read out some words. Tell me if you hear –IENDO. I have magnifying glasses here so you can be word detectives. I want you to hear the –IENDO in words, and I want you to see them. When I read a word that contains –IENDO, raise your magnifying glass to tell me that we need to look more closely at the word to see if it contains an –IENDO. Ready?”. The teacher would then start to read, exaggerating the pronunciation of each word (*comiendo*) without showing the children the written word. A pupil would raise their magnifying glass and the teacher would then reveal the word written on the card. She would then invite the pupils to examine the word and point to the –IENDO. If nobody raised a magnifying glass for the next word, the teacher would turn the card around and use the puppet to examine it. As a word group was worked through, the pupils examined each word and sorted them into columns of –IENDO or No –IENDO on the blackboard: *riendo, comiendo, abeja, ala, niño, cebra, mintiendo, bebiendo, corriendo, saliendo*. Finally, the teacher would read out the story “Why do polar bears have short tails?”, reminding the pupils that they are word detectives and instructing them to raise their magnifying glasses whenever they heard a word with –IENDO, –ANDO. Each time, the group would stop and examine the word. The following words appeared in the story: *provocando, buscando, llevando, nadando, usando, aferrando* and *agarrando*.

The game of “detective” is used to stimulate verb morphology, with cards showing actions before, during and after (*va a comer, está comiendo, ya comió*) or derivations through word classification; gender morphology, with cards showing the difference between masculine and feminine words (“if this is a bear (*oso*), the mother of the *oso* is called a ____ (*osa*), or the female friend of this *oso*, which is the same, is called a ____ (*osa*)”); and number morphology, with cards used to support this as well (“this is a ball (*balón*) and here we have lots of ____ (point)”; “this is a pencil (*lápiz*), and these are ____ (point)”).

The previous work was combined with other activities in small groups whose objective was to address compositional morphology. For example, the teacher might say, “Each of these words is made up of two

words. Let's go find them." The two words would be separated, and the group would discuss the meaning of each. Then they would be put back together and the pupils asked about their meaning. The teacher would say: "Sometimes, if we put two words together, we get a compound word, which takes the meaning of both." Cards with drawings of each of the words would be used. For example: *paraguas* = *parar* + *agua*; *sacacorchos* = *sacar* + *corcho*.

Finally, the sessions with the speech language therapist were used to review all of the work done in the regular classroom.

Data analysis

First, an ANOVA was performed for the dependent variable studied (CELF-4 subtest: word structure) with the pretest scores to check the initial differences between the groups and thus establish the baseline. Second, an ANCOVA was performed for the dependent variable with the post-intervention score to determine if the intervention program produced an improvement in performance in the experimental groups over the control groups. The pretest score was used as a covariate. Finally, an ANOVA was performed to determine if there were differential gains after the intervention (posttest – pretest). As a preliminary step for all the ANOVA performed, the homogeneity of the variances was checked using Levene's test. In the contrasts that presented heterogeneity, the robust Welch's test was used. Orthogonal contrasts were performed as post-hoc comparisons when the main effect showed significant differences, to identify which groups showed differences. All analyses were performed with the SPSS v25 program.

Results

To evaluate the effects of the program, an ANOVA was performed of the pretest scores in word structure (CELF-4), to establish the baseline of pupils with DLD compared to pupils with normal development. Table II shows the descriptive statistics for the four groups and the main effect of the subtest. It can be seen that the results showed significant differences, with a large effect size.

TABLE II. ANOVA for pretest measures in the word structure subtest (CELF-4).

	CL	CT	EL	ET	ANOVA (3,95)		
	M (SD)	M (SD)	M (SD)	M (SD)	F _{Lev}	F	η ²
WS	7.8(4.4)	22.6(3.7)	8.7(4.6)	19.7(4.6)	1.2	75.3***	.70

Note: CL = Control group DLD. CT = Control group TD. EL = Experimental group DLD. ET = Experimental group TD. EP = Word structure. F_{Lev} = Levene's F.

***p ≤ .001.

As can be seen in Table III, the two groups of pupils with DLD showed significantly lower results than the two groups of pupils with TD, with a large effect size. The two groups of pupils with DLD showed no difference between them. That is, the first hypothesis was demonstrated. These differences are shown in Figure I.

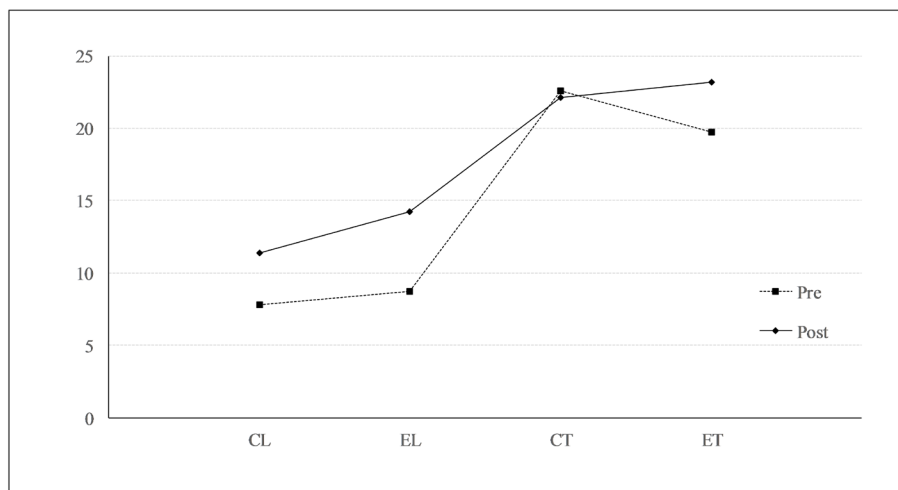
TABLE III. Orthogonal contrasts for pretest measures in the word structure subtest (CELF-4).

	CL vs CT		CL vs ET		CT vs ET		CT vs EL		CT vs ET		EL vs ET	
	F(1;97)	η ²	F(1;97)	η ²	F(1;97)	η ²	F(1;97)	η ²	F(1;97)	η ²	F(1;97)	η ²
WS	145.4***	.61	0.6	.01	75.3***	.49	75.3***	.57	5.3*	.05	79.1***	.45

Note: CL = Control group DLD. CT = Control group TD. EL = Experimental group DLD. ET = Experimental group TD. WS = Word structure.

*p ≤ .05. ***p ≤ .001.

FIGURE I. Pretest and posttest measures in the word structure subtest (CELF-4).



Note: CL = Control group DLD. CT = Control group TD. EL = Experimental group DLD. ET = Experimental group TD.

To answer the second hypothesis, an ANCOVA was performed with the post-intervention scores. The pre-intervention scores were used as a covariate. Table IV shows the descriptive statistics for the four groups and the main effect. As can be seen, the results showed significant differences, with a large effect size.

TABLE IV. ANCOVA for posttest measures in the word structure subtest (CELF-4) with pretest scores as covariates.

	CL	CT	EL	ET	ANOVA (3,95)		
	M (SD)	M (SD)	M (SD)	M (SD)	F_{Lev}	F	η^2
WS	11.4(4.8)	22.1(3.8)	14.2(4.1)	23.2(3.1)	0.6	7.7***	.20

Note: CL = Control group DLD. CT = Control group TD. EL = Experimental group DLD. ET = Experimental group TD. WS = Word structure. FLev = Levene's F.

*** $p \leq .001$.

As can be seen in Table V, the experimental group of pupils with DLD showed better performance than both control groups (DLD and TD) and a similar performance to the experimental group with TD after the intervention. That is, the second hypothesis was demonstrated.

TABLE V. Orthogonal contrasts for posttest measures in the word structure subtest (CELF-4) with pretest scores as covariates.

WS	CL vs CT		CL vs EL		CL vs ET		CT vs EL		CT vs ET		EL vs ET	
	F(1;97)	η ²	F(1;97)	η ²	F(1;97)	η ²	F(1;97)	η ²	F(1;97)	η ²	F(1;97)	η ²
	31.2***	.25	5.7*	.06	20.0***	.18	6.0*	.06	5.7*	.06	1.0	.01

Note: CL = Control group DLD. CT = Control group TD. EL = Experimental group DLD. ET = Experimental group TD. WS = Word structure.

*p ≤ .05. ***p ≤ .001.

To answer the third hypothesis, an ANOVA was performed on the group gains (posttest scores – pretest scores). Table VI shows the descriptive statistics for the four groups and the main effect. As can be seen, the results showed significant differences, with a large effect size.

TABLE VI. ANOVA for gains after intervention (post – pre) in the word structure subtest (CELF-4)

WS	CL	CT	EL	ET	ANOVA (3,95)		
	M (SD)	M (SD)	M (SD)	M (SD)	F _{Lev}	F	η ²
	3.6(3.6)	-0.5(3.5)	5.5(5.2)	3.5(4.2)	2.4	9.1***	.23

Note: CL = Control group DLD. CT = Control group TD. EL = Experimental group DLD. ET = Experimental group TD. WS = Word structure. F_{Lev} = Levene's F.

***p ≤ .001.

As can be seen in Table VII, the experimental group of pupils with DLD showed greater gains after receiving the intervention program than the other three groups, both control and non-equivalent experimental. That is, the last hypothesis was demonstrated. These gains are presented visually in Figure II.

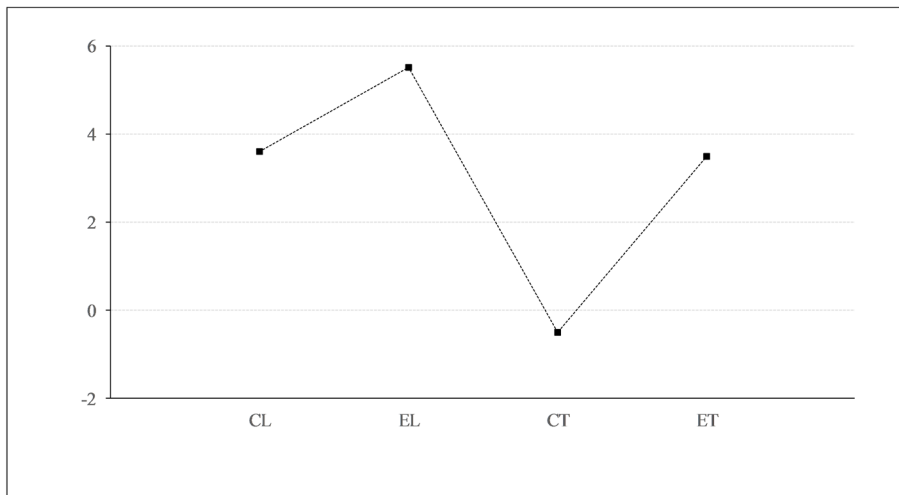
TABLE VII. Orthogonal contrast for gains after intervention (post – pre) in the word structure subtest (CELF-4).

WS	CL vs CT		CL vs EL		CL vs ET		CT vs EL		CT vs ET		EL vs ET	
	F(1;97)	η ²	F(1;97)	η ²	F(1;97)	η ²	F(1;97)	η ²	F(1;97)	η ²	F(1;97)	η ²
	12.1***	.11	2.9*	.04	0.0	.00	11.1***	.10	25.6***	.21	2.9*	.04

Note: CL = Control group DLD. CT = Control group TD. EL = Experimental group DLD. ET = Experimental group TD. WS = Word structure.

*p ≤ .05. ***p ≤ .001.

FIGURE II. Gains in word structure subtest (CELF-4).



Note: CL = Control group DLD. CT = Control group TD. EL = Experimental group DLD. ET = Experimental group TD.

Conclusions

MA is considered a fundamental skill, as it is decisive in developing literacy during early childhood and primary education. Some systematic reviews and meta-analyses have already shown that interventions

in morphological skills in these two educational stages produce an improvement in pupils' MA and literacy skills (Bowers et al., 2010; Brimo, 2016; Goodwin & Ahn, 2013). The foregoing is all the more evident among pupils with DLD since, as confirmed in our first hypothesis, they perform worse in word structure than pupils with typical language development. Therefore, a first conclusion supported by the present research is that there is a need to implement improvement programs for MA starting in the last year of early childhood education (Apel et al., 2013).

Morphology-focused educational interventions have generally been divided into four teaching approaches (Carlisle, 2010): first, those that increase pupils' awareness of the morphological structure of words; second, those that teach the meanings of affixes and base words; third, those that promote the resolution of morphological problems; and finally, the teaching and application of morphological analysis strategies. In our case, we have followed the guidelines of Apel et al. (2013), since an attempt has been made mainly to increase awareness of affixes and the relationships between base words and their derived and inflected forms. Specifically, pupils were encouraged to think about and manipulate morphemes in a broad sense and for a variety of purposes. In other words, the aim was to draw pupils' direct attention to the morphology of words to promote explicit awareness of their structure, with the idea that this awareness could then be transferred to other, more complex words. Through this approach, it was possible to confirm our second hypothesis, since the pupils diagnosed with DLD improved their performance in word structure after receiving the intervention program.

There is evidence that explicit teaching of the morphological nature of words improves learning, as well as the transfer of knowledge to similar words and other words that have not been taught (although generally with a smaller effect size). In their meta-analysis, Goodwin and Ahn (2013) reported higher gains for pupils who received a morphological intervention program when compared to a control group. In this same direction, our third hypothesis was confirmed, since the group of pupils with DLD presented a greater improvement in word structure after receiving the intervention program than a control group of pupils with typical language development and a control group of pupils diagnosed with DLD.

The approach chosen for organizing this intervention fits perfectly within inclusive models of learning. Key issues here include the

empowerment of the teacher figure in the implementation of the intervention program, as well as the priority given to the program within the context of the regular classroom. The results show that the gains of the DLD control group were higher than those of the other control group and similar to those of the experimental group with typical development. This can be explained by the fact that while the DLD control group received clinical treatment outside the program, the experimental group with typical development benefited from the intervention program described above. It is likely that the group game of “detective” encouraged pupils’ interest in morphology by drawing their attention to morphological stimulation (Plante, Heidi, Tucci, & Vanc, 2019). The literature indicates that when children are treated in group settings, they listen to both the adult’s comments and to those of their peers. Potentially, this circumstance offers the opportunity for incidental teaching by the adult, and for observational learning by each child, since she listens to the contributions provided to other classmates. If several children are working on the same morphological objective, the number of teaching episodes provided during the session is increased, and ends up higher than in an individualized intervention (Eidsvag et al., 2019). In short, providing a program based on repeated play is attractive for all pupils. In addition, the execution of such an intervention program in educational contexts is straightforward, and it facilitates exchange and mutual support among all pupils, including those with and without language problems (scaffolding). All in all, playful situations must be properly structured and systematized, to allow all pupils to be involved in the task and to increase their effort to obtain a positive effect on learning MA.

The educational implications of this are clear, both according to the principles that must guide education for diversity and the organizational model it supports, and in terms of making the best use of resources and optimization of staff-related and other costs. It is based on a situation that involves different professionals (educational collaboration) and allows many learning opportunities in contexts where pupils with unequal language skills coexist (typical development and DLD). There is no doubt that this contributes to the objective of eliminating from the classroom the danger of early stigmatization of pupils with DLD.

Limitations

The program evaluation was carried out immediately after the intervention; ideally, follow-up tests should be performed several months after the intervention to determine if the observed initial gains for the experimental group remain.

The pupils with DLD assigned to the control group continued to work with a speech language therapist outside of the program, in accordance with the protocol established by the Canary Islands Regional Ministry of Education.

Finally, the results should be considered in relation to possible improvements in other components of language, such as lexicon and phonology, and especially to the early learning of reading.

References

- Apel, K., Brimo, D., Diehm, E., & Apel, L. (2013). Morphological awareness intervention with kindergartners and first and second grade students from low socioeconomic status homes: A feasibility study. *Language, Speech, and Hearing Services in Schools, 44*, 161-173. doi:10.1044/0161-1461(2012/12-0042)
- Apel, K., & Diehm, E. (2013). Morphological awareness intervention with kindergartners and first and second grade students from low SES homes: A small efficacy study. *Journal of Learning Disabilities, 47*(1), 65-75.
- Apel, K., Wilson-Fowler, E., Brimo, D., & Perrin, N. (2012). Metalinguistic contributions to reading and spelling in second and third grade students. *Reading and Writing, 25*(6), 1283-1305. doi:10.1007/s11145-011-9317-8
- Bishop, D. V. M., Snowling, M. J., Thompson, P. A., Greenhalgh, T., & CATALISE Consortium. (2016). CATALISE: A multinational and multidisciplinary Delphi consensus study. Identifying language impairments in children. *PLOS ONE, 11*(7), e0158753. doi: 10.1371/journal.pone.0158753
- Bishop, D. V. M., Snowling, M. J., Thompson, P. A., Greenhalgh, T., & CATALISE-2 Consortium. (2017). Phase 2 of CATALISE: A multinational

- and multidisciplinary Delphi consensus study of problems with language development: Terminology. *The Journal of Child Psychology and Psychiatry*, 58, 1068-1080. doi: 10.1111/jcpp.12721
- Blancaflor, E. (2016). Integrating morphological knowledge in literacy instruction. *Teaching Exceptional Children*, 48(4), 195-203. doi:10.1177/0040059915623526
- Bowers, P., Kirby, J., & Deacon, S. (2010). The effects of morphological instruction on literacy skills: A systematic review of the literature. *Review of Educational Research*, 80, 144-179. doi:10.3102/0034654309359353
- Brimo, D. (2016). Evaluating the Effectiveness of a Morphological Awareness Intervention: A Pilot Study. *Communication Disorders Quarterly*, 38(1) 35-45. doi: 10.1177/1525740115604592
- Carlisle, J. (2010). Effects of instruction in morphological awareness on literacy achievement: An integrative review. *Reading Research Quarterly*, 45, 464-487. doi: 10.1598/RRQ.45.4.5
- Deacon, S., & Kirby, J. (2004). Morphological awareness: Just “more phonological”? the roles of morphological and phonological awareness in reading development. *Applied Psycholinguistics*, 25(2), 223-238. doi:10.1017/S0142716404001110
- Ebbels, S. (2014). Effectiveness of intervention for grammar in school-aged children with primary language impairments: A review of the evidence. *Child Language Teaching and Therapy*, 30, 7-40. doi: 10.1177/0265659013512321
- Eidsvag, S., Plante, E., Oglivie, T., Privette, Ch., & Mailend, M. (2019). Individual Versus Small Group Treatment of Morphological Errors for Children with Developmental Language Disorder. *Language, Speech, and Hearing Services in Schools*, 50, 237-252. doi:10.1044/2018_LSHSS-18-0033
- Finestack, L. (2018). Evaluation of an explicit intervention to teach novel grammatical forms to children with developmental language disorder. *Journal of Speech, Language, and Hearing Research*, 61, 2062-2075. doi:10.1044./2018_JSLHR-L-17-0339
- González, L., Rodríguez, C., Gázquez, J., González, P., & Álvarez, D. (2011). La conciencia morfológica: tendencias de desarrollo y patrón evolutivo en Educación Infantil y Primaria. *Psicothema*, 23(2), 239-244.
- Goodwin, A., & Ahn, S. (2013). A meta-analysis of morphological interventions in English: Effects of literacy outcomes for school-age

- children. *Scientific Studies of Reading*, 17, 257-285. doi:10.1080/10888438.2012.689791
- Hansson, K., & Leonard, L. (2003). The use and productivity of verb morphology in specific language impairment: an examination of Swedish. *Linguistics*, 41(2), 351-379.
- Kaufman, A., & Kaufman, N. (2000). *Test breve de inteligencia de Kaufman* (K. BIT). Madrid: TEA.
- Mendoza, E. (2016). *Trastorno específico del lenguaje. Avances en el estudio de un trastorno invisible*. Madrid: Pirámide.
- Monfort, M., & Juárez, A. (1989). *Registro Fonológico Inducido*. Madrid: CEPE.
- National Institute of Child Health and Human Development. (2000). *Report of the National Reading Panel. Teaching children to read: An evidence-based assessment of the scientific research literature on reading and its implications for reading instruction* (NIH Publication No. 00-4769). Washington, DC: U.S. Government Printing Office. Accessed March 24, 2010 from http://www.nichd.nih.gov/publications/nrp/upload/smallbook_pdf.pdf
- Plante, E., Heidi, M., Tucci, A., & Vanc, R. (2019). Maximizing Treatment Efficiency in Developmental Language Disorder: Positive Effects in Half the Time. *American Journal of Speech-Language Pathology*, 28,1233-1247. doi: 10.1044/2019_AJSLP-18-0285
- Ramírez, G., Acosta, V., Moreno, A., del Valle, N., & Axpe, A. (2018). Use of oral narrative and morphosyntactic activities to improve grammar skills in pupils with specific language impairment (SLI). *Revista de Psicodidáctica*, 23(1), 48-55. doi: 10.1016/j.psicod.2017.07.002
- Ramirez, G., Walton, P., & Roberts, W. (2014). Morphological awareness and vocabulary development among kindergartners with different ability levels. *Journal of Learning Disabilities*, 47(1), 54-64. doi:10.1177/0022219413509970
- Reed, D.K. (2008). A synthesis of morphology interventions and effects on reading outcomes for students in grades K-12. *Learning Disabilities Research & Practice*, 23(1), 36-49. doi:10.1111/j.1540-5826.2007.00261.x
- Rice, M., & Oetting, J. (1993). Morphological deficits in children with SLI: Evolution of number marking and agreement. *Journal of Speech and Hearing Research*, 36, 1249-1257.

- Sanz-Torrent, M., & Andreu, Ll. (2013). El trastorno específico del lenguaje. En: Ll. Andreu (coord.), *El trastorno específico de lenguaje. Diagnóstico e intervención* (pp. 41-90). Barcelona: Editorial UOC.
- Semel, E., Wiig, E., & Secord, W. (2006). *Clinical Evaluation of Language Fundamentals CELF-4* (4th ed.). San Antonio, TX: Psychological Corporation.
- Tambyraja, S.R., Farquharson, K., Logan, J.A., & Justice, L.M. (2015). Decoding skills in children with language impairment: Contributions of phonological processing and classroom experiences. *American journal of speech-language pathology*, 24(2), 177-188. doi:10.1044/2015_AJSLP-14-0054
- Wolter, J., & Dilworth, V. (2013). The effects of a multilinguistic morphological awareness approach for improving language and literacy. *Journal of Learning Disabilities*, 47(1), 76-85.
- Zoski, J.L., & Erickson, K.A. (2016). Morpheme-Based Instruction in Kindergarten. *The Reading Teacher*, 70(4), 491-496. doi:10.1002/trtr.1542
- Zoski, J.L., & Erickson, K.A. (2017). Multicomponent linguistic awareness intervention for at risk kindergarteners. *The Reading Teacher*, 70(4), 491-496. doi:10.1002/trtr.1542

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Knowledge and communication of Spanish families with *Smartphones y Tablets*¹

Conocimiento y comunicación de las familias españolas ante los *Smartphone y Tablet*

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Summary

Mobile devices have broken into the 21st century family system, particularly *Smartphones* and *Tablets*, due to their versatility, impacting all family dynamics, making it a challenge to educate all family members and to integrate them responsibly. The purpose of this research is to describe the knowledge that Spanish families have in relation to *Smartphones* and *Tablets*, as well as to address the influence of these devices on intra-family communication. Due to this, a non-experimental cross-sectional quantitative research is carried out, in which 1082 subjects belonging to the 17 autonomous communities and the 2 autonomous cities that make up the national territory, have participated by completing an ad

⁽¹⁾ This work has been carried out within the framework of Alfamed (Euro-American Interuniversity Network of Research in Citizenship Media Competencies), with the support of the Coordinated R&D Project “Media skills of citizenship in emerging digital media (Smartphones and Tablets) : Innovative Practices and Educommunication Strategies in Multiple Contexts” (EDU2015-64015-C3-1-R) (MINECO / FEDER), and of the “Media Education Network” of the State Program of Scientific-Technical Research of Excellence, State Subprogram of Knowledge Generation (EDU2016-81772-REDT), financed by the European Regional Development Fund (FEDER) and the Spanish Ministry of Economy and Competitiveness.

hoc designed questionnaire, called “*Smartphones and Tablets within the family*”, sent through two channels and, on two different occasions. The structure of this tool is made up of 7 dimensions with a total of 91 items, analysing two of the questionnaire scales in this article. The main results show that Spanish families have a high knowledge of *Smartphones* and *Tablets*, being men and younger family members who present most of knowledge. Likewise, families positively value the communication possibilities offered by *Smartphones*. However, they consider that both *Tablets* and *Smartphones* have a negative impact on the care of minors in the home. It has also been concluded that it is necessary to promote, from the political, educational and family environment, quality intra-family communication times and spaces, while educating in the responsible use of mobile devices for communication purposes, being older family members, the guarantors of a good example for minors.

Key Words: Mobile devices, *Smartphones*, *Tablets*, Family, Communication.

Resumen

Los dispositivos móviles han irrumpido con fuerza en el sistema familiar del Siglo XXI, concretamente los *Smartphones* y las *Tablet* por su versatilidad, están impactando en todas las dinámicas familiares, por lo que constituye un desafío educar a todos los miembros de la familia para integrarlos responsablemente. La presente investigación tiene la finalidad de describir el conocimiento que poseen las familias españolas en relación a los *Smartphone* y las *Tablet*, así como abordar la influencia de dichos dispositivos en la comunicación intrafamiliar. Para ello, se desarrolla una investigación cuantitativa no experimental de corte transversal, en la que han participado 1082 sujetos pertenecientes a las 17 comunidades autónomas y las 2 ciudades autonómicas que conforman el territorio nacional, a través de la cumplimentación de un cuestionario diseñado *ad hoc*, denominado “*Smartphone y Tablet en familia*”, enviado a través de dos vías y, en dos momentos diferentes. La estructura de dicha herramienta, está compuesta por 7 dimensiones con un total de 91 ítems, analizándose en este artículo dos de las escalas del cuestionario. Los principales resultados muestran que las familias españolas tienen un conocimiento alto sobre los *Smartphone* y las *Tablet*, siendo los hombres y los miembros de la familia de menor edad, los que mayor conocimiento presentan. Igualmente, las familias valoran positivamente las posibilidades comunicativas que ofrece el *Smartphone*. Sin embargo, consideran que tanto la *Tablet* como el *Smartphone* repercuten negativamente en la atención de los menores del hogar. También se ha llegado a la conclusión de que es preciso promocionar, desde el ámbito político, educativo y familiar, tiempos y espacios comunicativos intrafamiliares presenciales y de calidad, a la vez que educar en el uso responsable de los dispositivos móviles con fines comunicativos, siendo los miembros de la familia de mayor edad, los garantes de un buen ejemplo a los menores.

Palabras clave: Dispositivos móviles, *Smartphone*, *Tablet*, Familia, Comunicación.

Introduction

The Spanish population recognises being actively connected to the internet almost always or several times a day. According to the 21st study of the AIMC (Association for Investigation in the Media) (2019), almost all of the interviewees (89.5%), maintain this level of activity as an internet user, with the *Smartphone* being the device from which they mostly access to the internet (90.1%) and in fourth place being the *Tablet* (47.7%), just behind the laptop and desktop computer. There are a number of factors that promote an increase in the generation of knowledge and communication networks through mobile devices (Camacho and Esteve, 2018), such as the fact that they are affordable, do not require start-up time, generate little maintenance and are easy to use (Myllari et al., 2011), as well as the feeling of curiosity, challenge or control, which they promote (Ciampa, 2014).

The growing use of mobile devices, such as *Smartphones* and *Tablets*, by the youngest members of the family is evident, becoming a behaviour regulation tool when parents require that they be silent. In fact, the industry has come to call them 'shut up-toys' (Radesky, Schumacher & Zuckerman, 2015), with the consequent danger in socio-emotional relationships and in the future capacity to generate self-regulatory mechanisms. However, despite the real risks and benefits of these instantaneous sources of communicational stimulation in family dynamics (Besoli, Palomas and Chamarro, 2018), research in their impact on the family has considerably lagged behind.

We start from the fact that mobile devices are designed to meet the demands of the companies that manufacture them and not the needs of users (Carrasco et al, 2017), and we assume that we live in the era of virtual interaction and communication through mobile devices, mostly individually (Castillo-Pomeda, 2016; Ruiz, Sánchez and Trujillo, 2016). In this sense, we need to better understand what technological knowledge Spanish families possess and how it affects the inclusion of mobile devices

(*Smartphones* and *Tablets*) in family communication, fundamentally in a complex and variable techno-system such as the digital world is. The challenge of this study focuses on knowing the communicative relationships that is being generated in our family systems, mediated by *Smartphones* and the *Tablets*, to reflect on how to maintain the real connection of the family in current times, from informed knowledge about the possibilities to the risks of such devices.

In this research we start from a family concept similar to that proposed by Álvarez and Rodríguez (2012), understanding it as a relational network of interactions in which values, norms and attitudes are generated and transmitted, which guide the behaviour and vital attitude of the subjects both individually and collectively within society.

Currently, we must speak of family not so much as a global and immutable structure, but as an open system to different models as well as external and internal dynamics. In the case of Spain, as Rodríguez (2017) points out, an evolution has occurred in only a few decades, which has occurred in other countries for a century. In the year 2019, the XXV International Year of the Family Anniversary and according to the IPF (Institute of Family Policy) (2019), has served to sensitise society to the value of the family as social support, while highlighting the evolution of the household structure, highlighting that there are more and more households (60% more in 15 years), but they are becoming smaller (less than 2.5 members), on the other hand, Spanish households are becoming more and more individuals (1 in 4 households -25.4% - in 2017) or single-parent families (10%), leaving large families inferior (5.6% in 2017). In short, there are more and more homes, but emptier as time goes past.

On the other hand, in the study by Flores Martos (2016) on the generational transmission of poverty, it is stated that despite the fact that in Spain there has been a general increase in educational mobility, 8 out of 10 people, whose parents have not passed primary education, have neither finished secondary studies. Likewise, the labour occupation of the father and mother is a clear determining factor of generational transmission between parents and children. In this line, researchers Roeters and van Houdt (2019) found in their studies that the relationship between parents and children improved when the work of the former did not interfere with the interaction with their children. For mothers, they found no correlation between their work and the quality of interaction with their children.

According to the PAD_Madrid Service (2019), technologies are a social reality, which provides great opportunities for interrelation and access to knowledge, in relation to education, by using them, which should not be focused on prohibition and censorship. In particular, Spain is a leading country not only in the possession of *Smartphones*, but also in the development of mobile internet due to its cultural root cause. As Gutiérrez-Rubí (2015) endorses, it is in the social nature of the Spaniards (open and relational), the climatic and geographical characteristics of the country and, the high internal migration rate, the origin of their fondness for accessibility and constant mobility through mobile devices.

According to the INE (National Statistics Institute) (2019), almost all Spanish households (99.7%) have broadband internet access. 66.0% of the population aged 10 to 15 have a mobile phone. Most internet users use *Smartphones* (95.0%) and the *Tablets* (23.9%), to access the internet. 39.8% of internet users have advanced digital skills (41.2% of men and 38.4% of women). By age, the group with the highest abilities is that of 16 to 24 years of age, with 68.4% of internet users in this age group. 64.6% of internet users participate in general social networks. The most participative are students (91.1%) and young people from 16 to 24 years old (90.6%). By sex, the participation of women (67.0%) is higher than that of men (62.1%). The technological knowledge that internet users have declared the most have been mainly copying or moving files or folders (65.0%), installing software or apps (63.2%) and transferring files between devices (60.1%). Regarding the degree of confidence on the internet, more than 67% show a lot of confidence. By age group, it can be appreciated that the older people trust the internet less.

Through the communication network, communication comes to have not only the function of transferring information, but also facilitates communication with the purpose of generating personal relationships (Mascarell, 2019). Therefore, once the technology is created and the communication channelled, now the important thing is to educate the mobile device users, from the family environment, so that they discriminate between being 'connected' and being 'communicative' and, learn to create and maintain solid, proactive, respectful and healthy communicative relationships. In other words, parents must be the first to exercise self-control in front of screens at home and must teach to dialogue in order to stimulate the reasoning ability of their children (Sarráis, 2019). Likewise, parents must regenerate their teaching skills in

order to promote the autonomy of their children (Plaza de la Hoz, 2017), while generating feedback on all the information that their children will access through the mobile phone devices. (Chan, Walker and Gleaves, 2015). This is taking into account that the family is not the preferred context for young people to talk about topics related to technology (Verza and Wagner, 2010).

Therefore, it seems that family communication continues to be significant and positive between parents and children, although adolescents prefer to communicate more with their peer friends (Santana-Vega, Gómez-Muñoz and Feliciano-García, 2019). In other words, communication, even with mobile devices integrated into the daily life of the family system, continues to be important in its internal dynamics. In fact, according to the latest report on the impact of mobile devices on the Spanish family life (Michavilla, Abad and García, 2018), 66% of parents consider that these devices help a lot or immensely to manage family activities and 55% believe that these facilitate communication during the day with couples.

In other words, the communicational pattern of trust is maintained towards the parents to speak and debate on everyday issues (Hernández, López and Sánchez, 2014) and, they feel closer to the relatives when they are physically and geographically at a distance from the family nucleus (Arza, 2010), facilitating the maintenance of family relationships (Carvalho, Fonseca, Francisco, Bacigalupe, and Reivas, 2016).

However, several studies also point out a less positive impact that *Smartphones* and *Tablets* are generating in family dynamics. Specifically, a study carried out in the United Kingdom, researchers Mullan and Chatzitheochari, (2019) affirm that British boys and girls are at home with their parents for the same daily minutes as at the beginning of the century, only now they perceive that 'they are alone', meaning that they are not sharing common activities with their parents, except eating together and watching television, moments even combined with their *Smartphones* and *Tablets*.

In other recent studies on parents, adolescents and mobile devices, Robb, Bay and Vennegaard (2019) affirm that both in Mexico, the United States, the United Kingdom and Japan, mobile devices have not made a dent in family relationships, although more than 60% of parents acknowledge that their teenage children spend too much time on their mobile devices and feel that their child is addicted to their device. The

same is true in Abu Dhabi, where many children spend more than 5.2 hours a day connected to their mobile devices (Badri, Alnuaimi, Rashedi, Yang, and Temsah, 2017) or even as stated (Solomon-Moore et al., 2018) often using two or more devices simultaneously.

Therefore, the family, mobile devices and communication constitute the angles of a triangle in which some of the great challenges to be addressed from education converge. Specifically, digital education being a great challenge for the family, due to the updates, involvement and constant repercussion it promotes (Dans, Muñoz and González Sanmamed, 2019). From this perspective, this research presents an analysis of the knowledge that Spanish families possess in relation to mobile devices (*Smartphones* and *Tablets*) and intra-family communication through these devices. Specifically, the aim is to: a) Describe the knowledge of mobile devices owned by Spanish families; b) Study intra-family communication through *Smartphones* and *Tablets*; c) Determine if there are significant differences in these variables depending on sex, age, partner cohabitation, family type, educational level of the father and mother.

Method

The methodological design of this study is non-experimental quantitative, as it does not intentionally manipulate the variables, just as Hernández, Fernández and Baptista (2014) endorse, it is a descriptive cross-sectional investigation, given that a temporal delimitation is taken into account for collecting the data. Therefore, the selected variables are measured and their behaviour is comparatively described, based on the values that the independent variables of the investigation can take.

Sample

The participating population sample of the research is made up of 1082 subjects belonging to the 17 autonomous communities and the 2 autonomous cities that make up the national territory, whose characteristics are described in the following table. Taking into account the criterion of simple random sampling for infinite samples, populations greater than 100,000 subjects (as in the case of this research according

to data from the INE, 2019), this sample is statistically significant with a confident level of 99%, and a 4% margin of error.

TABLE I. Socio-demographic data of the sample

Variables	%
Sex	Man=23.6 Woman=76.4
Age	<25 years old= 2.0 Between 26 and 34 years old=6.3 Between 35 and 44 years old=50.4 Between 45 and 60 years old=38.8 > 60 years old=2.1
Context	Rural= 16.3 Urban= 83.7
Living with partner	Yes=84.3 No=15.7
Family Modality	Nuclear (father, mother, children) = 78.8 Single Parent (only child) = 8.4 Same-sex parents=0.6 Couple with no children=3.3 Adoptive family=0.6 Reconstituted family=3.8 Large family=2.4 Other modality=2.1
Father's educational level	Primary Education=7 Secondary Education=5.6 Vocational Training / Middle-level technical Degree=9.8 High School Certificate=9.6 Vocational Training / High-level technical Degree=15.6 University=52.4
Mother's educational level	Primary Education=3.4 Secondary Education=3.6 Professional Training / Middle-level technical Degree=5.6 High School Certificate=7.5 Vocational Training / High-level technical Degree=14.8 University=65.2

Source: Own elaboration

Instruments

In this study, the “*Smartphones and Tablets as a family*” questionnaire is applied, consisting of 7 dimensions with a total of 91 items that were

subjected to a content validation process by expert judges (Salcines-Talledo, Ramírez-García & González-Fernández, 2018). In this article, two of the scales of said quantitative tool are analysed, in which the structure and reliability are shown in Table II.

TABLE II. Scales of the structure and reliability questionnaire, object of this investigation

DIMENSIONS	SUBDIMENSIONS	N° ITEMS	ALFA
Block B: Knowledge		6	.709
Block C: Family Communication	<i>Smartphone</i> Family Communication	11	.700
	<i>Tablet</i> Family Communication	8	.778

Source: Own elaboration

The *knowledge* variable collects information related to the level of knowledge presented by Spanish families about mobile devices. Using the variable of *Smartphone family communication*, measures the impact of this device on communication habits within the family system. Lastly, the *Tablet family communication* variable reflects on the impact of this device on the communication habits of Spanish families.

Process

The data collection instrument was sent to the participating sample through two routes and at two different times. Firstly, in coherence with the theme addressed in the research, it was decided to use the *Smartphone*, particularly the WhatsApp application, as a means to deliver the questionnaire to a large number of subjects. In this sense, a message was written describing the objectives of the study and requesting the participation of the recipients through the online link to the instrument (November-December, 2017). Secondly, a similar message was drafted for the AMPAS of Public and Early Childhood subsidised centres, Primary and Secondary Education, belonging to the different Spanish autonomous

communities, to request their collaboration. On this occasion, the means of communication used was email (February-April, 2018).

The data obtained has been analysed with the SPSS.22 program. In order to respond to the objectives of the study, descriptive statistics of each variable and items that comprise it are presented, and the Mann-Whitney and Kruskal-Wallis U tests to verify the existence of significant differences between the dependent and independent variables of the investigation. When performing the Kolmogorov-Smirnov test, and providing values for all the variables in which ($p < .05$), non-parametric analysis has been performed.

Results

In order to respond to the objectives which were set out in this research, the results have been organised into three blocks, corresponding to the three variables on which this research focuses (*Knowledge, Smartphone family communication and Tablet family communication*).

- Knowledge
Firstly, the descriptive data of the *knowledge* variable, and of the items that define it, are presented to subsequently collect the significance relationships between said variable and the values that the different independent variables can acquire.

TABLE III. Descriptive data of the variable *knowledge* and frequencies of the items that define it.

	Average	Median	Typical Deviation	
VARIABLE. Knowledge	2.524	2.600	.538	
	Frequencies (%)			
	CED	ED	D	CD
Item 1. I am aware of the jargon commonly used by young people related to technology	14.1	30.7	43.6	11.6
Item 2. I am aware of the legal regulations that regulate the protection of the individual against the technological means	18.4	29.3	36.6	15.6

Item 3. I have extensive technological knowledge that allows me to take advantage of the potential / possibilities of using a <i>Smartphone</i>	6.8	25.1	51.7	16.4
Item 4. I have extensive technological knowledge that allows me to take advantage of the potential / possibilities of using a <i>Tablet</i>	8.5	28.4	47.0	16.1
Item 5. Normally, I usually turn to my children to solve problems related to the use of mobile devices	52.2	29.2	14.1	4.5
Item 6. My technological knowledge allows me to communicate effectively with my children.	10.1	11.0	52.1	26.8

CED= Completely Disagree ED= Do not agree D= Agree CD= Completely Agree

Source: Own elaboration

As can be seen in Table 3, the average score of the families in relation to the general knowledge of *Smartphones and Tablets*, is higher than the mean value of the actual scale. When analysing the frequencies presented in each of the items that make up the variable, there is a general trend towards the option of “*Agree*”, except in one of the items, which denotes that families with children do not resort to them to solve problems related to mobile devices. Information which is consistent with the results obtained in the remaining items, which show how parents claim to have a high knowledge of technological jargon, legal regulations and the potential of existing mobile devices in the home.

With the objective of confirming whether there are significant differences regarding the general knowledge of Spanish families of mobile devices, depending on the values that the different independent variables can acquire, the Mann-Whitney U test is performed for dichotomous variables, and the Kruskal-Wallis for polytomous variables. In cases where the Kruskal-Wallis test provides a significant value, the Mann-Whitney U test is performed to verify the values between such a significant difference occurs. Table IV summarises the significant relationships found between the dependent variable knowledge and the different values of the independent variables.

TABLE IV. Summary of the significant relationships between the knowledge variable and the different independent variables

Variable	Variable Values		Mann-Whitney U Test					
	VI	NI	N2	U	NI	RP(N1)	N2	RP(N2)
Sex	Man	Woman	66721.500	230	551.41	726	455.40	.000
Age	Under 25 years old	Between 26 and 34 years old	360.500	20	52.48	60	36.51	.007
	Under 25 years old	Between 35 and 44 years old	2344.000	20	376.30	483	246.85	.000
	Under 25 years old	Between 45 and 60 years old	2051.000	20	284.95	377	194.44	.001
	Under de 25 years old	Over 60 years old	81.000	20	20.45	14	13.29	.039
Living with partner	Yes	No	50031.000	815	469.39	141	531.17	.014
Mother's educational level	Primary	Vocational Training/High-level technical Degree	1366.000	27	100.41	137	78.97	.032
	Primary	University	5766.500	27	419.43	619	319.32	.006
	Vocational Training/ Middle-level technical Degree	University	12589.000	52	403.40	619	330.34	.009

Source: Own Elaboration

The data presented in Table 4, indicate that men possess significantly higher knowledge of mobile devices than women (*Smartphones and Tablets*). On the other hand, according to age ($\chi^2 = 18,393$, $gl = 4$, $p = .001$), respondents who are under 25 years of age have significantly higher knowledge than family members over 26 years of age. Taking into account whether or not they live together as a couple, the data reflects how adults who do not live together as a couple possess significantly higher knowledge. Lastly, it should be noted that the mother's educational level ($\chi^2 = 14,124$, $gl = 5$, $p = .015$), is another variable that presents significant differences, specifically mothers with primary education who have significantly higher knowledge than the mothers with vocational training / High-level technical degrees, and mothers with vocational training / Middle-level technical university degrees than mothers with university studies.

- *Smartphone* family communication
Secondly, the descriptive data of the *Smartphone family communication* variable, and of the items that make it up, also appears showing the significant relationships between said variables and the values that the different independent variables can acquire.

TABLE V. Descriptive data of the *Smartphone family communication* variable and frequencies of the items that make it up.

	Average	Median	Typical deviation	
VARIABLE. <i>Smartphone family communication</i>	2.136	2.167	.530	
	Frequencies (%)			
	CED	ED	D	CD
Item 1. I communicate more with my family nucleus (people who live at home)	24.2	29.4	31.6	14.8
Item 2. I have been able to contact relatives with whom I barely have had contact with	10.7	21.5	49.0	18.8
Item 3. We have more topics of conversation which increase communication between family members belonging to the family nucleus (people who live at home)	22.4	45.4	26.7	5.5
Item 4. My child / children communicate with me more through the <i>Smartphone</i> than in person	56.0	34.0	6.8	1.2
Item 5. My child / children often are distracted in family face-to-face conversations by using their <i>Smartphone</i>	17.2	31.5	40.1	11.3
Item 6. My child / children communicate with people they do not know personally, through their <i>Smartphone</i>	36.5	35.9	25.7	1.9
Item 7. The communication that I establish with my children through the <i>Smartphone</i> allows me to "supervise" their movements (knowing where they are, who they are with, how they are ...)	12.3	27.0	48.8	12.0
Item 8. The variety of communication topics with my children has increased thanks to the use of the <i>Smartphone</i>	23.8	51.2	24.1	0.9
Item 9. I communicate with my partner for a longer time with the <i>Smartphone</i> than in person	50.7	38.6	9.6	1.1
Item 10. The variety of communication topics with my partner has increased thanks to the use of the <i>Smartphone</i>	43.2	40.6	16.0	0.3
Item 11. My child / children are distracted (when you talk to them, when they do homework, etc.) because they are using their parents' <i>Smartphone</i>	40.2	26.4	25.5	7.8

CED= Completely Disagree ED= Do not agree D= Agree CD= Completely Agree

Source: Own elaboration

As can be seen in Table 5, families positively value the communication possibilities offered by *Smartphones* in relation to the increase in communication in the family nucleus, the possibilities to contact other members of a large family and the possibilities it offers to supervise your children's movements. However, they do not consider that this device has favoured a greater diversification of conversation topics and an increase in the time spent communicating between family members. Likewise, the surveyed families recognised that the use made of the *Smartphone* by their children, negatively affects the attention of minors when they have conversations or are doing tasks.

Below, in the following table, the significant differences corresponding to the *Smartphone family communication* variable and the independent variables analysed are reflected.

TABLE VI. Summary of the significant relationships between the variable *family communication*. *Smartphones* and different independent variables

Variable	Variable Values		Mann-Whitney U Test					
	VI	N1	N2	U	NI	RP(N1)	N2	RP(N2)
Age	Under 25 years old	Between 35 and 44 years old	2212.000	20	344.90	445	227.97	.000
	Under 25 years old	Between 45 and 60 years old	1871.000	20	277.95	361	186.18	.000
	Under 25 years old	Over 60 years old	66.500	20	21.18	14	12.25	.009
	Between 26 and 34 years old	Between 35 and 44 years old	9165.000	55	306.36	445	243.60	.002
	Between 26 and 34 years old	Between 45 and 60 years old	7725.000	55	248.55	361	202.40	.008
Living with partner	Yes	No	36360.000	765	430.53	132	556.05	.000

Family Modality	Nuclear	Single Parent	22669.000	706	385.61	77	450.60	.017
	Nuclear	Large Family	4238.000	706	359.50	22	525.86	.000
	Single Parent	Reconstituted family	1015.500	77	60.81	35	47.01	.037
	Single Parent	Large Family	597.000	77	46.75	22	61.36	.035
	Reconstituted family	Large Family	194.500	35	23.56	22	37.66	.002
Father's Educational Level	Secondary	Higher School Certificate	1366.000	46	72.05	79	57.73	.033
	Secondary	Vocational Training/High-level technical Degree	2105.000	46	102.74	125	79.84	.007
	Secondary	University	7516.000	46	300.11	440	237.58	.004
Mother's Educational Level	Primary	Vocational Training/Middle-level technical Degree	373.000	23	45.78	50	32.96	.016
	Primary	Vocational Training/High-level technical Degree	770.500	23	104.50	126	69.62	.000
	Primary	University	3285.500	23	451.15	582	297.15	.000
	Secondary	Vocational Training/High-level technical Degree	1568.500	33	95.47	126	75.95	.030
	Secondary	University	6894.000	33	390.09	582	303.35	.006
	Higher School Certificate	Vocational Training/High-level technical Degree	2883.500	56	103.01	126	86.38	.049
	Higher School Certificate	University	12888.500	56	380.35	582	313.65	.010

Source: Own Elaboration

The data presented in Table 6, highlights the existence of significant differences regarding family communication with *Smartphones* based on the age ($\chi^2 = 22,970$, $gl = 4$, $p = .000$) of the family members. In other words, individuals under the age of 34, communicate through the *Smartphone* more than family members over 35 years of age. Subsequently, it is verified that people who do not live together as a couple obtain a significantly higher score, therefore, they communicate more through the

Smartphone than people who live together as a couple. Another variable that presents significant scores is the family modality ($\chi^2 = 21,862$, $gl = 6$, $p = .001$), specifically single-parent and large families, communicate more by *Smartphone* than the rest of the family modalities. Lastly, both the educational level of the father ($\chi^2 = 11,856$, $gl = 5$, $p = .037$) and of the mother ($\chi^2 = 29,646$, $gl = 5$, $p = .000$) have a significant impact on family communication through *Smartphones*, showing that parents with higher levels of education make less use of the *Smartphone* to communicate with family members.

- *Tablet family communication*

In third and last place, the descriptive data of the *Tablet family communication* variable, and of the items that make it up are shown, which also include the significant relationships between said variable and the values that the different independent variables can acquire.

TABLE VII. Descriptive data of the variable *Tablet family communication* and frequencies of the items that make it up.

	Media	Median	Typical Deviation	
VARIABLE. <i>Tablet Family Communication</i>	1.854	1.857	.548	
	Frequencies (%)			
	CED	ED	D	CD
Item 1. I communicate more with my family nucleus (people who live at home)	43.2	44.6	9.3	2.9
Item 2. I have been able to contact relatives with whom I barely have had contact with	40.0	33.9	21.1	5.0
Item 3. We have more topics of conversation which increase communication between family members belonging to the family nucleus (people who live at home)	36.9	41.6	19.5	1.9
Item 4. My child / children often are distracted in family face-to-face conversations by using their <i>Tablet</i>	19.9	30.6	33.1	16.5
Item 5. My child / children communicate with me more through the <i>Tablet</i> than in person	61.9	28.9	7.8	1.4
Item 6. The communication that I establish with my children through the <i>Tablet</i> allows me to "supervise" their movements	42.7	35.7	16.5	5.1

Item 7. The variety of communication topics with my children has increased thanks to the use of the <i>Tablet</i>	43.9	41.4	14.0	.8
Item 8. The variety of communication topics with my partner has increased thanks to the use of the <i>Tablet</i>	52.5	38.4	8.6	.5

CED= Completely Disagree ED= Do not agree D= Agree CD= Completely Agree

Source: Own elaboration

As can be seen in Table 7, the surveyed families do not consider that the *Tablet* is a mobile device that favours time and diversity of communication issues in the family nucleus and within large families. Likewise, they point out that this particular device does not facilitate the supervision of minors, nor the contact with strangers. However, as with the *Smartphone*, the use of the *Tablet* by minors in the family, causes a distraction when relating to the face-to-face conversations that are maintained within the family.

Next, in Table 8, the significant differences corresponding to the variable *Tablet family communication* are shown, as well as the independent variables analysed.

TABLE VIII. Summary of the significant relationships between the tablet family communication variable and the different independent variables

Variable	Variable Values		Mann-Whitney U Test					
	NI	N2	U	NI	RP(N1)	N2	RP(N2)	p
Sex	Man	Woman	49517.500	194	417.26	575	374.12	.019
Father's Educational Level	Primary	Vocational Training/Middle-level technical Degree	1177.000	45	64.84	68	51.81	.038
	Primary	Higher School Certificate	1141.000	45	63.64	66	50.79	.038
	Primary	Vocational Training/High-level technical Degree	1823.000	45	95.49	113	73.13	.005
	Primary	University	6870.500	45	259.32	389	212.66	.018
	Secondary	Vocational Training/High-level technical Degree	1643.500	38	89.25	113	71.54	.030

Mother's Educational Level	Primary	Vocational Training/ Middle-level technical Degree	319.000	21	39.81	44	29.75	.042
	Primary	Higher School Certificate	263.500	21	38.45	40	27.09	.017
	Primary	Vocational Training/High-level technical Degree	734.500	21	86.02	110	62.18	.008
	Primary	University	2880.500	21	379.83	506	259.19	.000
	Secondary	University	5619.000	29	327.24	506	264.60	.033
	Vocational Training/ Secondary Degree	University	9144.500	44	320.67	506	271.57	.049

Source: Own elaboration

The data presented in Table 8 shows how men communicate more with their families through the *Tablet* than women. On the other hand, it should be noted that both the variable of Father's Educational level ($\chi^2 = 11,523$, $gl = 5$, $p = .042$), as in the Mother's educational level ($\chi^2 = 19,499$, $gl = 5$, $p = .002$), present significant differences between the different values that these variables can adopt. Specifically, in relation to the Father's Educational level, the surveyed parents with a lower level of education communicate more through this device than the parents with higher education. This same pattern is repeated in the variable of the Mother's Educational Level.

Conclusions

The main purpose of this research has been to present a description of the knowledge that Spanish families possess in relation to mobile devices (*Smartphones and Tablets*), as well as to address the influence of these devices on intra-family communication.

The results of this study reveal that parents have a high knowledge in relation to mobile devices since, as indicated by PAD Madrid (2019), these devices provide great possibilities of access to knowledge. In line

with the data presented by the INE (2019), it is confirmed that men have a slightly higher knowledge of *Smartphones and Tablets* than women. Likewise, from this entity, age is presented as a determining variable, in line with the data presented in this research, with the youngest members of the family having the most knowledge, as well as adults who do not live with their partners and, mothers with less educational level.

According to a previous research (Michavilla, Abad and García, 2018; Santana-Vega, Gómez-Muñoz and Feliciano-García, 2019), families highly value the possibilities offered by *Smartphones* to communicate among the members of the family nucleus. In the same way, they appreciate the opportunity they seek to contact other members of larger families (Arza, 2010; Carvalho, Fonseca, Francisco, Bacigalupe, and Reivas, 2016; Mascarell, 2019), as well as supervise the movements of minors in the home.

In contrast to the advantages indicated and in line with the previous research (Badri, Alnuaimi, Rashedi, Yang, and Temsah, 2017; Besoli, Palomas, and Chamarro, 2018; Radesky, Schumacher, and Zuckerman, 2015), respondents consider that neither the *Smartphone* nor the *Tablet*, favours a diversification of topics of conversation in the family, and negatively affects the attention of minors during the performance of family tasks and conversations.

The analysis reveals that, as in the *Knowledge* variable, age is a determining factor in communication via *Smartphones*, with the youngest members of the family communicating the most through this device, along with people who do not live together as couples (Castillo-Pomeda, 2016; Ruiz, Sánchez and Trujillo, 2016). Along these lines, it can be seen that single-parent and large families are the ones who use the *Smartphones* the most for communication purposes. Contrasting with the parents who present a higher level of studies, being those who claim to use this device to a lesser extent for intra-family communication. The parents with the lowest educational levels are those who communicate most through the *Tablet*.

From the previous descriptions, it is possible to affirm that *Smartphones* are the devices most used by the surveyed Spanish families, leaving *Tablets* relegated to second place, in coherence with the AIMC report (2019). On the other hand, no significant correlations have been found between the communication of families using *Smartphones* and *Tablets* and the job occupation of the parents, as seen in the study by Roeters

and van Houdt (2019), the type of parental work does not interfere in the interaction with minors in the home.

One of the limitations of this research resides in the application of the questionnaire in the national context, preventing the obtention of a more globalised vision. For this reason, in the near future there will be an attempt to apply the information collection instrument in other international contexts, in order to obtain a more globalised vision.

Despite the fact that most of the findings detailed here, may lead one to think that mobile devices have a positive impact on the communication of Spanish families, this invites us to ask ourselves about what and how communicative relationships mediated by *Smartphones* and *Tablets* are maintained within the family system. That is, in this sense, as future lines of research it would be pertinent to reflect on strategies that promote technological knowledge and communication in families, starting from the recognition of the priorities of each member of the family (IPF, 2019) and, exercising dialogue to stimulate the reasoning capacity of minors in the home (Sarráis, 2019) as well as their autonomy (Plaza de la Hoz, 2017), effectively managing the abundance of information that minors access through their mobile devices (Chan, Walker and Gleaves, 2015).

In other words, to work together among politicians, educators and families in favour of promoting quality and face-to-face intrafamily communication times, while educating with the responsible use of mobile devices for communication purposes, giving a tailored response to the diversity of current family structures. Creating a culture that fosters time to reconcile professional activities together with active and inclusive leisure among members of Spanish families.

Bibliographic References

- AIMC (2019). *Navegantes en la Red*. Madrid: AIMC. Recuperado de: <https://www.aimc.es/otros-estudios-trabajos/navegantes-la-red/>.
- Álvarez, O.J., & Rodríguez, E. (2012). El uso de internet y su influencia en la comunicación familiar. *Revista Trilogía*,7, 81-101. doi: [10.22430/21457778.154](https://doi.org/10.22430/21457778.154)

- Badri, M., Alnuaimi, A., Rashedi, A., Yang, G., & Temsah, K., (2017). School children's use of digital devices, social media and parental knowledge and involvement – the case of Abu Dhabi. *Education and Information Technologies*, 22, 2645–2664. doi: [10.1007/s10639-016-9557-y](https://doi.org/10.1007/s10639-016-9557-y)
- Besoli, G. Palomas, N., & Chamarro, A. (2018). Uso del móvil en padres, niños y adolescentes: Creencias acerca de sus riesgos y beneficios. *Revista de Psicología, Ciències de l'Educació i de l'Esport*, 36(1), 29-39. doi: [10.11114/jets.v6i2.2848](https://doi.org/10.11114/jets.v6i2.2848)
- Camacho, M., & Esteve, F.M. (2018). El uso de las tabletas y su impacto en el aprendizaje. Una investigación nacional en centros de Educación Primaria. *Revista de Educación*, 379, 170-191. doi: [10.4438/1988-592X-RE-2017-379-366](https://doi.org/10.4438/1988-592X-RE-2017-379-366)
- Carvalho, J., Fonseca, G., Francisco, R., Bacigalupe, G., & Relvas, A. (2016). Information and communication technologies and family: Patterns of use, life cycle and family dynamics. *Journal of Psychology & Psychotherapy*, 6, 10-12. doi: [10.4172/2161-0487.1000240](https://doi.org/10.4172/2161-0487.1000240)
- Carrasco, F., Droguett, R., Huaiquil, D., Navarrete, A., Quiroz, M.J., & Helder, E. (2017). El uso de dispositivos móviles por niños: Entre el consumo y el cuidado familiar. *Revista Cultura, Hombre y sociedad*, 27(1), 108-137. doi:[10.7770/CUHSO](https://doi.org/10.7770/CUHSO)
- Castillo-Pomeda, J.M. (2016). Connected. The fourth screen as epicenter of social communications. *Revista de Comunicación de la SEECI*, (40), 1-19. doi: [10.15198/seeci.2016.40.1-19](https://doi.org/10.15198/seeci.2016.40.1-19)
- Chan, N. Walker, C., & Gleaves, A. (2015). An exploration of students lived experiences of using smartphones in diverse learning contexts using a hermeneutic phenomenological approach. *Computers y Education*, 82, 96-106. doi: [10.1016/j.compedu.2014.110.001](https://doi.org/10.1016/j.compedu.2014.110.001)
- Ciampa, K. (2014). Learning in a mobile age: an investigation of student motivation. *Journal of Computer Assisted Learning*, 30(1), 82-96. doi: [10.1111/jcal.12036](https://doi.org/10.1111/jcal.12036)
- Dans, I. Muñoz, P., & González Sanmamed, M. (2019). Familia y Redes Sociales: un binomio controvertido. *Aula Abierta*, 48(2), 183-192. doi: [10.17811/rifie.48.2.2019.183-192](https://doi.org/10.17811/rifie.48.2.2019.183-192)
- Flores Martos, R. (2016). *Estudio sobre la transmisión intergeneracional de la pobreza: factores, procesos y propuestas para la intervención*. Madrid: Fundación FOESSA.
- FOESSA (2016). *Estudio sobre la transmisión intergeneracional de la pobreza: factores, procesos y propuestas para la intervención*. Madrid: FOESSA.

- Gutiérrez-Rubí, A. (2015). *La transformación digital y móvil de la comunicación política*. Madrid: Ariel.
- Hernández, R., Fernández, C. & Baptista, P. (2014). *Metodología de la investigación*. Madrid: McGraw-Hill.
- Hernández, M.A., López, P., & Sánchez, S. (2014). La comunicación en la familia a través de las TIC. Percepción de los adolescentes. *Revista Pulso*, 37, 35-58.
- INE (2019). *Encuesta sobre Equipamiento y Uso de Tecnologías de Información y Comunicación en los Hogares 2019 (TIC-H'19)*.
- IPF (2019). *Informe evolución de la familia en España 2019*. Madrid: IPF.
- Jago R., Sebire, S.J., Gorely, T., Cillero, I.H., & Biddle, S.J.H. (2011). "I'm on it 24/7 at the moment": A qualitative examination of multi-screen viewing behaviours among UK 10-11 year olds. *International Journal of Behavioral Nutrition and Physical Activity*, 8. doi: [10.1186/1479-5868-8-85](https://doi.org/10.1186/1479-5868-8-85).
- Mascarell, D. (2019). El teléfono móvil desde la dimensión social y educativa en la didáctica de las artes visuales. *Revista Internacional d'Humanitats*, 46/47, 143-154.
- Michavilla, N., Abad, M.J. & García, P. (2018). El impacto de las pantallas en la vida familiar. Madrid: GAD3.
- Mylläri, J., Kynäslähti, H., Vesterinen, O., Vahtivuori-Hänninen, S., Lipponen, L., & Tella, S. (2011). Students' pedagogical thinking and the use of ICTs in teaching. *Scandinavian Journal of Educational Research*, 55(5), 537-550. doi: [10.1080/00313831.2011.555920](https://doi.org/10.1080/00313831.2011.555920)
- Mullan, K., & Chatzitheochari, S. (2019). Changing Times Together? A Time-Diary Analysis of Family Time in the Digital Age in the United Kingdom. *Journal of Marriage and Family*, 81, 795-811. doi: [10.1111/jomf.12564](https://doi.org/10.1111/jomf.12564).
- Plaza de la Hoz, J. (2017). Advantages and downsides of children ICT use in Spain: The parent's perspective. *International Journal on Lifelong Education and Leadership*, 3, 22-31.
- Robb, M.B., Bay, W., & Vennegaard, T. (2019). *The new normal: Parents, teens, and mobile devices in Mexico*. San Francisco, CA: Common Sense.
- Rodríguez, L. (2017). El adolescente y su entorno: familia, amigos, escuela y medios. *Revista Pediatría Integral*, 4, 261-269.

- Roeters, A., & Van Houdt, K. (2019). Parent–Child Activities, Paid Work Interference, and Child Mental Health. *Family Relations* 68, 232–245. doi: [10.1111/fare.12355](https://doi.org/10.1111/fare.12355).
- Salcines-Talledo, I., Ramírez-García, A., & González-Fernández, N. (2018). Smartphones y Tablets en familia. Diseño de un instrumento de diagnóstico. *Aula Abierta*, 47(3), 265-272. doi: [10.17811/rife.47.3.2018.265-272](https://doi.org/10.17811/rife.47.3.2018.265-272).
- Santana-Vega, L.E., Gómez-Muñoz, A.M., & Feliciano-García, L. (2019). Uso problemático del móvil, fobia a sentirse excluido y comunicación familiar de los adolescentes. *Comunicar Revista Científica de Educomunicación*, 59, v. XXVII, 39-47. doi: [10.3916/C59-2019-04](https://doi.org/10.3916/C59-2019-04).
- Sarraís, F. (2019). *Mejorar el diálogo para competir con las nuevas tecnologías*. Recuperado de: <https://navarra.elespanol.com/articulo/sociedad/psiquiatra-fernando-sarraís-libro-dialogo-universidad-navarra-necesidad-mejorar-nuevas-teconologias/20190316163945252230.html>.
- Servicio PAD_Madrid (2019). *El uso de TIC en familia*. Madrid: Servicio de Prevención de Adicciones. Comunidad de Madrid.
- Solomon-Moore, E., Matthews, J., Reid, T., Toumpakari, Z., Sebire, S.J., Thompson, J.L., Lawlor, D.A., & Jago, R. (2018). Examining the challenges posed to parents by the contemporary screen environments of children: A qualitative investigation. *BMC Pediatrics*, 18, 1-12.
- Radesky, J. Schumacher, J., & Zuckerman, (2015). Mobile and Interactive Media Use by Young Children: The Good, the Bad, and the Unknown. *Pediatric*, 135(1). doi: [10.1542/peds.2014-2251](https://doi.org/10.1542/peds.2014-2251).
- Ruiz, J., Sánchez, J., & Trujillo, J. (2016). Utilización de internet y dependencia a teléfonos móviles en adolescentes. *Revista Latinoamericana de Ciencias Sociales, Niñez y Juventud*, 14, 1357-1369. doi: [10.11600/1692715x.14232080715](https://doi.org/10.11600/1692715x.14232080715).

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Primary education teachers' perception of the characteristics and detection of the highly able pupils in the Autonomous Community of the Basque Country

Percepción del profesorado de Educación Primaria sobre las características y la detección del alumnado con alta capacidad intelectual en la Comunidad Autónoma del País Vasco

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Abstract

In the recent years, the educational response given to highly able students in the Autonomous Community of the Basque Country has been addressed from the perspective of educational inclusion and from the vision of being a group with specific needs of educational help. Although a great effort has been made from the families and from the educational system, actually only few students receive an adequate response. The objective of this qualitative study is to know how do teachers perceive the individual and educational characteristics that influence this response. For this purpose, a semi-structured in-depth interview for teachers has been designed and reviewed by three university professors and two parents. In total 12 interviews have been conducted. The qualitative data collected from the interviews have been processed with the Atlas.ti 8.3.20. program. The results show data related to the characteristics of highly able students, the perception of high abilities, the detection and the evaluation, and the educational and socio-affective needs of this students. It is concluded that teachers have a more realistic vision of high abilities, while myths and stereotypes still prevail in society. It also

concludes that teachers still need to be trained, and that parents and society in general should be informed of the issue.

Keywords: high abilities, teachers' perception, detection, educational response, training, qualitative research.

Resumen

La respuesta educativa a la alta capacidad intelectual (ACI) ha sido abordada en la Comunidad Autónoma del País Vasco en los últimos años desde la perspectiva de la inclusión educativa ya que son considerados como parte del alumnado con necesidades específicas de apoyo educativo. A pesar de que en los últimos años se ha realizado un gran esfuerzo por parte de las familias y desde el sistema educativo, hoy en día es mínimo el porcentaje del alumnado que recibe una respuesta adecuada. El objetivo de este estudio cualitativo es conocer cómo percibe el profesorado las características personales y educativas que influyen en esta respuesta. Para ello se ha diseñado una entrevista en profundidad semi-estructurada para el profesorado, que ha sido revisada por tres profesoras de universidad y dos progenitores. Se han realizado 12 entrevistas y se han tratado los datos cualitativos recogidos de los relatos con el programa Atlas.ti 8.3.20. Los resultados muestran datos sobre las características del alumnado con ACI, la percepción que se tiene de las ACI, la detección y la evaluación, y las necesidades educativas y socioafectivas de este alumnado. Se concluye que el profesorado tiene una visión más realista de las ACI, mientras que en la sociedad todavía prevalecen los mitos y los estereotipos. También se concluye que el profesorado necesita más formación, y que se debe informar del tema a los progenitores y a la sociedad en general.

Palabras clave: altas capacidades, percepción de profesorado, detección, respuesta educativa, formación, investigación cualitativa.

Introduction

Educational attention for students with high intellectual abilities (HA) is today one of the educational challenges worldwide. The publication of specific laws has been a turning point in all countries, but the specific achievements of the education systems are often far from what the laws stipulate. Thus, in the Autonomous Community of the Basque Country has had less application than in others.

In Spain, since the General Education Law 14/1970, of August 4, was enacted in 1970, it was established that students with high abilities should be served on the basis of the Special Education principle to make it possible for them to develop their skills for the benefit of society and themselves (BOE, 08/06/1970). Later, the Organic Law 1/1990, of October 3, of the General Organization of the Educational System (LOGSE), in article 36, referring to students with special educational needs, specified that professional teams should identify and assess these students in order to establish specific action plans (BOE, of 04/10/1990). Since then, various decrees, ministerial orders, and modifications have shaped the current regulations that establish various fundamental aspects (Martín and González, 2000; Comes, et al., 2009): Educational service, detection and assessment, educational guidance, school enrichment and acceleration, schooling, and records on the measures taken.

The perception of the HA is often not in line with reality and is based on myths and stereotypes (Pérez et al., 2017). Teachers sometimes have implicit theories of HAs that are based on stereotypes and have a negative impact on the educational opportunities provided to students with HAs (Baudson & Preckel, 2013).

Furthermore, due to the lack of consensus among educational administrations in the method to detect highly able students, there are differences in prevalence between the different Autonomous Communities of Spain as a whole. According to the Ministry of Education and Professional Training of the Spanish Government (Ministerio de Educación y Formación Profesional, 2019), in the Autonomous Community of the Basque Country during the 2017-2018 school year 564 (0.15%) highly able students were detected, out of the 376,492 enrolled. Hernández and Gutiérrez (2014) consider that, both at the state level and in the different autonomous communities, the prevalence is far from the number of students who should have been identified according to the criteria of Marland (5-7%), of Gagné (10%), or Renzulli and Reis (15-20%).

As for the assessment, it will allow to obtain data on the evolution of these students, the validity of the measures taken, the process followed and other fundamental aspects, in short, it should be of help to evaluate all aspects of the teaching-learning process and improve the most deficient ones (Aretxaga, 2013). In any case, and due to the low detection rates, in the Basque Country the educational response given to students with high intellectual abilities is scarce, and presents problems in its application.

Finally, it is important to note that the concept of students with high abilities will be coined for the first time in the Organic Law 2/2006, of May 3, on Education or LOE (BOE, of 04/05/2006). This new term will lead to the use of a broader concept that includes precocious and talented students (Comes et al., 2009). In the Autonomous Community of the Basque Country's action plan (Aretxaga, 2013), Renzulli's theoretical framework has been adopted to understand and respond to high intellectual abilities, a concept that is prioritized in the regulations. High intellectual abilities include in their range of terms that of giftedness (understood as the cognitive configuration that is characterized by the combination of all intellectual resources, which enables a high level of efficiency in any form of processing and management of information), talent (understood as high performance in one or some specific areas; includes the simple and complex talents described by Castelló and Battle in 1998), and earliness (understood as the manifestation of further evolutionary development at an age earlier than children of the same chronological age).

Despite the effort made by both families and the educational system, in the Autonomous Community of the Basque Country, the educational response to high intellectual ability seems insufficient, given the small number of students receiving adequate assistance. The objective of the study is to know the perception that primary school teachers have of the characteristics, detection and needs of students with high intellectual abilities in the Basque Country through qualitative research, in order to increase the understanding of current deficiencies in detection and assessment.

Method

Participants

In this study 6 female and 6 male Primary Education teachers (graduates of the Degree in Education) belonging to public and grant-maintained private education centers from different provinces of the Basque Country (see Table I) participated, with more than 3 years of experience, except in one case.

Instruments

In-depth interviews were carried out to collect the narratives of the Primary Education teachers about their perception of the educational response received by students with high abilities. To do this, a semi-structured, thematic, direct and exploratory *ad hoc* interview was designed for teachers: Semi-structured, since a script of 28 open questions was designed, where in addition to following the script, the interviewers had some flexibility to expand or specify the question, according to the answers given by the interviewees; thematic, because the researchers designed the interview script based on specific topics (detection and assessment of high abilities, the given educational response, their expertise and experiences, the information and training sought and received, and the collaboration between family and school); direct, since the interviews were applied based on personal and on-site interaction between the interviewer and the interviewee; and finally, exploratory, because it responds to the objective of addressing the issue and being able to understand, explain and know the affecting factors (Verd and Lozares, 2016).

Procedure

This research opted for a qualitative method. More specifically, the study opted for analyzing through an exploratory research design the narratives of the teaching staff by means of a directed and focused in-depth interview (Juaristi, 2003).

Interview script design

The questions were based on the existing literature regarding the educational response offered to students with high intellectual abilities (eg., Aretxaga, 2013) and following the guidelines proposed by Verd and Lozares (2016). The dimensions on the basis of which the script originated were the following: The educational expertise and experiences of the teaching staff, the detection of HAs, the assessment, the educational response given to these students, the information and existing training on the subject, and the collaboration between family and school (see Appendix I).

The initial battery of questions was reviewed by three professors and researchers from the Department of Educational Psychology and Pedagogy at the university, and later by two parents, both members of an association of parents of highly able students. Once the adjustments were made, a script with 28 questions was finalized. Initially, an acronical online pilot interview was carried out with 7 teachers from different educational levels participating in a training program on high intellectual abilities. After considering the appropriate corrections, 8 questions were suppressed as irrelevant due to insufficient number of quotations. The new version was applied to a teacher and, after the suitability of the instrument was assessed, a final script consisting of 20 questions was established.

Sample

A sample was selected from a list of primary education centers in the Basque Country. Two initial criteria were applied for the selection: The province (Gipuzkoa, Bizkaia and Álava) and the type of center (public school or semi-private schools-also known as grant-maintained private schools). Six centers were randomly chosen and the researchers contacted their school heads. After informing them about the objective and procedure of the investigation, the participation of a teacher of Primary Education in each center was requested. It was denied in only one case, so the next center on the list was selected. In this way, 12 people participated from whose interviews a sample of 34,860 words was extracted in total (in the complete investigation) (see Table I). In this study, data referring to three of the factors studied were collected.

TABLE I. Sample of words collected in transcripts per participant (D1-12), province, type of center and sex

Province	Public School			Grant-maintained Private School			Total		
	Female	Male	Total	Female	Male	Total	Female	Male	Total
Alava	4297(D1)	3075(D2)	7372	3083(D7)	1423(D8)	4506	7380	4498	11878
Gipuzkoa	3069(D5)	3167(D6)	6236	3149(D3)	2515(D4)	5664	6218	5682	11900
Bizkaia	1656(D11)	1597(D12)	3253	4428(D9)	3401(D10)	7829	6084	4998	11082
Total	9022	7839	16861	10660	7339	17999	19682	15178	34860

Interview script application

The interviews were conducted in person with audio recording. In a first step, the interviewers internalized the script and carried out tests to adjust their skills to the interview situation. They followed a protocol based on the criteria of Verd and Lozares (2016) by which, once contact was established, they met with the participants, worked on empathy and the climate, offered them information about the research and the interview (objectives and procedure of data collection and processing), and then requested the informed consent. Once it was signed, they began with the interviews, in which they followed the planned script in addition to also taking into account criteria for the development of semi-structured in-depth interviews, and recording.

Data processing

The recordings were transcribed, but the original names and data that could lead to the identification of the participants were erased and encoded. In order to ensure the validity of the study, the interviews and analyses were carried out in Basque by full bilingual researchers¹.

The texts were encoded using an intuitive open method whereby there were no prior codes to the data collected and these emerged and were modified following each line of the text. In addition, once the first encoding was completed, groups, links and hierarchies of codes that made reference to specific categorical systems were established.

Data analyses

For the analyses of qualitative data offered in the reports, the ATLAS.ti 8.3.20 computer program was used. In order to establish the codes, and the code groupings, links and hierarchies, the researchers' criteria were followed using the intuitive open method. Both made a first reading of the transcripts to understand the information and the context (Juaristi, 2003), and then each researcher carried out the encoding independently in two rounds. Then they combined the criteria in sessions where quotations

⁽¹⁾ Only those expressions included in the manuscript have been translated.

were analyzed and codes, groupings, links and hierarchies were agreed, as well as themes. On the other hand, in order to describe, explain, understand and interpret the information given by the participants, the rooting criteria (number of quotations linked to each code) and density (number of codes linked to each code) of the codes offered by the computer program were studied.

This study presents part of the collected results. The results of the other factors are collected in another study in order to account for all the data considered relevant, without having to omit any.

Results and discussion

In the narrative collected from the 12 interviews, 52 codes were established. These were grouped into 6 families or aspects, of which 4 are analyzed in this study, as listed below.

Characteristics of students with HA

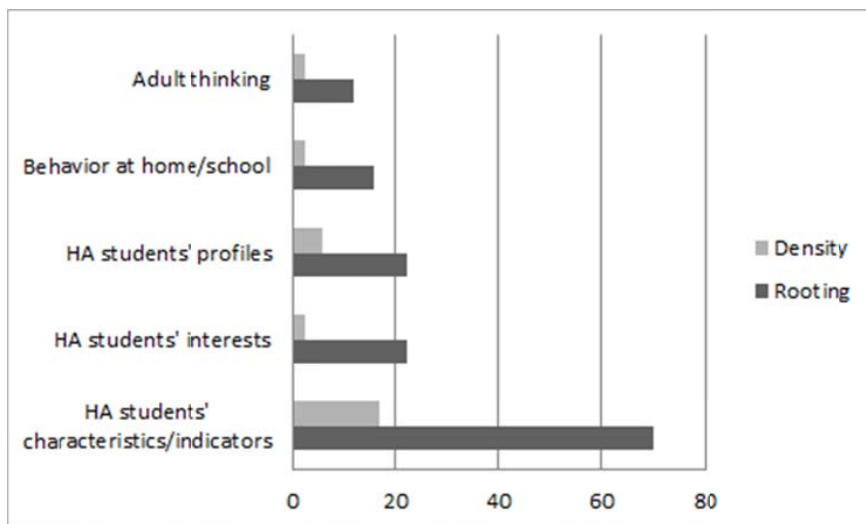
In the codes belonging to the family of the characteristics of students with high intellectual ability (HA), mainly the more general indicators were collected, and then more specific indicators referring to the interests, profiles, behaviors that they show at home and at school, and adult thinking (see Graphic I).

In this way, indicators or characteristics of boys and girls such as heterogeneity or diversity, interests and motivation, socio-affective dimension and attitudes, cognitive ability and adult thinking were treated, which were the indicators that were repeated on several occasions, as well as perfectionism, frustration and dyssynchronous development, which appeared less often.

In reference to heterogeneity and diversity, the idea of highly able students having characteristics that distinguish them from one another is repeated many times, so that each one is "a world". Sometimes different profiles are mentioned. This idea coincides with that of other authors' who mention differences regarding styles or interests (Dai & Chen, 2013), or those related to creativity or performance (Kroesbergen et al., 2016). There is also the narrative of students who show to be dyssynchronous regarding cognitive and socio-emotional capacities, but also referring to

the different relationship abilities that they may have. This is an aspect that has been found in other studies where it has been seen that teachers perceive these students as less prosocial and worse adapted (Baudson and Preckel, 2013, 2016) or that the existing dyssynchronous development has been manifested (Tolan, 2018).

GRAPHIC I. Characteristics of students with high abilities



If we refer to interests, the quotations are linked to those statements implying highly able students as asking different questions and having different interests, more elaborate at times than the rest of the students. It also usually coincides with the disinterest that they can develop, along with the lack of motivation and poor academic results, which is already mentioned in previous studies (Blaas, 2014), bad behavior and relationship problems, as well as the need to identify them early, as it has been found in previous studies (Kroesbergen et al., 2016). In this way, the following quote reports that “there is a danger of losing interest. If we do not identify them, they can be lost along the way with bad results, with serious relationship problems, or there may be thousands of factors influencing” (D6).

When talking about the cognitive capacity of HA students, two underlying features appear repeatedly: The ability to interconnect ideas, to generalize, to generate a more elaborate thinking than the rest of the students; and adult thinking, hinting that they have a very rational way of thinking that resembles that of the adult person (Mönks, 2000).

In summary, this study has given the opportunity to appreciate that teachers have an increasingly correct conception about HA and the characteristics that these students possess. In this way, the characteristics referring to heterogeneity and diversity, and to different profiles, such as talents, giftedness or genius, stand out. Also the idea that students with HA can show dyssynchronous development related to cognitive and socio-affective abilities. In addition, two underlying cognitive traits are repeatedly mentioned, which are the ability to interconnect ideas and having an elaborate thinking, and adult thinking (rational thinking similar to that of adulthood). It is also mentioned that these students ask different questions and have different and more elaborate interests; and finally, the narrative shows the disinterest they may develop in the classroom, along with lack of motivation, poor academic performance, or even sometimes bad behavior and relationship problems.

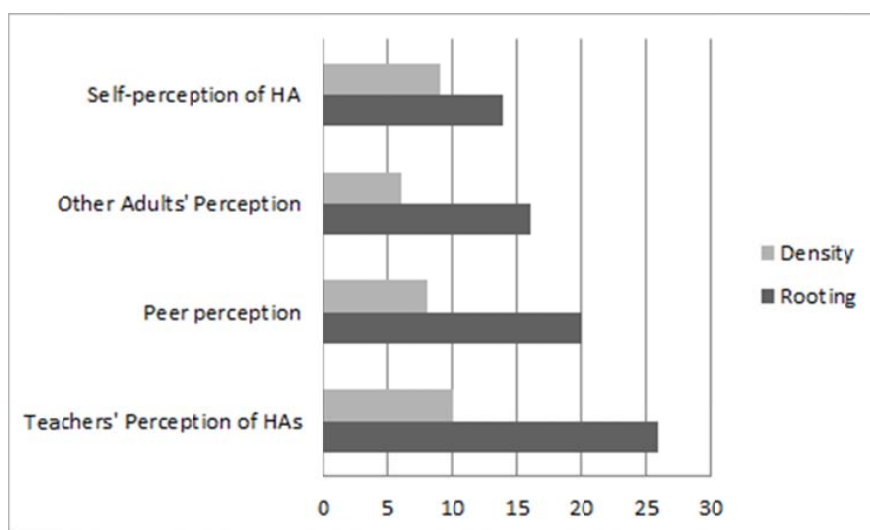
Perception of high abilities (HA)

When talking about the perception of HA, the most frequent expressions are related to teachers' perception, followed by those referring to the perception that their peers have, adults' perception, and finally their own self-perception (see Graphic II).

In teachers' perception about HA the idea of maturity has predominated, recognizing that when they talk to them they feel that they are talking to an older child or adult. This aspect is related to the idea that they see a person with adult mentality in a child's body who is asking adult questions without fully understanding them, and often feeling a sense of injustice. It is also mentioned that some children lose their childhood innocence. In relation to this idea, they state that sometimes, due to their greater maturity or different interests, they do not participate in relationships with their peers. The idea of maturity in thought or humor is an aspect that has been seen in previous studies (Wright-Scott, 2018). The following quotation makes this point explicit: "Sometimes they do not

understand situations that their peers raise and think that they do or talk about nonsense. There comes a time when, due to his ability to reflect, he does not understand them” (D7). Therefore, in some cases they may have relationship problems, while in other cases they socialize well. It has also been commented that there are prejudices and it is believed that everything is easy for them. So that they think that everything is done, without always taking into account that what is important is not how they are doing in school but their personal state. Finally, on one occasion it has been narrated that they ask different questions and constantly test teachers, an aspect that is related to previous studies that have found that teachers sometimes respond negatively to their personality or difficult questions posed in the classroom (Smedsrud, 2018).

GRAPHIC II. Perception of high abilities



The second most quoted aspect has been the one that refers to the peers' perception of HA. Firstly, it is highlighted the age aspect, since several participants have stated that in preschool and primary school, although they sometimes see them differently, they tolerate them well and are generally accepted in the group, an aspect that has already been

seen in previous studies (Borges et al., 2011). The exception would be given by those children with HA who show greater socialization problems due to their character. This is explained in the following narration: "I think they are accepted, but it depends on the person, if they are very absorbed, they see him/her as a 'Martian'" (D11). On the other hand, it is manifested that in later stages the acceptance by the group is more difficult. Secondly, an aspect that has to do with acceleration as a measure is revealed. It is mentioned that, in primary school, as long as the teachers work on the subject, students with HA who have been accelerated are naturally accepted, both when they enter and leave the group. This is a narrative that disagrees, in some way, with the existing reluctance of this educational measure, although the results of previous studies confirm the statement that acceleration, well carried out, does not harm the socio-affective dimension of students with HA (Hoogveen et al., 2012).

The third most quoted aspect is that related to the perception other adults in society have about HA, mainly their peers' parents. Among parents myths and stereotypes predominate in the expressed narrative. The idea of people with HA being very smart is repeated and also the belief that everything is easy for them, so they do not need any help. Therefore, this aspect coincides with the perception that teachers have (Berman et al., 2012; Olthouse, 2014). These ideas are included in the following narrative: "They think they have a facility to pass the course, but there is also another very important field [their experiences] and I think that society does not realize it" (D5). In this respect, it also appears the idea that they are smart because their parents hardly take them to play, and they have them at home most of the time, looking for information and learning. Another aspect that is mentioned, and whose empirical evidence is still contradictory as it has been seen in previous research about myths (Pérez et al., 2017), is that related to highly able children being seen as strange or different. Also the idea of being excluded from society to the extent that some parents have asked not to tell anyone about the HA of their second child, after having had a bad experience with their first child. Another latent idea, where the effect of stereotypes is evident, is one that refers to the fact that other adults sometimes do not recognize the child as having HA because they do not correspond to the characteristics they expect to find in them (Aretxaga, 2013). All these elements manifest that students with HA may have difficulties in socialization and integration due to intolerance and exclusion showed by

adults, which have been seen in their peers' perception as they advance in age (e.g., in high school).

The last reported aspect refers to the self-perception of students with HA. The idea of being a different person is repeated, since children with HA feel different. Sometimes this idea generates frustration and, at later ages, personality and identity conflicts (Villatte et al., 2014). They may express their concern about not being "normal" and their desire to be so, so the narrative underlines the work that must be done from school to normalize diversity.

In summary, the studied narrative verifies that teachers perceive that myths and stereotypes about HA still persist in society, so that students with HA are seen as very smart and self-sufficient, sometimes forced by their parents, as well as strange and different people. Furthermore, society shows reluctance to recognize people with HA if they do not comply with stereotypes, and in these cases they are rejected and unrecognized. They affirm that this complicates their socialization and affects their self-perception, and consequently their self-concept. This can cause frustration and even identity and personality conflicts. In any case, this is an aspect that should be contrasted, since in this study the self-perception of students is manifested from the teachers' perspective.

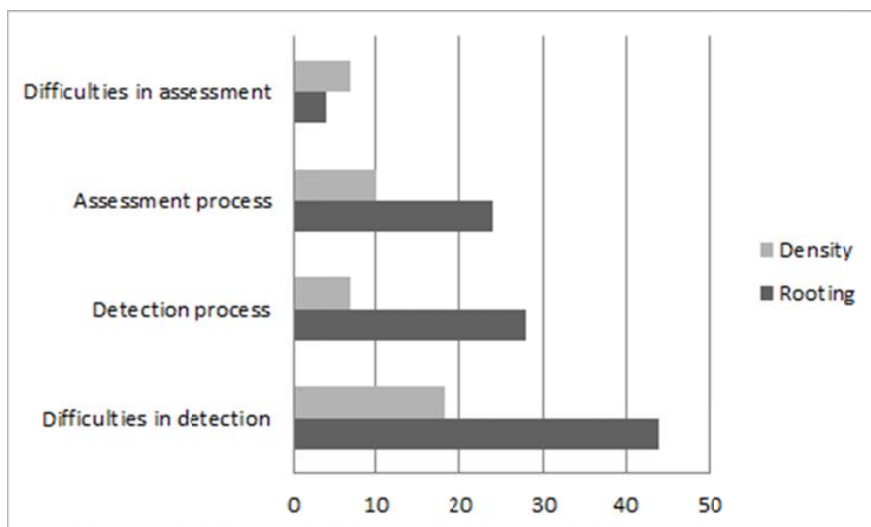
Detection and assessment

In the interviews carried out, among the quotations referring to the detection and assessment of HA those that allude to the difficulties encountered and the process itself stand out (see Graphic III).

The aspect of detection of HA with the highest rooting values indicates the difficulties encountered. Some participants state that they have never had HA students, others say that it is difficult to determine these students by their characteristics, or even they admit that they do not have the needed training or preparation for detection (Russell, 2018). In one case, the difficulty of detecting girls is reported, since they "hide" their HA, as other authors confirm (Bianco et al., 2011). Difficulties also arise based on reluctance to recognize the HA of students. On some occasions it is commented that the student is "smart", but without HA and that one entity must be distinguished from the other. In this sense, the following quote which is related to one of the widely recognized myths

is suggestive (Tourón, 2000): “Some teachers do not believe, they think that the parents say that their child has HA to raise their self-esteem. But in reality they think that they have not HA, and they say that the parents have ‘trained’ them” (D9).

GRAPHIC III. Detection and assessment of high abilities



In the second aspect, ideas related to the detection process are reported, where opposing ideas about the role that parents have in the detection of HA appear. On some occasions they mention that they have detected their child's' HA, and that they even come to school with an assessment or diagnosis. On other occasions they state that teachers detect them. Regarding the process, they know quite clearly that there are detection and assessment instruments, and that the advisor must speak with the family and with the counselor at school (Aretxaga, 2013).

In the third aspect, ideas about the evaluation process are collected. Here, the need to speak with the family, with the counselor at the center, and later with the educational administration services is also mentioned (Aretxaga, 2013). Sometimes they also state that the assessments have been carried out privately, under parents' request.

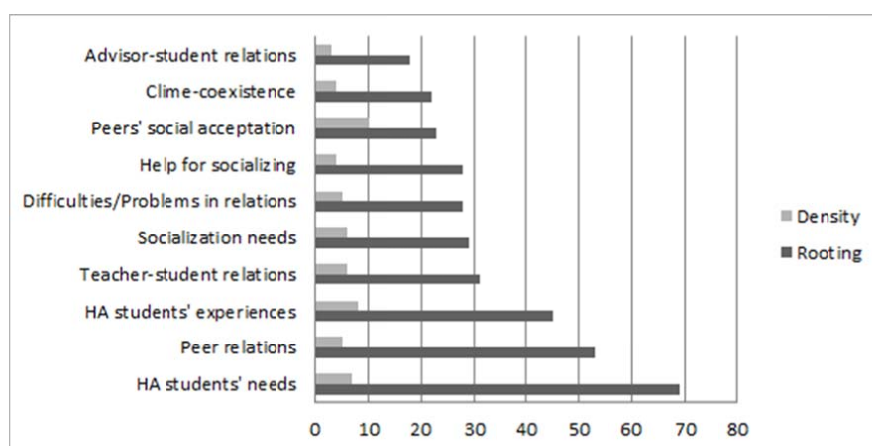
In the fourth aspect, with a minimum rooting, the aspects related to the assessment difficulties are quoted, where they manifest, on the one hand, the long process that they must follow if the assessment has been carried out by the educational administration; and, on the other hand, the reluctance to accept the diagnosis, since the low effectiveness of the educational measures has made doubt on the need to nominate (Russell, 2018).

In summary, teachers manifest that there are problems in detecting and assessing students with HA. Detection problems are due to the difficulty (even to the reluctance) to nominate these students because of their characteristics (especially girls), and the lack of required training for detection. However, assessment difficulties are due to the long process that must be followed if it is made through the educational administration; also, due to the reluctance to accept the external diagnosis (especially if it is done privately under parents' request).

Educational and socio-affective needs of students with HA

When talking about the educational and socio-affective needs of students with HA, the most widely used expressions are related to their educational needs, the relationship with peers, and the experiences of these students, followed by other needs (see Graphic IV).

GRAPHIC IV. Educational and socio-affective needs



The most mentioned aspect has been the one that shows the needs of students with HA in general, where several aspects stand out. On the one hand, it has been mentioned that these students can finish the task earlier and get bored, needing in this case to be assigned other more adapted activities or methodologies. Another idea that is also repeated is that sometimes they know more than the teachers themselves, and teachers have to show an appropriate attitude towards these students, since guiding them is a challenge (Van Tassel-Baska and Stambaugh, 2005). The idea is manifested in the following way: "You give the class and the student has finished and needs more, or knows more than you about something, so it is a challenge" (D1). It is also reported that "the interests and the way of learning of the students had nothing to do with those of their peers; teachers saw that the questions they asked were at another level; this has meant a great suffering for him" (D9). Another recurrent aspect is the importance of giving a response to academic needs along with social and affective needs, as it has been defended by several authors (Blaas, 2014; Dixson et al., 2016). In one case it is quoted that "in this school the social sphere is highly promoted, even in some cases the academic sphere is left aside until the social is solved" (D2). It is also quoted that "public services do not take into account the emotional sphere, and private ones do, and valuing the emotional sphere is important" (D3). The same teacher says that "in my opinion, if you connect emotionally with the child, and if she/he is able to express her/his needs and feel comfortable, then you have the way done. Then, it is about responding to their needs" (D3) (Blaas, 2014). Another aspect that is reported is the relationship with their peers, where an idea which is not empirically contrasted in previous studies (Lee et al., 2012) is mentioned: "since she/he controls more than the rest, she/he does not like to work in group" (D4) or "she/he is accepted when they are going to do a task, but in the playground she/he fails more" (D5). The importance of motivation is also mentioned, and it is quoted that "they must be given the option to work on topics of their interest. I think you should feel comfortable in what you do, with your peers, with your teachers, motivated" (D5). In addition, motivation is related to the methodology used: "I think it is important to first look for something that interests them and start from their interests." In relation to this aspect, in a previous study, the relationship between motivation and the application of project-based learning has been evidenced (Landrón et al., 2018). The importance of

intervening at school in a consensual way at all levels is emphasized when reporting that “the methodology is important, and I believe that it is a decision that must be made from the school, and not from the classroom” (D6). Motivation and personal rhythm are also related when it is mentioned that “the curriculum must be adapted in a way that is linked to their interests, and it must be flexible to satisfy their rhythms and needs, making the curriculum and assessment more flexible” (D10). In this respect, it is also said that “their capacities must be fulfilled” (D8) (Tolan, 2018). Another aspect that is quoted is the way in which perfectionism in these students should be approached, an aspect that in other studies has been related to low performance (Blaas, 2014) and with high demands for themselves and for others (Wright-Scott, 2018). Thus, it is reported that “the student sometimes does not understand everything [in English] and worries and feels insecure because he knows that in other areas it does not happen to him. So I try to reassure him” (D7).

The second most mentioned aspect refers to the relationships with peers. It is mentioned that some do not have any problems in relationships, but that others tend to isolate themselves (Blaas, 2014). It is quoted that “he was quite selective with friends, sometimes he preferred to be reading rather than playing with others” (D1). The following quote is also included: “the student has an internal world so deep that sometimes he needs time for himself, and you see him alone for a while in the playground” (D3). Related to the latter, the following is quoted: “I think that sometimes their abilities make them remain a bit excluded” (D5).

The third most mentioned aspect is that of the experiences that students with HA live. In this respect it is mentioned that “in some cases students with HA are well managed and do not show problems, but in other cases they can fail” (D1). Among the experiences, fear and frustration (when facing new situations such as acceleration), lack of motivation (when facing repetitive and boring activities), and insecurity (when facing activities that they do not understand or do not perform well) have been quoted. Also, experiences related to the lack of coordination or the bad relationship between the family and the school, the difficulties found in relationships with their peers, or even the maladaptive or conflictive behaviors that are repeated in school have been mentioned, which can sometimes translate into a lack of motivation or depression (Blaas, 2014).

Those aspects derived from the relationship between teachers and students are specified below. It is reported that teachers can feel nervous,

but that they must stimulate, offer strategies, confidence and motivation to students. Existing socialization needs and help are specified (it is mentioned that one should try to normalize, offer more psychological resources, promote self-esteem, and work with the family, the counselor and the advisor, and work for group cohesion; in general, work with the entire educational community). There is also evidence of difficulties or problems in relationships and social acceptance by their peers (sometimes they are different, special, and they see them as rare, they have another maturity of thought and in the way of being, or playing, that they can conduct them to exclusion or even harassment; but other times, especially at younger ages, they are happy with their peers). Other aspects addressed are the climate or coexistence at school (it is mentioned that teachers should prevent peers from seeing HA children as rare and encourage their acceptance; some highly able students may be frightened by the change, others may show maladaptive behaviors, or suffer bullying by their peers; the idea of working with the group to respect diversity is reported). The relationship between the advisor and the students is also quoted (it is stated that the situation should be normalized, although greater attention must be paid to them; and the importance of connecting emotionally with the students, working on self-esteem and confidence, respond to their needs, or to be a referent are stressed). It should be a significant relationship that could challenge students (Siegle et al., 2014) or facilitate psychosocial intervention (Subotnik et al., 2011).

In summary, teachers assume that it is important to take into account the socio-affective needs of students with HA. They state that in some cases there may be problems in the relationships with their peers or teachers, but this should not necessarily be always the case. It is important to work on the climate and coexistence at school.

Conclusions

The conclusions emanating from this study carry a series of educational implications. On the one hand, teacher training programs should still be addressed, so that it can have a completely adjusted conception of each student with HA and so that it can facilitate the detection of these students (Tourón, 2005). On the other hand, information and awareness should also be extended to parents of the rest of the students and in

the classroom, as well as in society in general. Likewise, it would be important to continue working in classrooms and in schools in general, to foster a climate of acceptance and coexistence, and normalize diversity. Finally, it would be interesting to study the factors that favor tolerance and good group relationships to be able to work on self-concept and self-esteem, confidence, as well as identity, especially in more advanced educational levels.

This study suffers from certain limitations. On the one hand, it must be emphasized that the results are from specific teachers and not necessarily representative of the entire population, although the same categories are repeated in the interviews and do not give rise to new information (saturation or contamination). On the other hand, it is applicable in the Autonomous Community of the Basque Country, and not necessarily in other communities, since each community has its own administration and practice regarding the attention to students with HA. Therefore, for future studies it would be interesting to apply the same methodology (through the semi-structured interview) with a larger and more representative sample. Finally, the interview is not adapted to be applied to other educational agents such as counselors or school heads, so it would be necessary to design a specific interview for this group (eg., to know more about the limitations in assessment of the HAs, as well as the orientation/support they offer to teachers).

References

- Aretxaga, L. (Coord.) (2013). *Orientaciones educativas. Alumnado con altas capacidades intelectuales*. Servicio Central de Publicaciones del País Vasco. Gobierno Vasco. Retrieved from: https://www.euskadi.eus/contenidos/informacion/dig_publicaciones_innovacion/es_escu_inc/adjuntos/16_inklusibitatea_100/100012c_Pub_EJ_altas_capacidades_c.pdf
- Baudson, T. G., & Preckel, F. (2013). Teacher's implicit personality theories about the gifted: An experimental approach. *School Psychology Quarterly*, 28(1), 37-46. doi: 10.1037/spq0000011
- Baudson, T. G., & Preckel, F. (2016). Teacher's conceptions of gifted and average-ability students on achievement-relevant dimensions. *Gifted Child Quarterly*, 60(3), 212-225. doi: 10.1177/0016986216647115

- Blaas, S. (2014). The relationship between social-emotional difficulties and underachievement of gifted students. *Australian Journal of Guidance and Counselling*, 24(2), 243-255. doi: 10.1017/jgc.2014.1
- Berman, K. M., Schultz, R. A., & Weber, C. L. (2012). A lack of awareness and emphasis in preservice teacher training: Preconceived beliefs about the gifted and talented. *Gifted Child Today*, 35(1), 18–26. doi: <https://doi.org/10.1177/1076217511428307>
- Bianco, M., Harris, B., Garrison-Wade, D., & Leech, N. (2011). Gifted girls: Gender bias in gifted referrals. *Roeper Review*, 33(3), 170-181. doi: 10.1080/02783193.2011.580500
- Borges, A., Hernández-Jorge, C., & Rodríguez-Naveiras, E. (2011). Evidencias contra el mito de la inadaptación de las personas con altas capacidades intelectuales. *Psicothema*, 23(3), 362-367. Retrieved from: <http://www.psicothema.com/pdf/3895.pdf>
- Castelló, A., & Battle, C. (1998). Aspectos teóricos e instrumentales en la identificación del alumno superdotado y talentoso. Propuesta de un protocolo. *FAISCA*, 6, 26-66.
- Comes, G., Díaz, E. M., Luque, A., & Ortega, J. M. (2009). Análisis de la legislación española sobre la educación del alumnado con altas capacidades. *Escuela Abierta*, 12, 9-31. Retrieved from: dialnet.unirioja.es/descarga/articulo/3277694.pdf
- Dai, D. Y., & Chen, F. (2013). Three paradigms of gifted education: In search of conceptual clarity in research and practice. *Gifted Child Quarterly*, 57(3), 151-168. doi: 10.1177/0016986213490020
- Dixon, D. D., Worrell, F. C., Olszewski-Kubilius, P., & Subotnik, R. F. (2016). Beyond perceived ability: the contribution of psychosocial factors to academic performance. *Annals of the New York Academy of Sciences*, 1377(1), 67-77. doi:10.1111/nyas.13210
- Hernández, D., & Gutiérrez, M. (2014). El estudio de la alta capacidad intelectual en España: Análisis de la situación actual. *Revista de Educación*, 364, 251-272. doi: 10.4438/1988-592X-RE-2014-364-261
- Hoogeveen, L., Van Hell, J. G., & Verhoeven, L. (2012). Social-emotional characteristics of gifted accelerated and non-accelerated students in the Netherlands. *British Journal of Educational Psychology*, 82(4), 585-605. doi: 10.1111/j.2044-8279.2011.02047.x
- Juaristi, P. (2003). *Gizarte ikerketarako teknikak. Teoria eta adibideak*. Servicio Editorial Universidad del País Vasco.

- Košir, K., Horvat, M., Aram, U., & Jurinec, N. (2016). Is being gifted always an advantage? Peer relations and self-concept of gifted students. *High Ability Studies*, 27(2), 129-148. doi: 10.1080/13598139.2015.1108186
- Kroesbergen, E. H., van Hooijdonk, M., Van Viersen, S., Middel-Lalleman, M. M. N., & Reijnders, J. J. W. (2016). The psychological well-being of early identified gifted children. *Gifted Child Quarterly*, 60(1), 16-30. doi: 10.1177/0016986215609113
- Landrón, M. L., Ágreda, M., & Colmenero, M. J. (2018). El efecto del aprendizaje basado en proyectos en estudiantes con altas capacidades intelectuales en una segunda lengua. *Revista de Educacion*, 380, 210-236. doi: 10.4438/1988-592x-re-2017-380-378
- Lee, S.-Y., Olszewski-Kubilius, P., & Thomson, D. T. (2012). Academically gifted students' perceived interpersonal competence and peer relationships. *Gifted Child Quarterly*, 56(2), 90-104. doi: <https://doi.org/10.1177/0016986212442568>
- Ley 14/1970, de 4 de agosto, General de Educación y Financiamiento e la Reforma Educativa. Boletín Oficial del Estado, núm.187 (06/08/1970).
- Ley Orgánica 1/1990, de 3 de octubre, de Ordenación General del Sistema Educativo (LOGSE). Boletín Oficial del Estado, núm. 238 (04/10/ 1990).
- Ley Orgánica 2/2006, de 3 de mayo, de Educación (LOE). Boletín Oficial del Estado, núm. 106 (04/05/2006).
- Martín, J., & González, M. T. (Coords.) (2000). *Alumnos precoces, superdotados y de alta capacidades*. Centro de Investigación y Documentación Educativa. Ministerio de Educación y Cultura.
- Ministerio de Educación y Formación Profesional del Gobierno Español (MEFP, 2019). *Estadísticas de la educación. Enseñanzas no universitarias*. Retrieved from: <http://www.educacionyfp.gob.es/servicios-al-ciudadano/estadisticas/no-universitaria.html> (28-10-2019)
- Mönks, F. (2000). Serving the needs of gifted individuals: the optimal match model. En: Cedefop, *Agora IX. Alternative education and training processes* (pp. 37-50). Panorama series, 66. Office for Official Publications of the European Communities.
- Olthouse, J. (2014). How do preservice teachers conceptualize giftedness? A metaphor analysis. *Roeper Review*, 36(2), 122-132. doi: 10.1080/02783193.2014.884200
- Orden de 14 de febrero de 1996, por la que se regula el procedimiento para la realización de la evaluación psicopedagógica y el dictamen de escolarización y se establecen criterios para la escolarización de los

- alumnos con necesidades educativas especiales. *Boletín Oficial del Estado*, núm. 47 (23/02/1996).
- Pérez, J., Borges, A., & Rodríguez, E. (2017). Conocimientos y mitos sobre altas capacidades. *Talincrea*, 6, 40-51. Retrieved from: <http://www.talincrea.cucs.udg.mx/sites/default/files/CONOCIMIENTOS%20Y%20MITOS%20SOBRE%20ALTAS%20CAPACIDADES.pdf>
- Real Decreto 696/1995, de 28 de abril, de ordenación de la educación de los alumnos con necesidades educativas especiales. *Boletín Oficial del Estado*, núm. 131 (02/06/ 1995).
- Russell, J. L. (2018). High school teachers' perceptions of giftedness, gifted education, and talent development. *Journal of Advanced Academics*, 29(4), 275–303. doi: <https://doi.org/10.1177/1932202X18775658>
- Siegle, D., Rubenstein, L. D., & Mitchell, M. S. (2014). Honors students' perceptions of their high school experiences: The influence of teachers on student motivation. *Gifted Child Quarterly*, 58(1), 35-50. doi: 10.1177/0016986213513496
- Smedsrud, J. (2018). Mathematically gifted accelerated students participating in an ability group: A qualitative interview study. *Frontiers in Psychology*, 9:1359. doi: 10.3389/fpsyg.2018.01359
- Subotnik, R. F., Olszewski-Kubilius, P., & Worrell, F. C. (2011). Rethinking giftedness and gifted education: A proposed direction forward based on psychological science. *Psychological Science in the Public Interest*, 12(1), 3-54. doi: 10.1177/1529100611418056
- Tolan, S. S. (2018). The value and importance of mindfulness for the highly to profoundly gifted child. *Gifted Education International*, 34(2), 193–202. doi: <https://doi.org/10.1177/0261429417716348>
- Tourón, J. (2000). Mitos y realidades en torno a la alta capacidad. En: L. Almeida, E. P. Oliveira, & A. S. Melo (Ed.), *Alunos sobredotados. Contributos para a sua identificação e apoio*. ANEIS.
- Tourón, J. (2005). What has been done, what has yet to be done. *High Ability Studies*, 16(1), 155-158. doi: 10.1080/13598130500115387
- Van Tassel-Baska, J., & Stambaugh, T. (2005). Challenges and possibilities for serving gifted learners in the regular classroom. *Theory Into Practice*, 44(3), 211-217. doi: 10.1207/s15430421tip4403_5
- Verd, J. M., & Lozares, C. (2016). *Introducción a la investigación cualitativa. Fases, métodos y técnicas*. Editorial Síntesis, S. A.
- Villatte, A., Courtinat-Camps, A., & Léonardis, M. (2014). Typology of self-concept of adolescents in France: A comparison of gifted and

- nongifted French high school students. *Roeper Review*, 36(1), 30-42. doi: 10.1080/02783193.2013.856828
- Villatte, A., Hugon, M., & Léonardis, M. (2011). Forms of self-concept in gifted high school students enrolled in heterogeneous classes. *European Journal of Psychology of Education*, 26(3), 373–392. doi: 10.1007/s10212-011-0055-8
- Wright-Scott, K.-A. (2018). *The social-emotional well-being of the gifted child and perceptions of parent and teacher social support* (Tesis doctoral, Queensland University of Technology, Brisbane, Australia). Retrieved from: https://eprints.qut.edu.au/118198/1/Kerry-Ann_Wright-Scott_Thesis.pdf

Appendix I

TABLE II. Initial encoding methodological table

Dimension	Variable	Category / Questions
Expertise and experiences as a professional of education	Profiles Difficulties Information Training Little experience	1 What experience do you have with children with HA? How have you experienced/lived your profession/role as a teacher?
	Characteristics Detection	2 What difficulties / obstacles have you had to face? How have you dealt with them?
	Peer relations Relations with adults Characteristics Prejudices / Stereotypes	3 How do you think other people see persons with HA?
	Different: Activities Interests Characteristics Abilities Response: Teacher's help Parents' help Relationship problems	4 As a teacher, how do you see the relationships that HA students have with their friends or colleagues? Do you think that they should be helped in this regard? If so, how and who should help them?

HA's detection	Detection process	5 What HA detection process is carried out at your school? Who does it? At what age are they detected?
	Prejudice-influenced detection	6 What indicators are important in the detection of HAs? What characteristics would you highlight? How does this students live their way of being (what experiences do they have)?
	Family-school relationship	7 What is the behavior of students with HA at school, and what at home?
HA's assessment	Assessment process	8 How is the assessment process? Who carries it out and when? What do they do with the information collected in the assessment?
Educational response	Academic path	9 Describe what the academic path of students with HA tends to be like?
	Educational needs	10 What are the educational needs of these students at school and at home?
	Educational methodologies and strategies	11 What kind of response are these students offered at school?
	Obstacles in the response given to educational needs	12 Based on your expertise, do you think that the measures offered at school respond to their needs? Why? If not, what other type of response would be appropriate and why?
	Functions of the teacher-student interaction	13 What kind of relationship do students with HA usually have with teachers? What should be the role and function of teachers with HA students?
	Functions of the advisor-student interaction	14 How do you describe the most common advisor / HA student relationship? What should be the role and function of the advisor with the HA student?
Information and training	Lack of training Training needs	15 What kind of training do you have at HA? What type of information / training do you look for? Where have you found the information / training that suits your needs? What does it consist of?
		16 How do you value the training in HA that the teaching staff, the advisors and the educational agents in general have? What should it be like?
	Stereotyped information in society	17 What is the information society has about HAs like?

Family and school collaboration	Normalization and collaboration protocol	18 How is usually the relationship with the families of the students with HA? Do you collaborate? In this regard, what is done well and what can be improved?
Open dimension: other variables	Normalization in the context Context resources	19 What would you ask families, society, the educational community, the educational system, and public and private institutions from the perspective of socialization and schooling of students with HA?
		20 Would you underline something regarding the response received by students with HA? Would you add something to the aforementioned?

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Predictors of performance in Business Administration degrees: the effect of the high-school specialty

Predictores del rendimiento académico en las titulaciones de Administración y Dirección de Empresas: el efecto de la especialidad en bachillerato

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Deutsche Bank

Abstract

This paper analyzes the effect of high school specialty on academic performance, both in the first year of university and in the degree as a whole, for business related degrees. In order to study this effect, an analysis has been carried out, with data corresponding to seven different degrees and six cohorts of students, who entered the university between the academic years 2012-2013 and 2017-2018, obtaining a final sample of 3412 students. Multiple linear regression models have been adjusted, using the adequate techniques to deal with heteroskedasticity produced by dropouts during the first year, as well as multicollinearity due to interactions. These models, in addition to the variable under study, incorporate as control variables those identified in the previous literature as key predictors of academic performance, and a Backward Stepwise Selection strategy has been used for variable selection. The results indicate

that, in business related degrees, students from science specialty generally obtain better results during the first year than those who studied the specialty of humanities and social sciences. However, when the degree as a whole is analyzed, these differences disappear. Therefore, we conclude that high school specialty in sciences confers an advantage at the beginning of the university studies. It has also been confirmed that, in degrees with hardly any quantitative load, the effect of the specialty in high school is not a relevant variable to explain academic performance at the university, that is, results are similar regardless of the specialty of origin.

Keywords: High school specialty, academic performance, higher education, business degree, business related degrees.

Resumen

El presente artículo analiza el efecto de la especialidad cursada en bachillerato sobre el rendimiento académico, tanto en el primer año de universidad como en la titulación en su conjunto, para grados relacionados con Administración y Dirección de Empresas (ADE). A fin de estudiar dicho efecto, se ha llevado a cabo un análisis con datos correspondientes a siete titulaciones diferentes y seis cohortes de alumnos, que accedieron a la universidad entre los cursos 2012-2013 y 2017-2018, obteniéndose una muestra final de 3412 alumnos. Se han ajustado distintos modelos de regresión lineal múltiple adaptados a las peculiaridades de los datos, ya que estos presentaban problemas de heterocedasticidad por los abandonos durante el primer curso, así como multicolinealidad debido a la incorporación de interacciones. Dichos modelos, además de la variable objeto de estudio, incorporan como variables de control aquellas que la literatura previa identifica como predictores clave del rendimiento académico, y se ha utilizado una estrategia de eliminación hacia atrás (Backward Stepwise Selection) para la selección de variables. Los resultados indican que, en grados relacionados con ADE, los alumnos procedentes de un bachillerato de ciencias obtienen, en general, mejores resultados durante el primer año que aquellos que cursaron la especialidad de humanidades y ciencias sociales. Sin embargo, cuando se analiza la titulación en su conjunto, dichas diferencias desaparecen. La conclusión, por tanto, es que la especialidad de ciencias en bachillerato confiere, únicamente, una ventaja al inicio de los estudios universitarios. También se ha confirmado que, en titulaciones sin apenas carga cuantitativa, el efecto de la especialidad en bachillerato no es, en general, una variable relevante para explicar el rendimiento académico en la universidad, es decir, que los resultados son similares con independencia de la especialidad de procedencia.

Palabras clave: Especialidad en enseñanza secundaria, rendimiento, estudios universitarios, grado en Administración y Dirección de Empresas, grados relacionados con ADE.

Introduction

Academic performance is a difficult concept to define, as there are multiple possible approaches, and as Garbanzo (2007) points out, “[it is problematic and confusing to identify academic performance with grades]” (p. 46). For example, Tejedor (2003) distinguishes between immediate performance, linked to metrics such as average grade, delay in the completion of studies or rate of attendance to exams, and deferred performance, which reflects the usefulness of the training received in working and social life, that is related to human capital theory. An important difficulty regarding the aforementioned theory is that the qualitative nature of human capital makes it necessary to measure it through variables that approximate the elements that intervene in its definition (Castro, Fernández and Martín, 2015). It is not our intention to address this approach, as it exceeds the objectives of this work, and we will focus on immediate performance, where the use of some type of average of the grades obtained is a common practice, since, even though it is an imperfect metric, it can be accepted as a first approximation (Di Gresia, Porto and Ripani, 2002). Several authors complement it with measures such as competences self-assessment and the rate of attendance to exams (García-Merino, Urionabarrenetxea and Bañales-Mallo, 2016), ratios that consider the subjects passed since entry into university (Di Gresia, Porto and Ripani, 2002), or other metrics that seek to capture additional effects that the average grade does not reflect.

In addition to the inherently complex problem of defining the dependent variable, we are facing the complexity of identifying the causal factors. As a reference, one of the last meta-analysis on this topic (Schneider and Preckel, 2017) identified a total of 105 different variables. In our opinion, this may be one of the reasons why it is so complex to develop portable predictive models of academic performance. The studies by Widyahastutia and Tjhin (2018) and Thakar, Mehta and Manisha (2015), analyzing the academic publications between 2011-2016 and 2002-2014 respectively, point to the need to seek unified approaches to develop universal models. Along the same lines, Muthukrishnan, Govindasamy and Mustapha (2017), based on a review of 59 articles on predictive models of student performance, conclude that there is a huge shortage of portable predictive models, which is confirmed, among others, by Conijn, Snijders, Kleingeld, Matzat (2017) and Gašević, Dawson, Rogers

and Gasevic (2016): even when analyzing different courses within the same institution, there are important differences between them, requiring predictive models adapted to each of them.

Returning to the causal factors, Schneider and Preckel (2017) encompass the different variables in two major areas, related to the student and the instructional process, an approach similar to that of Tourón (1985), which distinguishes between personal characteristics of the student and factors related to the teaching and learning process. Garbanzo (2007) proposes a somewhat different classification, with three different groups of factors, namely personal, social and institutional, being the latter mainly linked to the university features.

Regarding personal determinants, pre-university performance is probably one of the indicators with the greatest predictive capacity in university students (Tejedor, 2003; Garbanzo, 2007; McKenzie and Schweitzer, 2001), since it synthesizes both the student's skills and work capacity, as well as his/her background (Beltrán and La Serna, 2008). Admission tests also appear to have a considerable relationship with academic performance: the meta-analysis conducted by Richardson, Abraham and Bond (2012), after studying the research results between 1997 and 2010, indicates that high school grades, together with the results of admission tests (SAT/ACT in the United States), showed medium-sized positive correlations with grades obtained at university. In fact, the paper by Montero, Villalobos and Valverde (2007) on 848 students at the University of Costa Rica concludes that the best predictor is a combination of high school grades and the score in a reasoning test. In the specific case of Spain, and specifically for degrees related to economics and business, García-Diez (2000) concludes that the score obtained in "Selectividad"/EvAU is useful as a way of selecting students with the highest probability of success. However, it should be noted that Escudero (1987) points out that the prediction of university academic performance is significantly different according to the specialty in high school, with greater correlations in humanities.

Looking in detail at both previous performance and admission test scores, it seems that the results in mathematics are especially relevant, even in non-scientific degrees. Barahona (2014), using a sample of 258 first-year students in the degrees of Social Work, Engineering, Law and Humanities at the University of Atacama (UDA), concludes that the results of verbal and mathematical tests are important predictors. Tourón

(1984, cited in Beltrán and La Serna, 2008) concludes that grades in secondary education, especially in mathematics, are the best predictors of performance at university, a result that coincides with that of Beltrán and La Serna (2008), who point out that “[the average grade in the school’s mathematics courses is the most important variable to explain academic performance]” (p. 58). For the specific case of university studies in the field of economics and business, good performance in mathematics at university correlates positively with good performance in economics (Harbury and scienszreter, 1968) and finance (Didia and Hasnat, 1998). Ballard and Johnson (2004) point out that quantitative skills are a key factor for performance in an introductory microeconomics course, and Girón and González (2005) conclude that good results in the economic area are basically explained by previous performance in mathematics.

This relation between skills in mathematics and academic performance in courses related to economics makes us wonder whether having studied the science specialty in high school improves academic performance at university, and specifically in courses related to economics and business, because as far as we know, there is no research on this particular topic developed in Spain. Etxeberria, Alberdi, Eguia and García (2017), in reference to two engineering degrees in the Engineering School of Bilbao, found a higher academic performance among those who had studied the “Science and Technology” specialty. With regard to the interest area of this paper, Castellanos, González, González and Manzano (1998) found that students in the science specialty in high school had a better academic performance in the business mathematics course in former business administration degrees (“licenciatura en administración and dirección de empresas” and “diplomatura en empresariales”). However, this result does not agree with the study by Dávila, García-Artiles, Pérez-Sánchez, and Gómez-Déniz (2015) for the same course, as they conclude that there is no difference between those coming from a science or social science specialty in high school, although there are differences with respect to those who had studied humanities. Martínez de Ibarreta, Rúa, Redondo, Fabra, Nuñez and Martín (2010) also analyzed academic performance in the business administration degree, finding that having studied the science specialty in high school had a positive and significant impact in academic performance in quantitative courses, while this variable had no effect in courses where the evaluation system depended greatly on memory or general understanding of ideas. Finally, Martí-Ballester

(2019) concludes that students coming from a social science specialty in high school had better grades in financial accounting compared to those coming from a science specialty. Therefore, it looks like there is mixed evidence with respect to the effect of the specialty from high school, and thus this paper focuses precisely on analyzing this effect.

In order to carry out this analysis, out of the three groups of factors that Garbanzo (2007) proposes, personal, social and institutional, this paper will focus on the first one, although it is necessary to briefly discuss the other two factors, in order to find potential confusion variables that should be included in the model.

When it comes to social factors, the university in which the study has been performed is a private university where its students have a relatively similar social background. Almost all students fall into upper-middle class, with parents that, in most cases, have university degrees. In fact, the research performed by Martínez de Ibarreta, Rua, Redondo, Fabra, Nuñez and Martín (2010), based on 554 students from the Business Administration degree (ADE) of the same university, concluded that 86% of fathers had a higher education degree, 12% had secondary education and a 2% had lower education. When it comes to the mothers, 77% had a higher education degree, 21% had secondary studies and 2% had a lower education.

Regarding institutional factors, the university is middle sized, and both its teaching methodologies and evaluation systems are very standardized, at least in the case of the degrees that are the focus of this study. One example is the fact that having the same exam for all groups of the same module, regardless of the degree it belongs to, is common practice. Another example is the size of the groups of students. Studies about this topic (Arias and Walker, 2004; Fenollar, Román and Cuestas, 2007) point out that there exists a positive relationship between performance and teaching in small groups, despite the existence of certain differing results, such as the work by Borland, Howsen and Trawick (2005), who suggest there is a non-linear relationship between performance and group size. Therefore, this is a variable that could be potentially incorporated to the model; however, in our case the groups are very similar, with around 45 students per group regardless of the degree or course considered, and thus it is not necessary to include it.

With regards to personal factors, in addition to the high school specialty, this work includes the academic performance before university and the

score in Comillas Pontifical University's own admission exams, because, as it has been mentioned earlier, both variables have systematically been identified as good predictors for academic performance at university, and they are included among the ten most relevant variables in the literature, according to the meta analysis by Schneider and Preckel (2017). In particular, given the relevance of the previous background in mathematics, and to a lesser extent in Spanish language, two of the exams that evaluate these areas have been selected. Additionally, the English test has also been included because one of the degrees, E-2 Bilingual, is studied entirely in this language, and in E-4, a significant part of the students also study part of the degree in English. Nevertheless, in the same way as with institutional and social factors, the university's policies make the incorporation of certain variables unnecessary. As an example, class attendance, which is identified as a relevant factor in diverse studies (Cansino, Román and Expósito, 2018; Credé, Roch and Kieszczynka, 2010), is compulsory, allowing for a maximum of 25% of absences, making differences among students minimal. The province the students come from has been included as a dummy variable, to indicate whether they carried out their previous studies in Madrid or not, due to the mixed evidence with respect to the effect of changing cities or abandoning the family home when studying at university. Beltrán and La Serna (2008) explain a negative effect due to the adaptation to a new life situation, among many other factors. This result coincides with the conclusions by Tejedor (2003). On the contrary, Simón, Casado, Castejón, Driha and Martínez (2018) do not observe significant differences in academic performance with respect to their type of residence. As a result of this ambiguity, this variable has been incorporated. It has also been considered relevant to include the gender of the student, since several papers suggest that women have a higher academic performance in courses related to business (Martínez de Ibarreta, Rua, Redondo, Fabra, Nuñez and Martín, 2010; Martí-Ballester, 2012; Mercado and Niño, 2012; Durán, Maside, Rodeiro and Cantorna, 2016).

Method

Research design

This research lays out three different hypotheses:

Hypothesis 1: In the degrees with a higher mathematical load, students who chose a science specialty in high school have better academic performance during the first year at university, where these contents are concentrated.

Hypothesis 2: In the degrees with a higher mathematical load, students who chose a science specialty in high school have a similar academic performance compared to those who studied social science and humanities specialty in high school when the whole degree is considered.

Hypothesis 3: In the degrees with few or unexistent mathematical load, the specialty chosen in high school is irrelevant when it comes to explaining academic performance for the first and following years.

In order to verify these hypotheses, this study is structured as follows: firstly, the methodology followed in our analysis is introduced, including a description of the sample and the statistical tools that have been used. Then, the results are interpreted and compared to those from previous studies. Finally, the limitations of our work are analyzed. A quantitative research methodology has been chosen, with a non experimental - predictive design structured in four phases: (i) identification of the most relevant variables to explain academic performance among university students, (ii) gathering of information, (iii) exploratory data analysis, (iv) statistical analysis through multivariate linear regression models adapted to the peculiarities of the available information, in order to deal with the issues found in the third phase. Since we use regression models, hypothesis testing will be performed based on individual significance tests for each of the model estimators. Lastly, it must be highlighted that this study is linked to the specific student profile from Comillas Pontifical University, whose data have been obtained from its academic database.

Sample

The sample that has been used for this study is made of all the students from seven different degrees that entered Comillas Pontifical University between the academic years 2012-2013 and 2017-2018. The only students that were removed from the sample are those for whom certain data required by the model was not available, together with eight students that studied the “Arts” specialty in high school, because the reduced size of this group could lead to estimation problems. Finally, the sample includes over 90% of students who studied the different degrees in the aforementioned period.

The chosen degrees are those that are somehow related to economics and business: Business Administration (E-2), Bilingual Business Administration in English (E-2 Bil), Business Administration with International Mention (E-4), Business Administration and International Relations (E-6), and Business Administration and Law (E-3). Additionally, the degree in Law (E-1)¹ and the double degree in Law and International Relations (E-5) have been included as well, since it is interesting to evaluate if the possible effects detected also appear in degrees with few or unexistent mathematical load. Table 1 shows the main attributes of the sample, indicating the number of students in each degree, the percentage of women and the percentage that studied the science specialty in high school. In addition, the average grade is included both for the first year and the whole degree, as well as the standard deviation. The grades from the university admission exams, EvAU, have also been included, together with its standard deviation. In all cases, all the data, fully anonymized, have been provided by Comillas Pontifical University.

⁽¹⁾ All law students have been put together in this category (E1) regardless of their specialty (diploma/mention given by the university according to certain additional courses).

TABLE I. Sample used in the analysis

	Grades in the first year			Grades in the degree		
	Sample	% Women	% Science HS	Sample	% Women	% Science HS
E2 (Business)	606	50%	32%	326	51%	33%
E2Bil (Business, bilingual)	236	60%	34%	90	61%	36%
E3 (Business and law)	1106	48%	29%	351	53%	28%
E4 (Business, international)	296	61%	41%	169	66%	45%
E6 (Business and I.R.)	469	68%	34%	56	71%	46%
E1 (Law)	408	64%	12%	232	65%	13%
E5 (Law and I.R.)	291	69%	16%	63	71%	13%
Total	3412	57%	29%	1287	59%	29%
<i>Average grade (standard dev.)</i>	<i>7.01 (1.09)</i>	<i>7.27 (0.85)</i>				
<i>EvAU grade (standard dev.)</i>	<i>8.21 (0.89)</i>	<i>8.13 (0.89)</i>				

Source: Prepared by the authors

Methodology

The R programming environment has been used (Project R for statistical analysis, <http://www.r-project.org>) to manage the database and create the models. The models estimation has been carried out by using basic functions included in such programming environment (R Core Team, 2013) and the “RCurl” (Lang and CRAN team, 2019) and “car” (Fox and Weisberg, 2019) packages. In order to determine the significance of the variables, a confidence level of 0.995 has been considered. This choice follows the suggestion by 72 academics in a recent article published in *Nature Human Behaviour* (Benjamin et al., 2018), where they propose “to change the default P-value threshold for statistical significance for claims of new discoveries from 0.05 to 0.005”, in order to improve research replicability. Such perspective has been thus adopted in our study, meaning that the variables in the model will only be considered statistically significant if they reach that threshold.

We detected that the existence of outliers, associated to students that dropped out during the first year with very low average scores, generates heteroskedasticity. It has been checked that this cannot be corrected by using transformations, creating inference problems within the model. Therefore, multivariate linear regression methods with standard deviations robust to heteroskedasticity have been used. On the other hand, a strong imperfect multicollinearity issue was detected as a consequence of incorporating the interaction term between the high school specialty and the admission grade, generating a very high variance inflation factors (VIF). For this reason, all the numerical variables, both dependent and independent, have been standardized, providing the additional advantage of having estimators that can be directly compared. This standardization has been performed for each degree, subtracting the mean and dividing by the standard deviation within each degree. After this transformation, the problem disappears, obtaining VIF values far below 10, as it is explained in the results section. Regarding variable selection, a Backward Stepwise Selection method has been used, because the available sample is large enough to allow the incorporation of all predictors from the beginning. As usual, the stopping criterion in the elimination process is achieving a minimum AIC. In this situation, it must be highlighted that, due to the high threshold required to consider a variable as significant (P-value of 0.005, according to the recommendations by Benjamin et al., 2018), optimal models with a minimum AIC contain certain non-significant variables which may frequently be significant if the more common threshold of 0.05 had been used.

Variables

The average grades weighted by the credits of each course, both for the first year and the whole degree, have been used as dependent variables. Regarding the former, the calculation is simple and requires no adjustments. For the latter, only the grades from students who have finished their studies have been taken into account, reducing significantly the sample size as a consequence of having many students who have not completed their studies yet due to the academic years considered.

When it comes to the independent variables, they include both the admission exam to university, which aggregates the grade from the EvAU exam and the grade from the last two years of high school (EVAU), and the results from the three admission exams carried out by the university

itself (Comillas Pontifical University), that test the students' knowledge in Mathematics (TMathematics), Spanish (TSpanish) and English (TEnglish). These exams are developed by specialized companies specifically for the university and, additionally, their performance is periodically evaluated by an independent audit carried out by the professors at Comillas. The last audit, carried out during the academic year 2018-2019, was lead by one of the authors of this study. The specific choice of these tests is based on the fact that, as mentioned in the introduction, the academic literature identifies mathematical skills and, to a lesser extent, language skills, as good predictors for academic performance at university.

In the same way, other variables have also been included: the student's gender (Gender), as a binary variable that takes value 1 for women and 0 for men; whether the student comes from a high school in Madrid (Madrid), as a binary variable that takes value 1 if the center belongs to Madrid and 0 otherwise; the high school specialty (HSSpecialty), that takes value 1 for science and 0 for social science and humanities; and the interaction of the latter with the average grade in EvAU (Interaction EVAU-HSS). The reason to include this interaction is the existence of certain evidence indicating that the effect of the EvAU grade in academic performance at university is different depending on the high school specialty studied, as mentioned in the introduction.

Results

In what follows, the results for each of the different regressions developed for each degree will be shown, first those for the first year and then for the whole degree. In all cases, the F statistic and its p-value, the adjusted R^2 , the AIC (Akaike Information Criterion) and the highest VIF obtained for all the independent variables are reported.

Results for the first university year

In all the degrees with the highest mathematical content, that is, the ones that include Business Administration with or without a second degree (Table 2), we can observe that the EvAU grade has a positive and significant relation and, in fact, it is the predictor with the highest impact in the model. The grades obtained in the university's own admission mathematics exams have a significant relation for E-3, while the ones

regarding English language are only relevant for E-6 and E-2 (Bilingual Business Administration). Whether the students attended high school in Madrid or not is significant for four out of the five degrees, indicating that those students coming from Madrid get better grades than those coming from elsewhere, except for Bilingual Business. With regards to gender, it seems to have an effect only in Business Administration.

Regarding the high school specialty, we can consider that hypothesis 1 is verified: students coming from the science high school specialty have better grades than their peers coming from social sciences and humanities, since this variable is significant in four of the five degrees². Nevertheless, it is interesting to observe how the interaction between the EvAU grade and the high school specialty is significant and negative for the Business Administration degree. The implications of this effect will be analyzed in the discussion section.

TABLE 2. Results of the regression models for those degrees with more mathematical content, using the average grade of the first year as a dependent variable (in bold significant variables at 99.5%)

	E2 (Business)			E2Bil (Bil. Business)			E3 (Business and Law)			E4 (Int. Business)			E6 (Business and I.R.)		
	Coef.	t	P-value	Coef.	t	P-value	Coef.	t	P-value	Coef.	t	P-value	Coef.	t	P-value
Constant	-0.44	-4.91	1.2E-06	-0.16	-2.13	3.4E-02	-0.43	-7.38	3.2E-13	-0.39	-2.78	5.8E-03	-0.37	-4.26	2.4E-05
Gender	0.19	2.83	4.8E-03												
TMathematics	0.09	2.43	1.5E-02				0.09	3.59	3.5E-04	0.13	2.79	5.6E-03	0.11	2.72	6.8E-03
TSpanish							0.06	2.30	2.1E-02						
TEnglish	-0.07	-1.84	6.7E-02	0.14	3.38	8.4E-04							0.14	3.02	2.7E-03
EvAU	0.62	14.83	< 2E-16	0.56	10.56	< 2E-16	0.66	20.02	< 2E-16	0.51	7.27	3.5E-12	0.58	14.25	< 2E-16
EvAU*2							0.07	2.77	5.8E-03				0.05	1.43	1.5E-01
Madrid	0.33	3.86	1.3E-04				0.47	8.60	< 2E-16	0.37	2.96	3.3E-03	0.32	3.81	1.6E-04
HSSpecialty	0.30	4.35	1.6E-05	0.47	4.44	1.4E-05	0.20	3.66	2.6E-04	0.26	2.72	7.0E-03	0.31	3.70	2.4E-04
InteraccionEvAU-HSS	-0.23	-3.38	7.7E-04				-0.10	-1.97	4.9E-02						
F statistic (p-value)	39.67 (< 2E-16)	43.52 (< 2E-16)	105.9 (< 2E-16)	19.21 (4.86E-14)	49.02 (< 2E-16)										
R2 adjusted	0.322			0.331			0.386			0.317			0.394		
AIC	1492			580.8			2610			734.1			1105		
Maximum VIF	1.609			1.028			1.825			1.26			1.24		

Source: Prepared by the authors

⁽²⁾ Taking into account that the stated hypothesis is associated to a right tailed test, while the individual significance tests shown in the table are two-sided, the hypothesis would also hold were the one-sided test considered, since the corresponding P-value would be half the one provided in the table.

Regarding the degrees with no mathematical content (Table 3), EvAU grades hold a positive and significant relation, and in the case of the Law degree, there is a reinforcing quadratic effect as well. On the other hand, whether students come from high school in Madrid or not is significant in both cases. In the case of the high school specialty, it has no effect in the Law degree, as expected, but in the case of Law and International Relations having studied the science high school specialty has a positive and significant effect. This behavior does not seem to be justified by the content of the degree courses, since in the first year there is only one course related to economics.

TABLE 3. Results of the regression models for those degrees with no mathematical content, using as a dependent variable the average grade of the first year (in bold significant variables at 99.5%)

	E1 (Law)			E5 (Law and I.R.)		
	Coef.	t	P-value	Coef.	t	P-value
Constant	-0.28	-3.78	1.8E-04	-0.15	-1.34	1.8E-01
Gender				-0.26	-2.50	1.3E-02
TMathematics						
TSpanish				0.11	2.29	2.3E-02
TEnglish						
EvAU	0.55	12.71	< 2E-16	0.58	8.91	< 2E-16
EvAU^2	0.11	3.42	7.0E-04			
Madrid	0.30	3.30	1.1E-03	0.48	4.48	1.1E-05
HSSpecialty				0.51	4.78	2.8E-06
InteractionEvAU-HSS						
F statistic (p-value)	67.19 (< 2E-16)	20.77 (< 2E-16)				
R2 adjusted	0.273			0.391		
AIC	1034			689.4		
Maximum VIF	1.102			1.135		

Source: Prepared by the authors

Results for the whole degree

Considering the grades during the whole degree, we find that the EvAU grade (Table 4) is a significant variable across all degrees with

mathematical contents, and has a quadratic effect in two of them, increasing the positive effect for those with higher grades. When it comes to the effect of the science high school specialty we find that, once the whole degree is considered, its impact disappears in all cases but E-2 (Bilingual Business Administration). In other words, as stated in hypothesis 2, the advantage provided by a science high school specialty during the first year disappears when we consider the degree as a whole, with the exception of the aforementioned case.

TABLE 4. Results of the regression models for those degrees with more mathematical content, using as a dependent variable the average grade of the whole degree (in bold significant variables at 99.5%)

	E2 (Business)			E2Bil (Bil. Business)			E3 (Business and Law)			E4 (Int. Business)			E6 (Business and I.R.)		
	Coef.	t	P-value	Coef.	t	P-value	Coef.	t	P-value	Coef.	t	P-value	Coef.	t	P-value
Constant	-0.70	-4.86	1.9E-06	-1.03	-4.85	5.7E-06	-0.48	-6.13	2.4E-09	-0.25	-2.60	1.0E-02	-0.47	-2.23	3.0E-02
Gender	0.39	4.07	5.9E-05				0.18	2.08	3.8E-02						
TMathematics	0.09	1.92	5.5E-02				0.17	4.08	5.6E-05						
TSpanish										0.25	4.03	8.7E-05			
TEnglish	-0.11	-2.20	2.9E-02	0.12	1.46	1.5E-01				0.20	2.96	3.6E-03	0.30	3.00	4.2E-03
EvAU	0.50	8.86	< 2E-16	0.57	5.88	8.3E-08	0.67	13.59	< 2E-16	0.57	8.66	4.5E-15	0.52	4.32	7.2E-05
EvAU*2	0.07	1.72	8.7E-02	0.24	3.43	9.5E-04	0.09	2.42	1.6E-02	0.16	3.21	1.6E-03			
Madrid	0.47	3.74	2.2E-04	0.86	4.44	2.8E-05	0.51	6.02	4.6E-09				0.51	2.25	2.9E-02
HSSpecialty	0.25	2.29	2.2E-02	0.60	2.99	3.7E-03				0.21	1.82	7.0E-02	0.39	1.83	7.3E-02
InteraccionEvAU-HSS				0.29	1.30	2.0E-01									
F statistic (p-value)	18.46 (< 2.2E-16)	16.74 (1.47E-12)	54.63 (< 2.2E-16)	43.98 (< 2.2E-16)	9.621 (7.10E-06)										
R2 adjusted	0.324			0.452			0.41			0.48			0.39		
AIC	807.4			210.1			818.6			377			137.6		
Maximum VIF	1.12			1.779			1.454			1.60			1.11		

Source: Prepared by the authors

With respect to the two degrees with no mathematical content, the results are as expected as well, showing that the high school specialty is not significant neither for Law nor for Law and International Relations (Table 5).

TABLE 5. Results of the regression models for those degrees with no mathematical content, using as a dependent variable the average grade of the whole degree (in bold significant variables at 99.5%)

	E1 (Law)			E5 (law and I.R.)		
	Coef.	t	P-value	Coef.	t	P-value
Constant	-0.34	-3.25	1.4E-03	-0.16	-1.14	2.6E-01
Gender						
TMathematics				0.26	2.59	1.2E-02
TSpanish	0.11	1.56	1.2E-01			
TEnglish						
EvAU	0.46	7.90	1.2E-13	0.50	5.98	1.4E-07
EvAU^2	0.10	2.10	3.7E-02			
Madrid	0.36	2.73	6.8E-03	0.46	2.45	1.7E-02
HSSpecialty	0.38	2.52	1.2E-02			
InteractionEvAU-HSS						
F statistic (p-value)	19.66 (2.98E-16)	22.04 (1.07E-09)				
R2 adjusted	0.225			0.384		
AIC	604.3			154.1		
Maximum VIF	1.179			1.201		

Source: Prepared by the authors

Discussion and conclusions

Regarding control variables, in line with what was found by Beltrán and La Serna (2008) and Tejedor (2003) about the negative effect of changing cities, this paper has found that those students from a high school in Madrid obtain indeed better grades than those who studied elsewhere. This effect happens mostly during the first year (six out of seven degrees), while it only happens in three out of seven degrees once the whole degree is considered. If we focus on the five degrees with more mathematical contents, and considering all academic years, the effect is not relevant in those degrees with a more international focus,

such as E-4 (International Business) and E-6 (Business and International Relations), but it is relevant in the other three cases.

With regards to academic performance and gender, it looks like there are no differences except for Business Administration, where both during the first year and the degree as a whole, women present a higher academic performance. If we focus in the Business Administration degree and we compare our results with those from the literature, we can see that they agree with the results from Mercado and Niño (2012) and Martínez de Ibarreta, Rua, Redondo, Fabra, Nuñez and Martín (2010). Regarding other research, that find this superior performance in certain subjects (Martí-Ballester, 2012; Durán, Maside, Rodeiro and Cantorna, 2016), since our model considers the average grades of all courses, our results can neither confirm nor refute their conclusions. This observation, together with the fact that it does not seem to be a relevant factor in the rest of the degrees, shows that more research on this topic is clearly needed. The purpose of this study was not the analysis of the effect of gender in academic performance in business related degrees, and such variable was added as a control variable; however, the obtained result brings to light that it is a topic that requires attention.

With regards to academic performance before university, the most relevant variable to explain academic performance is, in all cases³, the average EvAU admission grade, both for the first year and the whole degree, in line with previous literature that already highlighted the relevance of this factor (García-Diez, 2000; McKenzie and Schweitzer, 2001; Tejedor, 2003; Garbanzo, 2007; Richardson, Abraham and Bond, 2012). On the other hand, the scores in the mathematics university's admission tests are significant for the double degree in Business and Law. Previous studies such as those by Touron (1984), Beltrán and La Serna (2008) and Barahona (2014) stated that the mathematical background was a relevant predictor for academic performance; however, this was not observed in our study, with the only exception of one degree. When it comes to the English admission exam, it is significant for the first year of E-2 Bilingual and E-6, and for the whole degree of E-4 and E-6. These results, considering the characteristics of the involved degrees, are coherent with what could be expected a priori. The advantage provided

³ The only exception is Bilingual Business, degree in which, when the whole degree is taken into account, the high school province is the most influential variable.

by a good English level in E-2 Bilingual is obvious. The fact that it is also the case in E-4 and E-6, which have an international focus, also seems reasonable. Either way, we can conclude that the average total performance (measured by the average EvAU grade) is more relevant than the specific skills in mathematics, Spanish or English (measured by the individual admission tests at ICADE).

When it comes to the high school specialty, which is the main focus of the paper, we can confirm the first hypothesis: in those degrees with more mathematical contents (E-2, E-2 Bilingual, E-3, E-4 and E-6), the students who chose the science high school specialty have a better academic performance during the first year. Nevertheless, there are two issues that must be considered. On the one hand, in E-4 (International Business), the acceptance threshold is only reached if a one-sided hypothesis test is considered. On the other hand, in the Business Administration degree (E-2), there is an interaction term between the admission grade and the science high school specialty that is significant and negative during the first year. This means that the slope of the EvAU variable for those students from a science high school specialty is smaller, cutting off with the students from social sciences at 1.3. Given that the variables are standardized, this means that the academic performance of students from the science high school specialty is higher provided that the EvAU average grade is less than 8.7; however, for greater EvAU average grades, students from social science and humanities are the ones with a better academic performance⁴.

This is an interesting effect that should be analyzed in future research. So far, we can only think of a possible motivational effect, in the way that students from social sciences and humanities high school specialty usually have a higher vocation regarding that degree. In other words, students from social sciences and humanities with high EvAU grades have a higher motivation than those from science high school specialty, also with such high grades, leading to a higher academic performance. Nevertheless, if this were the case, this effect should also be observed in the rest of degrees; however, this does not happen, and this is the reason why we believe more research is needed to explain this situation. On the other hand, the high school specialty seems to have no impact in the Law

⁴) It must be taken into account that the variable “High School Specialty” is positive and significant and thus, in addition to the slope, the intercept also changes. As a consequence, the cutting point is not the average grade but the EvAU grade 8.7 instead.

degree, which has no quantitative courses, neither in the first year, nor in the whole degree.

When it comes to the second hypothesis, we can also partially confirm it: in those degrees with more mathematical content (E-2, E-2 Bilingual, E-3, E-4 and E-6), students from a science high school specialty show a similar academic performance than those from social sciences and humanities if the whole degree is considered. This hypothesis holds in four of the five degrees, having E-2 Bilingual as the exception.

Finally, with regards to the third hypothesis, it also seems to be partially confirmed: in those degrees with very limited or no mathematical content (E-1 and E-5), high school specialty is irrelevant when it comes to explaining academic performance, both for the first year and the degree as a whole. Here, we also find an exception in the case of the first year of the double degree in Law and International Relations, where having studied a science high school specialty leads to a higher academic performance.

Regarding the limitations of our work, firstly, no explanation has been found for the interaction between the admission exam grade (EvAU) and the science high school specialty being negative and significant in the first year of the Business Administration degree. Given the sample size, 606 students from 6 different cohorts, this effect does not seem to be due to a sample bias, and nor can it be explained by the results from previous research. Secondly, the fact that having studied a science specialty in high school is significant and positive for Law and International Relations during the first year and for Bilingual Business during the whole degree does not agree with the starting hypothesis, and it cannot be easily explained by the existing theories or by analyzing the contents of such degrees. These degrees do not have a higher mathematical load than others considered in the sample and, in fact, in the case of Law and International Relations, it is almost non-existing. Further research is needed in order to dig deeper into the possible causes, maybe through an analysis similar to the one performed in this paper but after classifying the different courses into different typologies. This would provide additional insights regarding whether this effect is due only to certain types of courses, which may have an impact in the average grades. Finally, regarding methodological aspects, the fact that the sample comes from one single university, together with its own particular attributes, limits the external validity of this research. Our conclusions may not be

directly generalizable to the same degrees in other universities, as the demographic and social profile of the students from Comillas Pontifical University is not representative of Spanish university students in general. For this reason, we think that the results of this paper should be verified or refuted by similar studies in other universities.

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References

- Arias, J. J., and Walker, D. M. (2004). Additional evidence on the relationship between class size and student performance. *The Journal of Economic Education*, 35(4), 311-329. doi: <https://doi.org/10.3200/JECE.35.4.311-329>
- Ballard, C. L., and Johnson, M. F. (2004). Basic math skills and performance in an introductory economics class. *The Journal of Economic Education*, 35(1), 3-23. doi: <https://doi.org/10.3200/JECE.35.1.3-23>
- Barahona, P. (2014). Factores determinantes del rendimiento académico de los estudiantes de la Universidad de Atacama. *Estudios pedagógicos (Valdivia)*, 40(1), 25-39. doi: <http://dx.doi.org/10.4067/S0718-07052014000100002>
- Beltrán, A., and La Serna, K. (2008). ¿Qué explica el rendimiento académico en el primer año de estudios universitarios? Un estudio de caso en la Universidad del Pacífico. Documento de discusión, DD/08/09
- Benjamin, D. J., Berger, J. O., Johannesson, M., Nosek, B. A., Wagenmakers, E. J., Berk, R., ... & Cesarini, D. (2018). Redefine statistical significance.

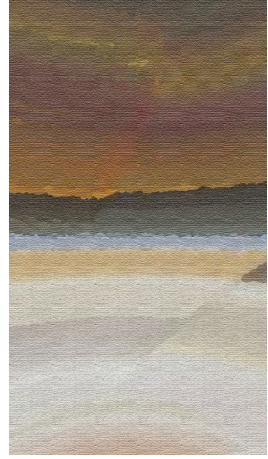
- Nature Human Behaviour*, 2(1), 6-10. doi: <https://doi.org/10.1038/s41562-017-0189-z>
- Borland, M. V., Howsen, R. M., and Trawick, M. W. (2005). An investigation of the effect of class size on student academic achievement. *Education Economics*, 13(1), 73-83. doi: <https://doi.org/10.1080/0964529042000325216>
- Cansino, J. M., Román, R., and Expósito, A. (2018). Does Student Proactivity Guarantee Positive Academic Results? *Education Sciences*, 8(2), 62. doi:<https://doi.org/10.3390/educsci8020062>
- Castellanos, L., González, C., González, A., and Manzano, I. (1998). Las matemáticas empresariales: estudio de los factores determinantes del rendimiento académico. En *VI Jornadas de la Asociación Española de Profesores Universitarios de Matemáticas para la Economía and la Empresa (ASEPUMA)*. Recuperado de <http://www.asepuma.org/VI/vi.htm>
- Castro, R. B., Fernández, P., and Martín, V (2015). Análisis de la tasa de rendimiento de la educación superior en España. *Revista de educación*, 370, 96-120. doi: 10.4438/1988-592X-RE-2015-370-299
- Conijn, R., Snijders, C., Kleingeld, A., and Matzat, U. (2016). Predicting student performance from LMS data: A comparison of 17 blended courses using Moodle LMS. *IEEE Transactions on Learning Technologies*, 10(1), 17-29. doi: <https://doi.org/10.1109/TLT.2016.2616312>
- Credé, M., Roch, S. G., and Kieszczynka, U. M. (2010). Class attendance in college: A meta-analytic review of the relationship of class attendance with grades and student characteristics. *Review of Educational Research*, 80(2), 272-295. doi: <https://doi.org/10.3102/0034654310362998>
- Dávila, N., García-Artiles, M., Pérez-Sánchez, J. M., and Gómez-Déniz, E. (2015). *Un modelo de regresión logística asimétrico que puede explicar la probabilidad de éxito en el rendimiento académico*. *Revista de Investigación Educativa*, 33(1), 27-45. doi: <https://doi.org/10.6018/rie.33.1.178481>
- Di Gresia, L. M., Porto, A., and Ripani, L. (2002). *Rendimiento de los estudiantes de las universidades públicas argentinas*. Documentos de Trabajo. Recuperado de <http://www.depeco.econo.unlp.edu.ar/wp/wp-content/uploads/2017/05/doc45.pdf>
- Didia, D., and Hasnat, B. (1998). The determinants of performance in the university introductory finance course. *Financial Practice and Education*, 8, 102-107.

- Durán, P., Maside, J. M., Rodeiro, D., and Cantorna, S. (2016). Determinantes del rendimiento académico del alumnado de una asignatura de Contabilidad: el caso de la USC. *REDU: Revista de Docencia Universitaria*, 14(1), 151-178.
- Escudero, T. E. (1987). Buscando una mejor selección de universitarios. *Revista de educación*, (283), 249-283.
- Ettxeberria, P., Alberdi, E., Eguia, I., and García, M. (2017). Análisis del rendimiento académico en relación al perfil de ingreso del alumnado e identificación de carencias formativas en materias básicas de dos grados de Ingeniería. *Formación universitaria*, 10(4), 67-74.
- Fenollar, P., Román, S., and Cuestas, P. J. (2007). University students' academic performance: An integrative conceptual framework and empirical analysis. *British Journal of Educational Psychology*, 77(4), 873-891. doi: <https://doi.org/10.1348/000709907X189118>
- Fox J., and Weisberg, S. (2019). *An {R} Companion to Applied Regression, Third Edition*. Thousand Oaks CA: Sage. URL: <https://socialsciences.mcmaster.ca/jfox/Books/Companion/>
- Garbanzo, G. M. (2007). Factores asociados al rendimiento académico en estudiantes universitarios, una reflexión desde la calidad de la educación superior pública. *Revista educación*, 31(1), 43-63. doi: <http://dx.doi.org/10.15517/REVEDU.V31I1.1252>
- García-Diez, M. (2000). The effects of curriculum reform on economics education in a Spanish college. *Education Economics*, 8(1), 5-15. doi: <https://doi.org/10.1080/096452900110274>
- García-Merino, J. D., Urionabarrenetxea, S., and Bañales-Mallo, A. (2016). Cambios en metodologías docentes and de evaluación:¿ Mejoran el rendimiento del alumnado universitario?. *Revista electrónica de investigación educativa*, 18(3), 1-18.
- Gašević, D., Dawson, S., Rogers, T., and Gasevic, D. (2016). Learning analytics should not promote one size fits all: The effects of instructional conditions in predicting academic success. *The Internet and Higher Education*, 28, 68-84. doi: <https://doi.org/10.1016/j.iheduc.2015.10.002>
- Girón, L., and González, D. E. (2005). Determinantes del rendimiento académico and la deserción estudiantil, en el programa de economía de la Pontificia Universidad Javeriana de Cali1. *Revista Economía, Gestión and Desarrollo*, 3, 173-201.

- Harbury, C. D., and Szreter, R. (1968). The influence upon university performance of the study of economics at school. *Journal of the Royal Statistical Society: Series A (General)*, 131(3), 384-409.
- Martí-Ballester, C. P. (2012). Analysis of the factors that influence the academic performance of financial accounting students using binary choice models. *Review of Business Management*, 14(45), 379-399. <https://doi.org/10.7819/rbgn.v14i45.1080>
- Martí-Ballester, C. P. (2019). Factors that Influence Academic Performance: Analyzing Gender Differences in Accounting Students. *Revista Educación*, 43(2), 31-48. <http://dx.doi.org/10.15517/revedu.v43i2.28916>
- Martínez de Ibarreta, C., Rúa, A., Redondo, R., Fabra, M. E., Nuñez, A., and Martín, M. J. (2010). Influencia del nivel educativo de los padres en el rendimiento académico de los estudiantes de la ADE. Un enfoque de género. En M. J. Mancebón Torrubia, D. Pérez Ximénez de Embún, J. M. Gómez Sancho and G. Giménez Esteban (Coords.), *Investigaciones de Economía de la Educación Número 5* (1273-1296). AEDE, Asociación de Economía de la Educación.
- McKenzie, K. and Schweitzer, R. (2001). Who succeeds at university? Factors predicting academic performance in first year Australian university students. *Higher education research & development*, 20(1), 21-33. doi: <https://doi.org/10.1080/07924360120043621>
- Mercado, T. M., and Niño, C. G. (2012). Factores académicos and personales asociados al rendimiento académico de los estudiantes del programa de administración de empresas de la Universidad de Sucre. *Zona próxima*, 16, 54-67.
- Montero, E., Villalobos, J. and Valverde, A. (2007). Factores institucionales, pedagógicos, psicosociales and sociodemográficos asociados al rendimiento académico en la Universidad de Costa Rica: Un análisis multinivel. *RELIEVE-Revista Electrónica de Investigación and Evaluación Educativa*, 13(2), 215-234.
- Muthukrishnan, S. M., Govindasamy, M. K., and Mustapha, M. N. (2017). Systematic mapping review on student's performance analysis using big data predictive model. *Journal of Fundamental and Applied Sciences*, 9(4S), 730-758.
- R Core Team (2013). *R: A language and environment for statistical computing*. R Foundation for Statistical Computing, Vienna, Austria. URL: <http://www.R-project.org/>

- Richardson, M., Abraham, C. and Bond, R. (2012). Psychological correlates of university students' academic performance: A systematic review and meta-analysis. *Psychological bulletin*, 138(2), 353. doi: <http://dx.doi.org/10.1037/a0026838>
- Schneider, M. and Preckel, F. (2017). Variables associated with achievement in higher education: A systematic review of meta-analyses. *Psychological bulletin*, 143(6), 565-600. doi: <http://dx.doi.org/10.1037/bul0000098>
- Simón, H.J., Casado, J.M., Castejón, J.L., Driha, O.M. and Martínez, L. (2018). Efecto del tipo de alojamiento and el tiempo de desplazamiento sobre el rendimiento académico del alumnado universitario. En *Memorias del Programa de Redes-I3CE de calidad, innovación e investigación en docencia universitaria: Convocatoria 2017-18* (1849-1855 pp.). Instituto de Ciencias de la Educación.
- Tejedor, F. J. (2003). Poder explicativo de algunos determinantes del rendimiento en los estudios universitarios. *Revista española de pedagogía*, 224, 5-32.
- Lang, D. T. and CRAN team (2019). *Package 'RCurl'*. URL <http://www.omegahat.net/RCurl>
- Thakar, P., Mehta, A. and Manisha (2015). Performance Analysis and Prediction in Educational Data Mining: A Research Travelogue. *International Journal of Computer Applications*, 110(15), 60-68.
- Touron, J. (1984). *Factores del rendimiento académico en la universidad*. Pamplona: Ediciones Universidad de Navarra S.A.
- Tourón, J. (1985). La predicción del rendimiento académico: procedimientos, resultados e implicaciones. *Revista Española de Pedagogía*, 43(169-170), 473-496
- Widyahastuti, F., and Tjhin, V. U. (2018). Performance Prediction in Online Discussion Forum: state-of-the-art and comparative analysis. *Procedia Computer Science*, 135, 302-314. doi: <https://doi.org/10.1016/j.procs.2018.08.178>

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Reviews

Santos Rego, M.A., Valle Arias, A., y Lorenzo Moledo, M. (Eds.). (2019). *Éxito Educativo. Claves de construcción y desarrollo*. Valencia: Tirant Humanidades. 318 páginas. ISBN 978-84-17508-80-7.

This book, which is structured through three main parts, tries to give answer to all those components of educational success, addressing one of the topics that has gained more prominence recently.

The current state of educational inequality is still a faithful reflection of the social situation experienced in many European countries, where elements such as place or family of origin, as well as resources, among other factors, play a key role in academic performance and school setting.

In this sense, the authors introduce educational success not only from a classical point of view, that is associated with school achievement, but also delves into the broadest sense of the term and determine the variables that make up success through education. In this way, this work tries to broaden the horizons in all those aspects that already have an influence the educational future of the new generations.

In the initial chapter, the new approaches to motivation are analyzed as a dynamic construct understood from a socio-cognitive perspective, highlighting the importance of the role of goal orientation and emphasizing control strategies, the usefulness of tasks and the beliefs and interests of the students. In the second one of the chapters, a tour is made about the positive and negative arguments of the prescription of school duties, as well as the variables and agents involved in their performance, ending with a section of good practices.

Chapters three and four are dedicated to the identification of those differential factors that students possess when performance is lower than expected, also establishing strategies and techniques for studying and improving learning, among which is the supervision of understanding, the distribution of time or the search for help by students.

As for the fifth chapter, which closes this first part of the work, it reflects on the relationships between emotions and academic performance, claiming for the inclusion of emotional education experiences in all academic stages as part of a permanent process.

Getting into the second part of the book, chapter six deals with the active methodologies that can be carried out in schools, highlighting their use in the promotion of models that develop values such as commitment, autonomy or solidarity. On the other hand, in chapter seven, the contributions of neuroeducation to the educational process and the main challenges of the current school are collected.

The eighth chapter includes the integration of emerging technologies in the teaching-learning processes, the new training scenarios that are generated and the didactic methodologies that digital environments allow to implement. Regarding chapter nine, with which the equator of the work is reached, it is dedicated to the importance of the work of orientation throughout life and its main areas of action, especially affecting the transition stages.

The authors configure the last section of the work with five chapters that revolve around the intervention located. Specifically, in chapter ten they talk about the relationship between community, family and school and the implications that these synergies produce in school adjustment and performance. Stressing, in addition, the importance of family communication and participation with the school and the role of the “social ecosystem” and feelings of belonging.

Chapter eleven is dedicated to the educational management of cultural diversity, delving into the promotion of a pedagogy of success in an inclusive key and seeking its meaning in the contexts of ethnic-cultural diversity currently present in Europe. The twelfth chapter is dedicated to the employability of vulnerable groups, making an approach to socio-occupational and educational policies and programs in Spain.

In relation to chapter thirteen, it relates to the relationship between school success and intelligence in its various expressions and measurement models. Finally, the fourteenth chapter is the one that closes the book with a detailed description of the evaluation and intervention of the mathematical competences from a psycho-evolutionary perspective.

As you can see throughout the book, it is complex to be part of a deep debate about what constitutes educational success without understanding it as a construct that escapes school achievement and of which a multitude

of elements are part. Undoubtedly, works such as the one described here provide light on an issue that inevitably requires, more than ever, consistent and evidence-based foundations. In that sense, throughout the same, numerous references to active, inclusive and flexible methodologies that respond to the current demands arising from the cultural, family and development diversity of the individual have been rescued.

Definitely, we are faced with a well-articulated work where the authors highlight the importance of the interrelation between students, teachers, families, schools, and of course, the community. They also intend to focus not only on the agents of the educational community, but also on education policies and administration, a cornerstone where programs based on a large consensus must lie. All this, without making idealistic concessions and providing light on effective methodologies and interventions that improve the abilities, skills and competences of the students and mitigate the frequent banalization of what is understood by “educational success.”

Alba-Elena Martínez-Santos

Santos Rego, M.A., Valle Arias, A., y Lorenzo Moledo, M. (Eds.). (2019). *Éxito Educativo. Claves de construcción y desarrollo*. Valencia: Tirant Humanidades. 318 páginas. ISBN 978-84-17508-80-7.

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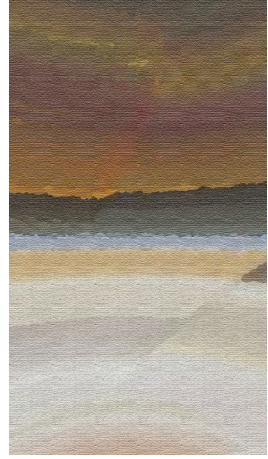
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In relation to chapter thirteen, it relates to the relationship between school success and intelligence in its various expressions and measurement models. Finally, the fourteenth chapter is the one that closes the book with a detailed description of the evaluation and intervention of the mathematical competences from a psycho-evolutionary perspective.

As you can see throughout the book, it is complex to be part of a deep debate about what constitutes educational success without understanding it as a construct that escapes school achievement and of which a multitude of elements are part. Undoubtedly, works such as the one described here provide light on an issue that inevitably requires, more than ever, consistent and evidence-based foundations. In that sense, throughout the same, numerous references to active, inclusive and flexible methodologies that respond to the current demands arising from the cultural, family and development diversity of the individual have been rescued.

Definitely, we are faced with a well-articulated work where the authors highlight the importance of the interrelation between students, teachers, families, schools, and of course, the community. They also intend to focus not only on the agents of the educational community, but also on education policies and administration, a cornerstone where programs based on a large consensus must lie. All this, without making idealistic concessions and providing light on effective methodologies and interventions that improve the abilities, skills and competences of the students and mitigate the frequent banalization of what is understood by “educational success.”

Alba-Elena Martínez-Santos



Annual report 2019

Annual report 2019. *Revista de Educación*

José Luis Gaviria

Editor Jefe

This report summarizes the editorial activities of the *Revista de Educación* in 2019. It shows the statistical data of the articles received and published, as well as the main advances in the edition of the journal.

In this issue, we can find the list of reviewers who have evaluated articles for this period as well as the list of authors who have published articles in the journal in 2019.

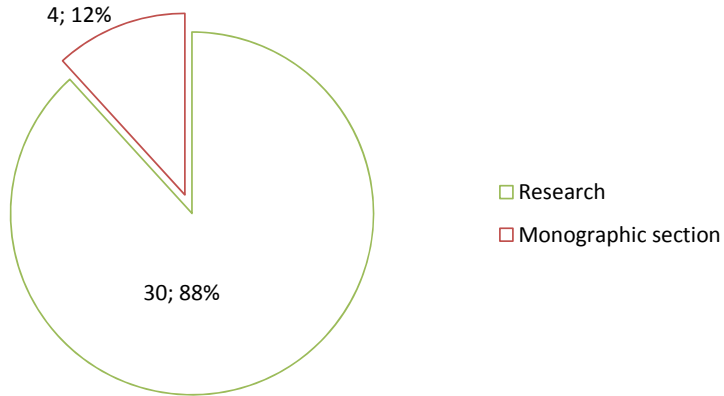
Articles received and published in 2019

Articles received by sections

The Editorial Office of our journal received a total of 389 articles throughout 2019, representing a decrease of about 18% over 2018. In figure I is shown the distribution of articles by section.

The research section still gets the largest number of originals (88%)

FIGURE I. Total number of articles received in 2019 by sections

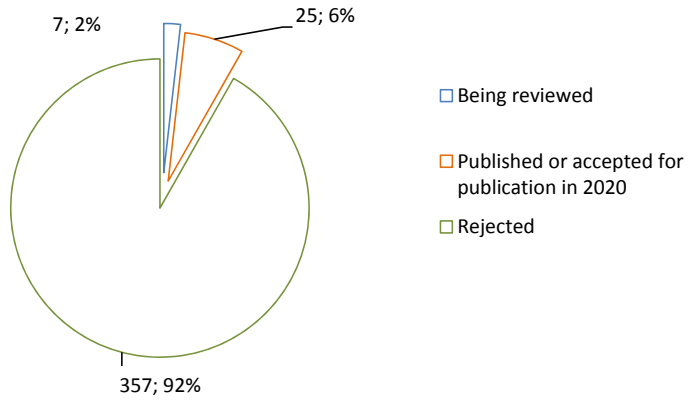


Results of the external peer-reviewed articles: Accepted and rejected articles in 2019

Of all the research articles received by the Editor, 92 % were rejected or discarded.

Of all the research papers received in 2019, 7 are still under review, 357 have been disregarded or rejected, and 25 have been published or are accepted for publication in 2020. The rest of the articles published in 2019 were not received in 2019 and therefore were not counted in this computation.

FIGURE II. Progress of the articles received in 2018



In 2019 the journal published a total of 34 articles.

The following figure shows the distribution of articles published in the different sections by year (2018-2019).

FIGURE III. Comparison of published articles by section (2018-2019)

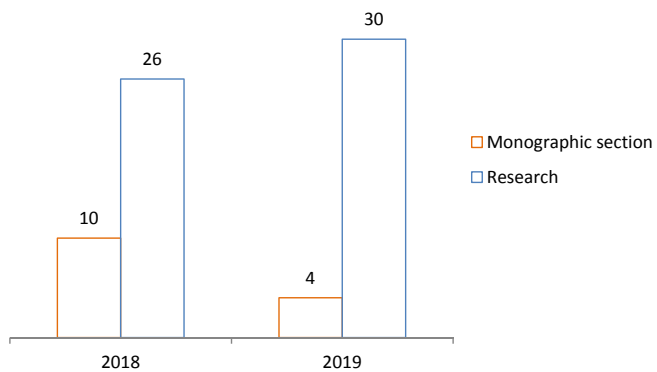
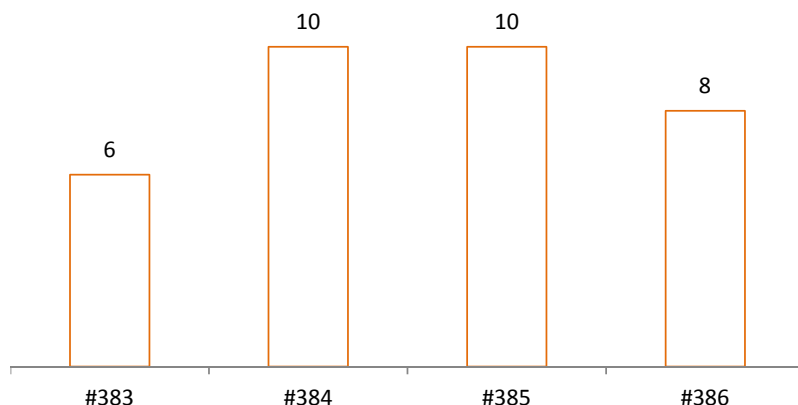


Figure IV shows the distribution of all articles published in 2019 by issue.

FIGURE IV. Articles published in each issue of the journal in 2019



The editorial policy of the journal has as a priority the publication of articles of only the highest scientific quality and the utmost general interest. This implies a reduced number of original articles published with regards to previous periods.

Publishing process: Management, revision and publication of articles

Average time between article reception and its final publication

Figure V shows the average time, in days elapsed from reception of a paper to its final publication.

Time elapsed between the reception of an original and its publication has reduced along 2019. That time depends, in general terms, on the number of articles received and, in particular, on the diligence of external reviewers.

This reduction is a primary objective of our publication, for the benefit of our journal and for the authors' benefit too.

The shorter the time between the ending of a research and its availability to the community, the better for that community and for the authors.

As for the rejected articles, it is for the best interest of the authors to know such information as soon as possible so that they can make the necessary modifications, or to find a more suitable publication mean.

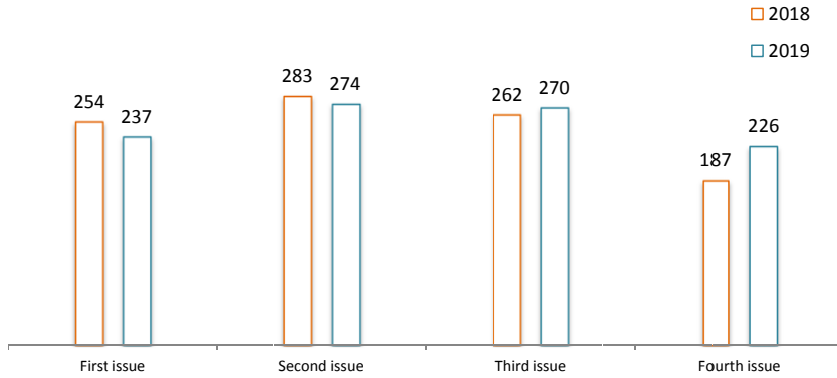
For that reason, *Revista de Educación* is making an effort to reduce to a minimum the processing time of articles discarded in the first review. This way the authors can look for alternatives for their manuscripts while the pressure over the reviewers of the journal is minimized, being able then to focus on articles that passed the first round.

With this objective in mind, the journal has published a list of categories of works that as a general rule, and but for cases whose exceptionality the editorial board will consider, *Revista de Educación* will not publish:

- Summaries of literature on a given topic
- Summaries of academic papers
- Instrument validation studies
- Evaluations of particular intervention programs
- Opinion or attitude survey results
- Reports on didactic innovations at local level
- Scientific divulgation works
- Opinion articles
- Studies in which the sample used and the method of its selection, the instruments or their technical characteristics are not clearly specified
- Works based on small or incidental samples, such as groups of students from a single school or University with little possibility of generalization

In this sense, if a work has recently been published on a given subject, it is unlikely that the same topic will be addressed again, except that the new article supposes a very relevant contribution.

FIGURE V. Average time between reception and publication of related issues (2018-2019).



2019 Revision statistics

FIGURE VI. Average time in calendar days to respond to the request for review (2019)

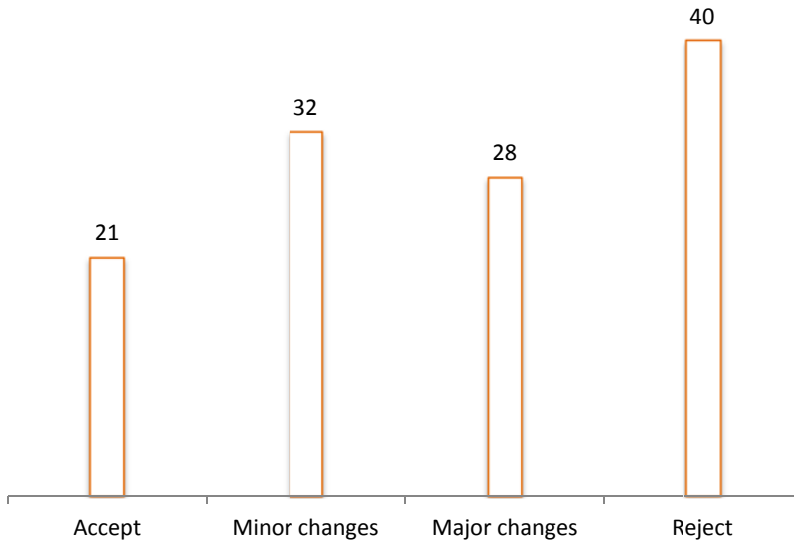
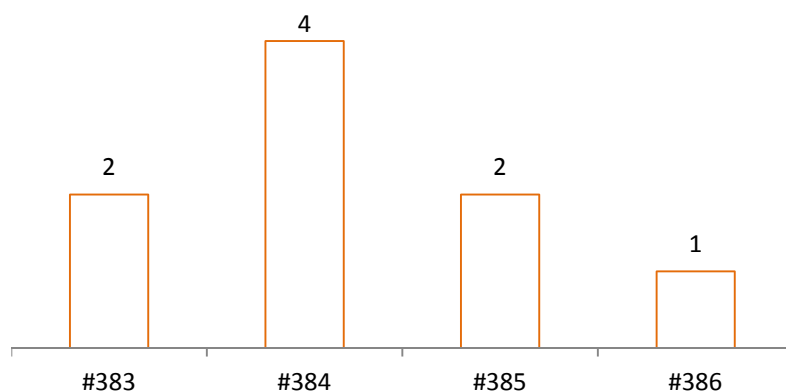


Figure VI shows that, as an average, reviewers met the term of the requested review. These are average values, implying that in some cases the process can take a significantly a longer or shorter time. As can be seen, it is precisely in the case of the rejected articles when the time involved is longer.

Dissemination of relevant works in the field of education

In 2019, 9 book reviews were published. Figure VII shows the distribution of published reviews by issue.

FIGURE VII. Books reviewed and books received in every issue published in 2019



Editorial strategy and results

Along 2019 the process initiated in 2005 has continued. This process has the objective of aligning *Revista de Educación* with the most demanding quality indicators for scientific journals as well as improving its impact factor, particularly in the most prestigious international databases.

Revista de Educación appears in the following sources of bibliographic documentation:

National Databases

- RESH (Revistas Españolas de Ciencias Sociales y Humanas)
- BEG (GENCAT)
- ISOC
- PSICODOC
- DIALNET
- REDINED (Red de Bases de Datos de Información Educativa)

International Databases

- Social Sciences Citation Index (SSCI)
- Social Scisearch®
- Journal Citation Reports/Social Sciences Edition
- SCOPUS (Elsevier B.V.)

- European Reference Index for the Humanities (ERIH)
- Ulrich's Periodicals Index Directory
- LATINDEX (Iberoamericana)
- Sociological Abstracts (CSA Illumina)
- PIO (Periodical Index Online, Reino Unido)
- IRESIE (México)
- ICIST (Canadá)
- HEDBIB (UNESCO-Higher Education Bibliography)
- SWETSNET (Holanda)

Platforms of journal evaluation

- SCImago Journal & Country Rank (SJR)
- CARHUS Plus+
- Matriu d'Informació per a l'Avaluació de Revistes (MIAR)
- Clasificación Integrada de Revistas Científicas (CIRC)
- Difusión y Calidad Editorial de las Revistas Españolas de Humanidades y Ciencias Sociales y Jurídicas (DICE)

National Catalogues

- Consejo Superior de Investigaciones Científicas (CSIC-ISOC)
- Red de Bibliotecas Universitarias (REBIUN)
- Centro Nacional de Innovación e Investigación Educativa (Ministerio de Educación, Cultura y Deporte)
- Catálogo Colectivo de Publicaciones Periódicas en Bibliotecas Españolas (Ministerio de Educación)

International catalogues

- WorldCat (USA)
- Online Computer Library Center (USA)
- Library of Congress (LC)
- The British Library Current Serials Received
- King's College London
- Catalogue Collectif de France (CCFr)
- Centro de Recursos Documentales e Informáticos de la Organización de Estados Iberoamericanos (OEI)
- COPAC, National, Academic and Specialist Library Catalogue (Reino Unido)
- SUDOC, Catalogue du Système Universitaire de Documentation (Francia)
- ZDB, Zeitschriftendatenbank (Alemania)

Clarivate Analytics published, in Jun 2019, the 2018 impact factor of journals indexed in the Social Sciences Citation Index (SSCI).

Revista de Educación has an impact factor of 0.310 in JCR, occupying the position 234 of 243 in the set of journals belonging to the subject category Education & Educational Research. This indicator is based on articles published in 2017 and 2016.

Comparisons with other journals on yearly basis show us a great deal of variability. That is why our goal is to keep a stable editorial line assuring a good position of the journal with regards to the consideration of the educational and scholarly community it serves.

Further information on Journal Citation Reports and the impact factor can be found at: www.accesowok.fecyt.es/jcr/

Revista de Educación is published only in electronic format, although there is an option to receive a printed version if expressly requested of the Subdirección General de Documentación y Publicaciones del Ministerio de Educación, Cultura y Deporte, which has established a printing service on demand. This same option serves subscriptions (individual and institutional), sales, and exchanges with other prestigious national and international educational journals which are included in the Education Library.

Acknowledgements

We cannot conclude this report without expressing our recognition and appreciation to all those who make *Revista de Educación* possible. From authors who show their appreciation by sending us their originals, to reviewers who selflessly and objectively evaluate each paper, to all the staff working for *Revista de Educación* who make the publication physically possible. With the help of all of them, *Revista de Educación* will endure in its effort to provide the best service to education and to the educational community, by allowing the fluid and vivid exchange of the results of the best scientific research in this field.

Revista de Educación is a scientific publication of the Spanish Ministerio de Educación y Formación Profesional. Founded in 1940, with the title '*Revista de Educación*' since 1952, it has been an exceptional witness of the evolution of Education in the last decades, as well as a regarded channel for the diffusion of the advances in Research and Innovation in the field of Education from a national and international perspective. *Revista de Educación* is published by the Subdirección General de Atención al Ciudadano, Documentación y Publicaciones, and is at present attached to the Instituto Nacional de Evaluación Educativa de la Dirección General de Evaluación y Cooperación Territorial.



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