

# revista de **EDUCACIÓN**

Nº 411 JANUARY-MARCH 2026

# Compulsory Education: An Open Debate



GOBIERNO  
DE ESPAÑA

MINISTERIO  
DE EDUCACIÓN, FORMACIÓN PROFESIONAL  
Y DEPORTES





**revista de**  
**EDUCACIÓN**

**Nº 411. January-March 2026**



Nº 411. January-March 2026

**Quarterly journal**

**Start date: 1952**



**MINISTERIO DE EDUCACIÓN, FORMACIÓN PROFESIONAL Y DEPORTES**  
**SECRETARÍA DE ESTADO DE EDUCACIÓN**

Instituto Nacional de Evaluación Educativa  
Paseo del Prado, 28, 4.<sup>a</sup> planta  
28014 Madrid  
España

Published by  
© SECRETARÍA GENERAL TÉCNICA  
Subdirección General de Atención al Ciudadano, Documentación y Publicaciones

Ministry Publications Catalogue: <https://www.libreria.educacion.gob.es/>  
Catalogue of official publications of the General State Administration: <https://cpage.mpr.gob.es/>

Edition: 2026  
NIPO pdf: 164-24-065-X  
NIPO ibd: 164-24-064-4  
NIPO html: 164-24-066-5  
ISSN Online: 3045-8595  
ISSN Print: 3045-8587  
Legal Deposit: M-26966-2023  
Cover design: Iris Bermejo Rodríguez.  
Layout: Advantia Comunicación Gráfica S.A.

## BOARD OF DIRECTORS

### PRESIDENCY

Abelardo de la Rosa  
Secretario de Estado de Educación

Esther Monterrubio Ariznabarreta  
Secretaria General de Formación Profesional

### MEMBERS

Santiago Antonio Roura Gómez  
Subsecretario de Educación, Formación Profesional y Deportes

Mónica Domínguez García  
Directora General de Evaluación y Cooperación Territorial

Carmen Tovar Sánchez  
Directora del Instituto Nacional de Evaluación Educativa

Clementa López Fernández  
Subdirectora General de Atención al Ciudadano,  
Documentación y Publicaciones

Lucio Calleja Bachiller  
Subdirector General de Cooperación Territorial e Innovación  
Educativa

Helena Ramos García  
Subdirectora General de Ordenación Académica

## EDITORIAL BOARD

### DIRECTOR

Carmen Tovar Sánchez

### EDITOR-IN-CHIEF

José Luis Gaviria Soto

### DEPUTY EDITOR

David Reyero García

### MEMBERS

Antonio Cabrales Goitia (University College London);  
Caterina Casalmiglia (Universitat Autònoma de Barcelona);  
Antonio Lafuente García (Consejo Superior de Investigaciones  
Científicas); Leoncio López-Ocón Cabrera, (Consejo Superior  
de Investigaciones Científicas); Carlos Marcelo García  
(Universidad de Sevilla); Miquel Martínez Martín (Universitat  
de Barcelona); Francisco Michavila Pitarch; (Universidad  
Politécnica de Madrid); Juan Manuel Moreno Olmedilla  
(Banco Mundial); Clara Eugenia Núñez (Universidad Nacional  
de Educación a Distancia); Lucrecia Santibáñez (Claremont  
Graduate University); Denise Vaillant (Universidad ORT,  
Uruguay); Pablo Zoido (Banco Interamericano de Desarrollo).

## EDITORIAL TEAM

**Editor-in-Chief:** Julio López Sevilla

**Contributors:** Ruth Martín Escanilla, Alberto Díaz-  
Roncero Canales, Jasmine Blasco Yurevich and Marta  
Carrera González

## SCIENTIFIC ADVISORS

### International

Aaron Benavot (State University of New York, SUNY-Albany); Abdeljalil Akkari (Universidad de Ginebra); Mark Bray (University of Hong Kong); José Joaquín Brunner (Universidad Diego Portales, Chile); Dirk Hastedt (Executive Director, International Association for the Evaluation of Educational Achievement, IEA); Andreas Schleicher (Director, Directorate for Education and Skills, OCDE).

### National

Teresa Aguado Odina (Universidad Nacional de Educación a Distancia); Margarita Bartolomé (Universitat de Barcelona); Antonio Bolívar (Universidad de Granada); Josefina Cambra Giné (Colegio de Doctores y Licenciados); Anna Camps i Mundó (Universitat Autònoma de Barcelona); César Coll Salvador (Universitat de Barcelona); Agustín Dosil Maceira (Universidad LiberQuaré); Gerardo Echeita Sarriónandia (Universidad Autónoma de Madrid); Juan Manuel Escudero Muñoz (Universidad de Murcia); Mariano Fernández Enguita (Universidad Complutense de Madrid); Joaquín Gairín Sallán (Universitat Autònoma de Barcelona); José Luis García Garrido (Universidad Nacional de Educación a Distancia); Daniel Gil Pérez (Universitat. de València); Fuensanta Hernández Pina (Universidad de Murcia); Carmen Labrador Herraiz (Universidad Complutense de Madrid); Miguel López Melero (Universidad de Málaga); Elena Martín Ortega (Universidad Autónoma de Madrid); Rosario Martínez Arias (Universidad Complutense de Madrid); Inés Miret (Neturity S.L., Madrid); Juan Ignacio Pozo (Universidad Autónoma de Madrid); Joaquim Prats Cuevas (Universitat de Barcelona); Manuel de Puelles (Universidad Nacional de Educación a Distancia); Tomás Recio Muñiz (Universidad de Cantabria); Luis Rico Romero (Universidad de Granada); Juana M.ª Sancho Gil (Universitat de Barcelona); Mercedes Vico Montelola (Universidad de Málaga); Antonio Viñao Frago (Universidad de Murcia); Jesús García Laborda (Universidad de Alcalá).



# Index

## Monographic section

<i>Prats, E., Alonso-Sainz, T. COMPULSORY EDUCATION: AN OPEN DEBATE</i>	1
<i>Fontán de Bedout, L., Ortega González, E. and Sánchez García, B. ¿ANOTHER BRICK IN THE WALL? THE EXTENSION OF COMPULSORY EDUCATION IN THE CONTEMPORARY EDUCATION DEBATE</i>	7
<i>Álvarez-Álvarez C., Triana-Teherán E. POLICY RESEARCH ON THE EXPANSION OF COMPULSORY EDUCATION: A SYSTEMATIC REVIEW (2015-2024)</i>	49
<i>Sánchez, P. EDUCATION COUNTER-REFORM: CRITICAL REVIEW OR BACKTRACKING?</i>	77
<i>Prieto Egido, M., Fernández González, N. y Villamor P. THE (MANUFACTURED?) PEDAGOGICAL DEBATE BEHIND COMPULSORY SECONDARY EDUCATION</i>	103
<i>Rivas, K and Caldúch I. TEACHER EDUCATION IN RESPONSE TO THE EXPANSION OF COMPULSORY SCHOOLING: REFLECTIONS FROM THE AUTONOMOUS COMMUNITY OF CATALONIA</i>	129
<i>Egea A, Paredes. A. READING CULTURE IN COMPULSORY EDUCATION: BETWEEN INSTITUTIONAL TRANSMISSION AND VITAL MEANING</i>	153

<i>Del Barro, C. SCOPE OF COMPULSORY SCHOOLING IN BUENOS AIRES CITY (ARGENTINA, 1880-1916).</i>	181
<i>Prats, E., Alonso-Sainz, T. THE DEBATE ON COMPULSORY EDUCATION: BETWEEN POLITICS AND PEDAGOGY</i>	205

## Research section

<i>Mayor-Alonso, E., Vidal, J., Rodríguez-Esteban, A.</i>	229
<i>EVALUATING THE RESPONSE QUALITY OF LLM-DRIVEN UNIVERSITY GUIDANCE APPLICATIONS</i>	
<i>Martín-Ruiz, I., Herrera-Gallego, A., Wallace-Ruiz, A.</i>	255
<i>REPETITION AND EXTERNALIZING SOCIO-EMOTIONAL CONSEQUENCES ACCORDING TO GENDER IN COMPULSORY SECONDARY EDUCATION</i>	
<i>De Sixte, R., Ramos, R., Jáñez, A., Sevilla, M.</i> <i>SELF- REGULATION IN MATHEMATICS: DIFFERENT STRATEGIES FOR DIFFERENT LEVELS OF ACHIEVEMENT</i>	281
<i>Clavel, J.G., García F.J., Sanz, L.</i> <i>WHAT HAPPENED WITH PISA 2018 IN SPAIN? AN EXPLANATION BASED ON RESPONSE TIMES TO ITEMS</i>	311
<i>Demir, T., Çüm, S</i> <i>RUBRIC-BASED ASSESSMENT OF NARRATIVE TEXTS VIA HUMAN-AI COLLABORATION: A SPECIALIZED GPT MODEL APPROACH</i>	339
<b>Reviews</b>	373





## Monographic section



# **Compulsory Education: An Open Debate**

## **La educación obligatoria: un debate abierto**

**Enric Prats**

<https://orcid.org/0000-0002-6967-1924>

*University of Barcelona*

**Tania Alonso-Sainz**

<https://orcid.org/0000-0002-2069-9432>

*Complutense University of Madrid*

The 2023 report prepared by the Spanish State School Council included, among its proposals for improving education, the need for the educational community to debate the extension of compulsory education and training up to the age of 18. Over the past few decades, there has been a trend toward expanding compulsory schooling beyond its current boundaries—before the age of six and after sixteen, even from three to nineteen in some cases. Such measures have been progressively implemented in several neighboring countries, often independently of other collateral reforms.

The arguments in favor are both pragmatic—aimed at reducing early school leaving—and pedagogical, linked to the need to ensure comprehensive schooling over an extended developmental period to guarantee the right to education. Lifelong learning, reform of the current post-compulsory and pre-higher education offer, employability and vocational training, the very function of the state school apparatus, and even the meaning of education

itself and the roles of professionals across current educational stages are all questioned by a debate of this magnitude.

This monograph aims to respond to, and generate new questions from, the following issues:

- What reasons have historically and comparatively justified the progressive extensions of compulsory schooling?
- What results have these extensions yielded in terms of improved educational quality, inclusion, reduced dropout and disengagement, etc.?
- On what arguments are both the defense and the opposition to compulsory schooling based?
- What robust alternatives to compulsory education can still guarantee the right to education?
- What gaps within public systems hinder the assurance of quality education?
- What pedagogical, social, cultural, and even economic or labor implications are associated with extending compulsory education from ages 4 to 18–19?
- How do structural reforms to the educational stages affect other areas—such as curriculum, organization and management, academic and career guidance, and the role and training of teachers and other education professionals? Does this influence the comprehensiveness of contents and objectives, or does it open the door to curricular diversification?

When this monograph, “*Compulsory Education: An Open Debate*,” was conceived, our intention was to give space to voices that could demonstrate the inherent complexity of this issue.

As a result, the collection of works presented here addresses the multiple dimensions of extending compulsory schooling—examining its historical justifications, its effects on quality and equity, the structural challenges it poses, and the ideological and pedagogical debates it sparks, particularly in the Spanish context.

The issue opens with Ortega, Fontán, and Sánchez, who present a systematic review of international literature on the implications of expanding compulsory education. Their conclusion is that the effects are mixed and

often fail to meet initial expectations. The review categorizes the impact into four key dimensions: (1) Educational: Improvements in access and training, though sometimes accompanied by a decline in level, quality, and academic rigor. (2) Sociopolitical: While the expansion of compulsory schooling does not necessarily ensure effective inclusion or greater social mobility, it does contribute to sociocultural equality. (3) Economic: It supports growth through increased human capital, though it raises concerns about financial sustainability. (4) Personal: It can foster educational benefits and better decision-making but may also lead to school fatigue, demotivation, or rejection of compulsory schooling among certain students. In conclusion, the authors affirm that expansion alone does not guarantee improvement; its effectiveness depends on complementary policies that ensure resources, teaching quality, and inclusive pedagogical strategies.

Álvarez Álvarez presents a study focusing on the challenges and impacts of policies extending compulsory education across different stages (Early Childhood, Primary, and Secondary). The results show that expansion particularly benefits the most vulnerable students—especially girls and adolescents (by delaying marriage and motherhood, and reducing the likelihood of justifying domestic violence), students from rural areas, and those from lower socioeconomic backgrounds. It also improves employability and long-term income.

However, the main challenge lies in the significant investment required for infrastructure, teacher training, and educational resources. Additionally, there is the opportunity cost for low-income students who forgo immediate earnings by staying in school. The study emphasizes the need for curricular updates and alternative pathways for low-performing students who wish to enter the labor market. Thus, as with previous authors, the expansion of compulsory education is not automatically synonymous with quality and equity; specific measures are needed in these areas.

Sánchez Gil analyzes counter-reformist discourses in Spain that question the current model of compulsory schooling and the innovative reform promoted by recent legislation. The opposing arguments rely on poor results in standardized tests such as PISA, the perceived loss of schools' traditional role in knowledge transmission, and a competency-based curriculum viewed

as disorganized and lowering standards. Critics also point to disciplinary problems in classrooms and the notion that compulsory schooling retains “ungovernable” students.

According to these counter-reformists, schooling should be elective and merit-based, returning to the fundamentals of learning and reconsidering compulsory education up to 16. They argue that parental school choice is one of the main drivers of educational segregation, leading to the “ghettoization” of public schools for the most vulnerable students.

Prieto, Fernández-González, and Villamor focus on a specific structural reform in the Community of Madrid: authorizing Primary Schools (CEIP) to teach the first two years of Lower Secondary Education (ESO). This measure creates two fundamental pedagogical tensions, suggesting a potential “primarization” of early secondary education. On one hand, there is the view of the 12–14 age range as still part of childhood (the CEIP perspective—focused on protection and monitoring within a “family-like” environment), versus the view of early adolescence (the IES perspective—focused on autonomy and transition). On the other hand, the conflict between the generalist school grammar of CEIPs (globalized model) and the specialized structure of Secondary Schools (IES—organized by departments and subjects) generates additional tension. According to the authors, IES leadership fears disruption of the educational stage and a decline in quality if integration comes at the expense of teacher specialization and staff stability (by creating interim or partial positions in CEIPs).

Rivas and Caldúch address the issue of teacher education in the face of extended compulsory schooling. Their work focuses on teacher training for a possible extension to age 18, analyzing challenges in both initial training and professional development. They argue that such an extension would require profound transformations in teacher education models, across four key dimensions: (1) Ethical commitment: Reinforcing vocation and ethics as central to entering the profession, given that the current system does not adequately assess these aspects. (2) Modeling commitment: University teaching must itself model ethical and professional commitment in its own practice. (3) The practicum: It must be a strategic formative space ensuring exposure to diverse, real educational contexts, fostering a socially engaged

professional identity. (4) Formation teams: Building diverse, socially committed training teams with multiple profiles.

Egea and Paredes introduce the debate on literacy and reading culture within compulsory education. Their article reviews the irreplaceable role of schools in constructing a critical, equitable, and community-based reading culture. Ultimately, they approach reading culture as a complex social practice that transcends technical skill, functioning as a tool for democratic transformation.

Compulsory schooling and its regulation give the school a decisive potential to guarantee equity and reduce cultural divides generated elsewhere (such as in families or digital environments). The school thus exercises a democratizing and normative role, legitimizing what counts as valid reading and compelling the system to ensure that reading is a right, not a privilege.

Del Barro contributes a historical and comparative perspective on the expansion of compulsory education, focusing on Buenos Aires in the late 19th and early 20th centuries. Compulsory schooling was adopted as both a principle and a mechanism for expanding the primary education subsystem, tied to literacy and national identity formation.

However, the process was problematic due to rapid urban growth, mass immigration, and child labor, which prevented many children from attending school. The state responded with major investments in new schools (“palace schools”), but non-compliance persisted. The approach thus shifted from coercion and penalties to persuasion and material support (free supplies and clothing) for poor families. Reducing the minimum required instruction to third-grade content was a recognition of the limits of official action in the face of child labor.

Finally, the last article in the monograph addresses the ethical and legal tension of compulsory schooling in Spain and proposes a pedagogical framework to ground the debate on its possible extension. Compulsory education is considered an achievement of advanced societies, justified by the need for an optimal education enabling democratic citizenship, satisfactory employment integration, and full personal development.

The authors outline four fundamental functions of compulsory education to bring the debate back to the pedagogical sphere: (1) Consensual:

Symbolizing the basic social agreement on the common content (knowledge and experiences) all citizens should share; (2) Enabling: A present right that prepares minors for the exercise of future rights (“anticipatory autonomy”); (3) Propedeutic: Ensuring the shared space and time required for educational processes (curriculum, socialization, cultural transmission) to occur; (4) Guaranteeing: Obliging public authorities to effectively ensure the right to education.

The article warns that the current age limits of compulsory education (6 to 16 years) lack pedagogical justification, responding instead to political and economic rationales. The main obstacle to extension is political polarization and the risk that education may be used as a tool of partisan interference.

In summary, this monograph offers elements for debate—it does not close the discussion but rather opens new pathways for reflection and decision-making. Educational systems have progressively increased the length of compulsory schooling, often guided by political and economic motives alone. It is therefore essential to delve deeper into pedagogical arguments that reinforce and clarify the meaning, content, and direction that compulsory education should take in a highly literate and technologically advanced society.

# **Another brick in the wall? The extension of compulsory education in the contemporary education debate**

## ***¿Another brick in the wall? La ampliación de la educación obligatoria en el debate educativo contemporáneo***

<https://doi.org/10.4438/1988-592X-RE-2025-411-719>

**Laura Fontán de Bedout**

<https://orcid.org/0000-0002-5727-3902>

*Universitat de Barcelona*

**Eric Ortega González**

<https://orcid.org/0000-0002-6747-0336>

*Universitat de Barcelona*

**Belén Sánchez García**

<https://orcid.org/0009-0006-7067-5195>

*Universitat de Barcelona*

### **Abstract**

The expansion of compulsory education has been promoted internationally as a

strategy to improve access to and equity in education. However, its effects vary depending on the context and do not always meet initial expectations. This study conducts a systematic review of the existing literature with the aim of analyzing its main implications worldwide. To this end, 83 documents were reviewed from the databases Dialnet, ERIC, APA-PsycInfo, and Scopus, selected for addressing the expansion of compulsory education as one of their main thematic focuses, rather than merely as the context of their research. The methodology combined a descriptive quantitative analysis and a qualitative categorization of the content into four dimensions: educational, socio-political, economic, and personal, ensuring data triangulation.

The results show that the expansion of compulsory education has mixed effects. At the educational level, expansion improves access and training, but inequalities in quality, coverage, and equity persist. At the social and political level, it does not guarantee effective inclusion or greater mobility. At the economic level, it can contribute to growth by increasing human capital, although doubts arise about its financial sustainability. At the personal level, educational benefits are identified for some students, while others experience school fatigue or demotivation.

It is concluded that the expansion of compulsory education alone does not ensure improvements in equity or quality. Its effectiveness depends on complementary policies that guarantee resources, inclusive pedagogical strategies, and support for students. To be an effective tool for equity, it must focus on the quality of teaching and the diversity of student trajectories, avoiding being merely a formal extension of schooling.

*Key words:* Compulsory Education, Educational Legislation, Equal Education, Public Schools, School Policy, School Registration

## Resumen

La expansión de la educación obligatoria ha sido promovida internacionalmente como una estrategia para mejorar el acceso y la equidad educativa. Sin embargo, sus efectos varían según el contexto y no siempre responden a las expectativas iniciales. Este estudio realiza una revisión sistemática de la literatura existente con el objetivo de analizar sus principales implicaciones a nivel mundial. Para ello, se revisaron 83 documentos en las bases de datos Dialnet, ERIC, APA-PsycInfo y Scopus, seleccionados por abordar la expansión de la educación obligatoria como uno de sus ejes temáticos principales, y no meramente como el contexto de sus investigaciones. La metodología ha combinado un análisis cuantitativo descriptivo y una categorización cualitativa del contenido en cuatro dimensiones: educativa, sociopolítica, económica y personal, garantizando, además, la triangulación de datos.

Los resultados muestran que la expansión de la educación obligatoria tiene efectos mixtos. En el plano educativo, la expansión mejora el acceso y la formación, pero persisten desigualdades en calidad, cobertura y equidad. A nivel social y político, no se garantiza una inclusión efectiva ni una mayor movilidad. En el plano económico, puede contribuir

al crecimiento mediante el aumento del capital humano, aunque surgen dudas sobre su sostenibilidad financiera. Finalmente, a nivel personal, se identifican beneficios formativos para algunos estudiantes, mientras que otros experimentan fatiga escolar o desmotivación.

Se concluye así que la expansión de la educación obligatoria, por sí sola, no asegura mejoras en equidad ni calidad. Su efectividad depende de políticas complementarias que garanticen recursos, estrategias pedagógicas inclusivas y apoyo a los estudiantes. Para que sea una herramienta efectiva de equidad, debe enfocarse en la calidad de la enseñanza y la diversidad de trayectorias estudiantiles, evitando ser solo una extensión formal de la escolarización.

*Palabras clave:* Educación Obligatoria, Legislación Educativa, Igualdad Educativa, Educación pública, Política Educativa, Matriculación Escolar

## Introduction

Compulsory education has, since its inception, served as a key political and social instrument, closely tied to the formation of modern nation-states and the configuration of citizenship. In Europe, although its implementation varied across contexts, it was in most cases promoted to foster literacy, moral instruction, and the adaptation of young people to the productive and institutional demands of the nation-state (Paglayan, 2022). In the Spanish case, the Moyano Act of 1857 was the first comprehensive education law to declare primary education compulsory, though it lacked the necessary resources to ensure effective enforcement (Sevilla, 2007). It was not until well into the twentieth century—first with the General Education Act of 1970 and later with the LOGSE of 1990—that a more extensive and articulated system of compulsory schooling was consolidated, currently encompassing the age range from 6 to 16.

In recent decades, the concept of compulsory education has expanded both in temporal scope and in its pedagogical and social significance (Gimeno, 2000). Beyond its legal framework, compulsory schooling has often been understood as a mechanism for structuring of individuals—one that determines not only what should be learned, but also for how long and under which institutional arrangements (Bernal & Martín, 2001). In this sense,

contemporary compulsory education systems operate at the intersection of pedagogical, social, and economic debates, shaped by both national actors and international organizations (Verger et al., 2018). As a result, the boundaries, aims, implementation strategies, and particularly the duration of compulsory education remain subject to ongoing revision.

This revisionist trend has become particularly evident in recent decades, with international organizations such as the OECD promoting a general orientation toward the extension of compulsory education—raising both the minimum and maximum age limits (OECD, 2022). From a comparative perspective, various countries have opted to extend compulsory schooling at both ends of the educational trajectory: *downward*, by incorporating early childhood education (Egido, 2013), and *upward*, by including upper secondary education within the compulsory framework (Ruiz et al., 2019). These decisions reflect diverse conceptions of childhood, youth, and civic education, while also seeking to address equity imperatives and respond to the demands of a rapidly changing labor market (Carnevale et al., 2013; Tarabini et al., 2016). Nonetheless, the question of what constitutes the optimal age to begin or complete compulsory schooling remains contested across many countries and jurisdictions, sustaining ongoing debates about its relationship to educational equity (OECD, 2012).

Unsurprisingly, in a globalized context where international organizations exert significant influence on educational policy, Spain has not remained untouched by these debates. This is reflected in the 2023 report of the State School Council, which, among its proposals for improving education, called for the educational community to debate the extension of compulsory schooling and training to the age of 18 (Marín, 2023).

Regardless of the specific form such an extension may take, these measures—implemented in some countries gradually and often without systemic coordination with other educational reforms—pursue a variety of objectives (Gimeno, 2012). Chief among them are reducing school dropout rates, strengthening the right to education, enhancing productivity, and closing the gender gap in education. Moreover, such decisions affect multiple dimensions of both the educational system and society at large (Flach, 2009): from fostering lifelong learning and restructuring educational stages to

teacher preparation, transitions across levels, and labor market integration, to name only a few.

It is particularly striking that, in the current geopolitical context, many of the debates surrounding the extension of compulsory education are taking place simultaneously with the rise of anarcho-liberal and minarchist discourses—embodied by figures such as Javier Milei and Elon Musk—that advocate minimizing the role of the state in citizens' lives. This reveals a paradox: while certain sectors call for expanding the right to education through greater state intervention, others promote a drastic reduction of such intervention, including—unsurprisingly—in the field of education (Dale, 2025).

Beyond this ideological tension, there is little doubt that the extension of compulsory education has become one of the central issues in today's educational debate. Nevertheless, numerous open questions remain, and the research published on this topic continues to be extraordinarily heterogeneous. This diversity has produced frequently contradictory results, making it a genuine challenge for researchers to identify the arguments, justifications, and critiques advanced within this debate. Added to this is the multiplicity of terms and meanings employed to address the same issue, which further magnifies to its complexity and the sense of uncertainty surrounding it.

With the aim of bringing greater clarity to this landscape, the present article seeks to respond, from a primarily pedagogical perspective that nonetheless remains attentive to other approaches, to the question of the educational, sociopolitical, economic, and personal implications of the global expansion of compulsory education. The decision of these implications reflects the need to understand the phenomenon from a multidimensional standpoint. From an educational perspective, the extension compels a reconsideration of the meaning, purposes, and contents of the educational system. At the sociopolitical level, it reflects both the degree of the state's commitment to the right to education and to the construction of citizenship, as well as the distribution of opportunities and the reproduction or transformation of inequalities resulting from legislative and administrative decisions that shape the institutional design of educational systems and the role of public and private actors. The economic implications, in turn, concern both the costs and

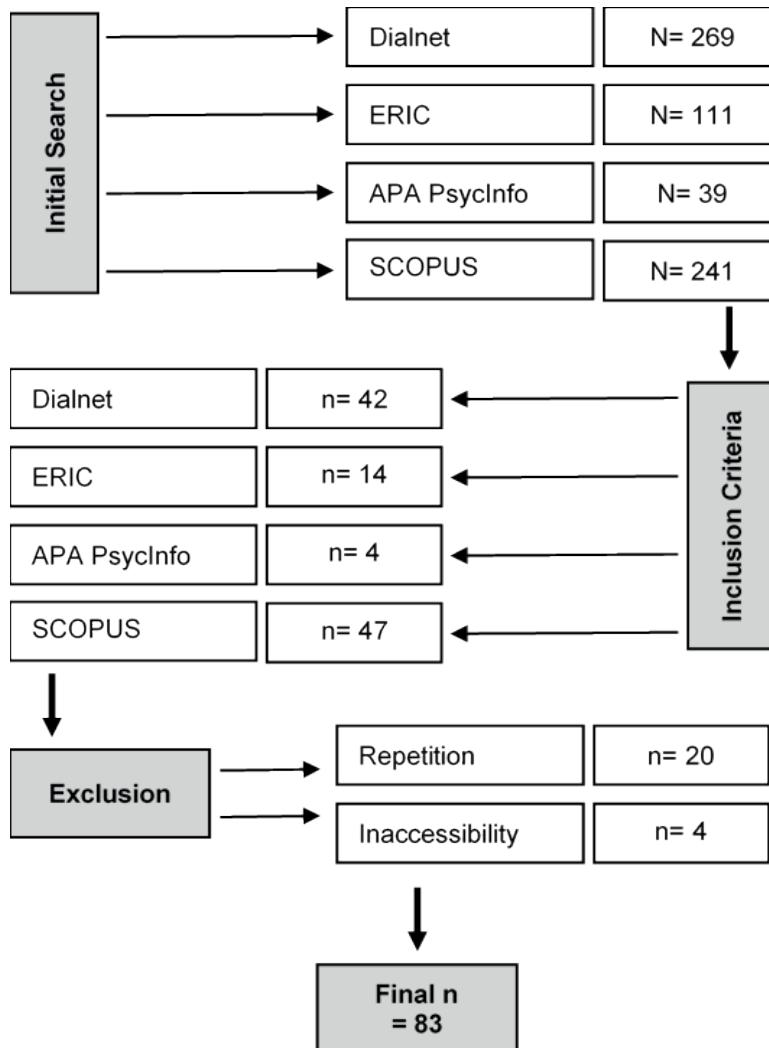
benefits of extending educational time and its function within the logics of human capital and productivity. Finally, the personal consequences point to the impact of greater schooling on individuals' subjectivity, life course, and life projects.

Through this multidimensional articulation, which makes it possible to assess more clearly the scope and limits of extending compulsory education, our aim is to contribute to a more robust and well-grounded understanding of a phenomenon that, far from being resolved, continues to pose key challenges and dilemmas for both policy and educational research.

## Methodology

To address the research question outlined above, a systematic literature review was conducted. This methodological approach provides a comprehensive overview of a specific topic—in this case, the expansion of compulsory education from a pedagogical perspective—while also allowing for the examination of particular aspects that are especially relevant to the field of study (Paul & Barrari, 2022). Figure I below summarizes the different phases of the review process.

**Figure I.** Systematic review process



Source: Own elaboration

For the review, an initial search was carried out that included all scientific articles and indexed documents containing in their title, keywords, or abstract the concept of expansion or extension of compulsory education

in four of the most significant and widely used databases in the field of education: Dialnet, ERIC, APA-PsycInfo, and Scopus. No restrictions were applied regarding the year of publication—all publications up to 2024 were considered—nor regarding language. The search was conducted in both Spanish—(*expansión OR extensión*) AND (“*educación obligatoria*”)—and English—(*expansion OR extension*) AND (“*compulsory education*” OR “*compulsory attendance*” OR “*mandatory education*”). This initial search yielded a total of 660 sources.

In a second stage, after screening titles and abstracts, those scientific articles were selected in which the extension of compulsory education was one of the main topics directly addressed (107), excluding those where compulsory education was merely the background context of the research. After removing duplicates across databases and excluding inaccessible articles, the final number of studies considered for analysis was 83.

Following an in-depth reading by the research team, the articles were entered into a documentation matrix. This matrix identified key variables such as year of publication, year of the study, country of reference, methodology, research approach, and language of publication. In addition, it included information relevant to addressing the research question, such as the conceptualization of the expansion of compulsory education, associated variables, and its educational, sociopolitical, economic, and personal implications.

Finally, the data obtained and recorded in the matrix were subjected to both descriptive quantitative analysis and qualitative open coding. In the latter case, and in line with the research objective, the four most relevant dimensions of the impact of compulsory education—educational, sociopolitical, economic, and personal—were used to guide the creation of emerging categories in the analysis process. Both the data collection and the analysis phases were reviewed by at least one additional member of the research team to ensure triangulation.

## Results

### Descriptive analysis of substantive variables

To understand the distribution and characteristics of the studies analyzed, a descriptive analysis was conducted based on several key criteria: the country of origin of the publication, year of publication, study period, methodology employed, research approach, and language of publication.

The country of origin of each publication made it possible to examine the geographical distribution of scientific output and to identify which regions have generated the largest share of research on the topic, thereby highlighting potential geographical biases in the available knowledge (see Table I). The highest concentration of studies was found in the Americas, with Argentina (20) and Brazil (19) accounting for the largest number of articles on educational expansion. As members of MERCOSUR (Southern Common Market), Uruguay and Paraguay also contributed notably, with 8 and 6 articles, respectively. In the United States, 4 articles were identified. In Europe, Spain produced the largest number of studies on educational expansion (13), followed by the United Kingdom (6). In the remaining European countries, between one and three articles were identified, several of them adopting a comparative perspective. Finally, aside from Turkey with five articles and China with two, the frequency in Asia and Africa was limited to a single article per country, many of which were analyzed through comparative approaches.

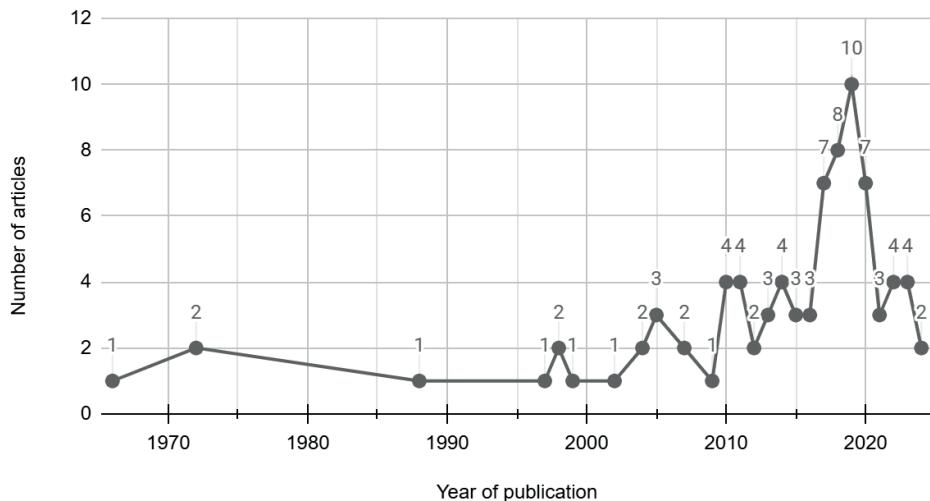
**Table I.** Country of origin of publication

Africa		America		Asia		Europe	
Egypt	1	Argentina	20	Turkey	5	Germany	1
Ghana	1	Brazil	19	China	2	Belgium	1
Benin	1	Bolivia	2	Thailand	1	Denmark	1
Liberia	1	Uruguay	8	Afghanistan	1	Spain	13
Tanzania	1	Paraguay	6	India	1	Finland	1
Zambia	1	Chile	2	Indonesia	1	France	2
South Africa	1	United States	4	Cambodia	1	Greece	1
		Costa Rica	1	Nepal	1	Ireland	1
		El Salvador	1	Vietnam	1	Italy	2
		Jamaica	1	Taiwan	1	Norway	1
						Netherlands	1
						Poland	2
						Portugal	2
						United Kingdom	6
						Romania	2
						Sweden	3
						Switzerland	2

Source: Own elaboration

Another key aspect was the year of publication of the reviewed literature, which made it possible to trace the evolution of research over time. Examining the chronology of the studies helped identify trends, developments, and shifts in paradigms, approaches, and methodologies across different periods. As shown in Figure II, the earliest study dates back to 1966; however, it was not until the 2000s that publications on the expansion of education began to appear more consistently. From 2010 onward, there was a marked increase in research on the topic, with 2019 representing the year in which the highest number of publications were recorded.

**Figure II.** Distribution of articles by year of publication



Source: Own elaboration

Overall, the chronological distribution of publications reflects a growing scholarly interest in educational expansion, particularly in recent decades. However, this evolution has not been uniform, as notable contrasts can be observed in recent years—for instance, only three articles were published in 2016, compared to a peak of ten in 2019. Furthermore, the increase in publication frequency during the final years of the 20th century—95.2% of the articles were published after 1997—can be attributed, among other factors, to the emphasis that governments, international organizations, and researchers have placed on education, competencies, and learning objectives for the 21st century.

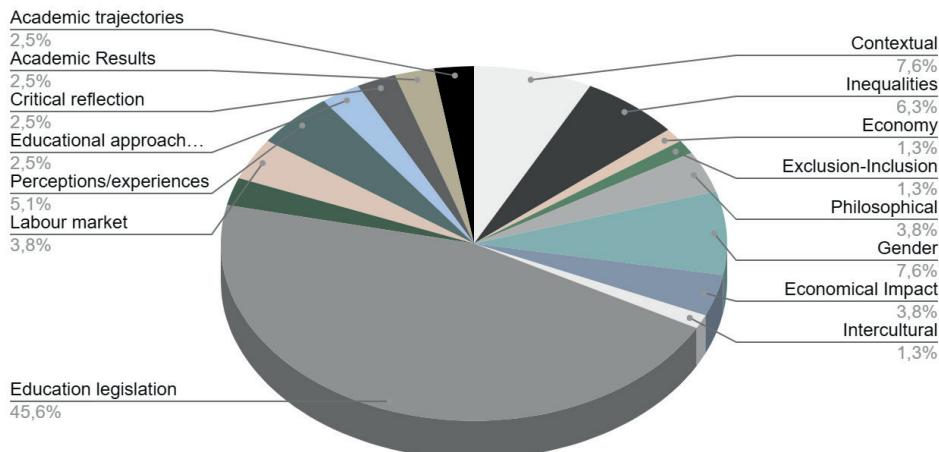
To enhance the validity and applicability of the findings, and to identify potential variations in results depending on the temporal context of the studies, we also examined the time span in which data were collected for each article. Studies drawing on earlier data generally focused on historical and theoretical analyses of educational expansion in the previous century,

often tracing legislation from 1850 onwards (Alcántara, 2019; Lamelas & Barbeito, 2024; Rauscher, 2014, 2015). From the 1950s onward, however, data collection became more systematic, and educational expansion has since been analyzed from diverse perspectives, employing numerical analyses, comparative studies, and qualitative methodologies to strengthen methodological rigor (Shavit & Westerbeek, 1998; Tabak & Çalik, 2020; Paoletta, 2017; Diniz Júnior, 2020).

With respect to the methodology employed, the studies were classified according to their analytical approach and data collection methods. Among the works analyzed, 34.1% applied quantitative methods, 17.6% qualitative methods, and 12.9% mixed methods. Regarding review studies, 14.2% were theoretical, 12.9% historical, and 8.2% comparative. This categorization allowed for an assessment of methodological diversity and highlighted the ways in which the topic has been examined through different scientific perspectives shaped by each approach and method.

In addition, the research approach was analyzed to identify the theoretical and conceptual perspectives adopted in the studies. This examination made it possible to discern the main schools of thought and interpretive frameworks guiding research on the subject, thereby informing the broader analysis. As shown in Figure III, the most prevalent approach was legislative (45.6%), followed by contextual reviews (7.6%), gender-focused studies (7.5%), and analyses of inequality (6.3%).

**Figure III.** Main analytical approach of the articles



Source: Own elaboration

Finally, the language of publication was taken into account, as it may influence both access to information and the dissemination of knowledge across academic and policy communities. Among the studies analyzed, 49.4% were published in English, 38.8% in Spanish, and 11.7% in Portuguese.

## Thematic-Documentary Analysis

The central theme of this research is the expansion of compulsory education, as reiterated throughout the study. Nevertheless, the articles analyzed do not conceptualize this expansion uniformly, introducing varying interpretations that complicate the categorization of overarching themes. Broadly, the literature addresses expansion in three distinct ways: (1) as an increase in the number of years of schooling, (2) as broader coverage, and (3) as an extension of instructional time.

The increase in years of schooling refers to the extension of the

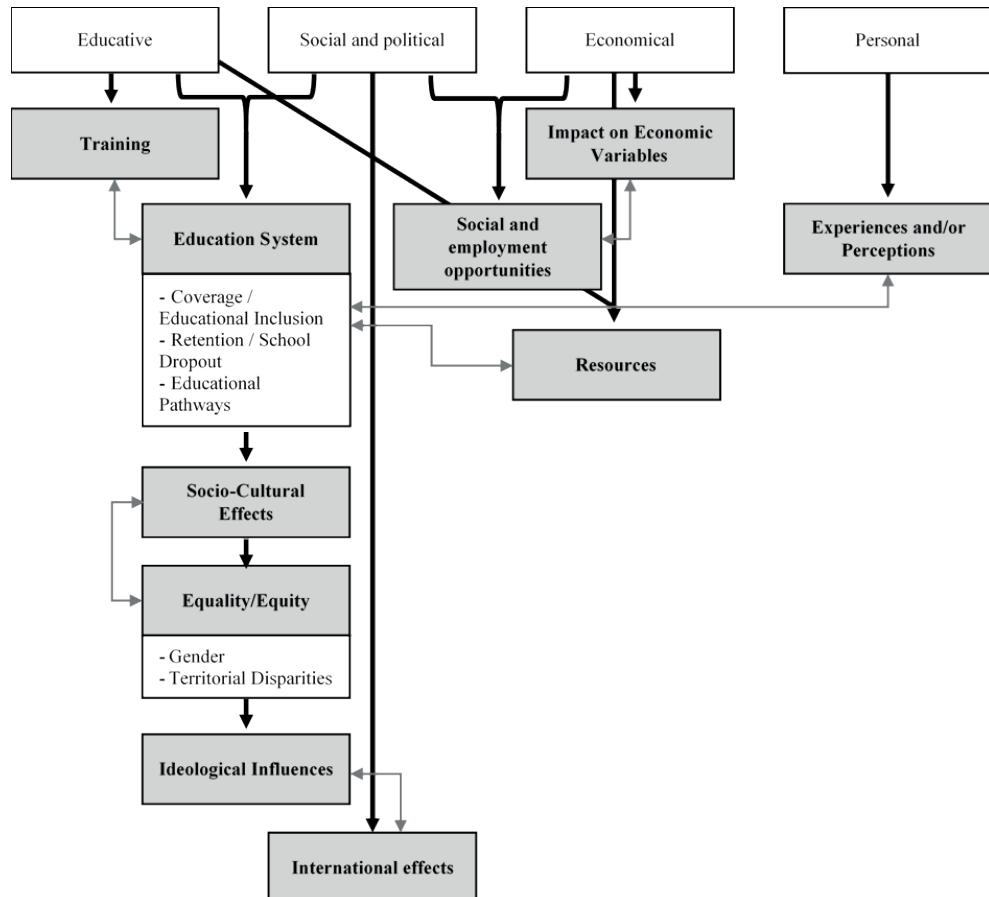
duration of compulsory education. The articles reviewed draw on studies from various countries that explore possibilities such as incorporating early childhood education into compulsory schooling (Cruz, 2017; Lira & Lara, 2022; López, 2019), extending secondary education up to ages 17 or 18 (de Barbieri, 2011; Erten & Keskin, 2019; Gondra, 2010; Krawczyk, 2011; Paoletta, 2017; Terigi, 2013), or, to a lesser extent, including higher education as a compulsory stage (Machin et al., 2012; Murray, 1997).

Coverage refers to the effectiveness of compulsory education—specifically, how many individuals actually gain access to the system and remain enrolled. School dropout, equitable access, the inclusion of previously marginalized groups, and the state's capacity to enforce compulsory schooling are all factors that affect coverage (Castro & Serra, 2020; Gluz & Rodríguez Moyano, 2018; Nobile, 2016; Ruiz & Schoo, 2014). This explains why the issue is particularly prominent in studies addressing educational expansion in developing countries.

The extension of school hours refers to contexts in which expansion has been pursued not only by increasing the number of schooling years but also by lengthening the school day. This strategy aims to improve learning outcomes and provide a more structured environment (Gondra, 2010; Martino et al., 2023; Misuraca et al., 2022). It is worth noting that these three conceptions may overlap or develop unevenly depending on the political, economic, and social context of each country.

Moreover, the studies reviewed connect the expansion of compulsory education with other themes and variables that are essential to understanding the complexity of the phenomenon. In our analysis, these themes were systematized into distinct categories and subcategories, aligned with the four dimensions of the research. Figure IV specifies these linkages and highlights the most significant relationships among categories.

**Figure IV.** Dimensions, categories, and subcategories of themes and findings regarding the expansion of compulsory education



Source: Own elaboration

## Training

This category encompasses various aspects of the expansion of compulsory education and its effects on both individual development and society at large. The studies analyzed suggest that such expansion creates broader learning opportunities (Misuraca et al., 2022) and supports the construction of a shared knowledge base (Flach, 2009; Hall, 2016; Merino, 2005), thereby fostering more systematic learning and strengthening the overall educational attainment of the population (Luo & Chen, 2018; Machin et al., 2012). In general terms, longer schooling is associated with improvements in students' general skills (Liwiński, 2020).

One documented effect of expansion is the reduction of illiteracy (Andrés & Esquivel, 2017; Doherty & Male, 1966), although some studies contradict this finding (Mahmoud, 2019). Moreover, compulsory education has been shown to influence early childhood development and growth (Braham, 1972; Cruz, 2017). Nevertheless, some studies warn of the risks of standardization and of early childhood education being reduced to a merely preparatory or care-oriented stage (Lira & Lara, 2022).

The extension of compulsory education has also increased the share of the working-age population holding post-compulsory secondary qualifications (Casquero & Navarro, 2010). It has been associated with improvements in life decision-making (Kirdar et al., 2016) and with stronger economic literacy, reflected in enhanced saving, investment, planning, and market participation capacities. However, the evidence on its impact on financial decision-making remains limited, with some notable exceptions such as improvements in women's saving habits (Gray et al., 2021).

Regarding its effects on academic performance, improvements have been observed in school grades (Machin et al., 2012) and in reading and writing skills, particularly among men (Mahmoud, 2019). Nonetheless, the impact on standardized test results such as PISA remains ambivalent (Liwiński, 2020; Tabak, 2020). This may be linked to findings suggesting that expansion can also lead to declines in the level, quality, and rigor of education (Cruz, 2007; Mancebo & Zorrilla, 2018; Merino, 2005), raising significant challenges in ensuring a robust and equitable education for all students.

## **Education System**

The studies analyzed identify the education system as a central theme, positioning its organization and outcomes as closely linked to the expansion of compulsory education. Several authors underscore this expansion as essential for improving overall system quality and for advancing the Sustainable Development Goals, particularly Goal 4 (Giudice & González, 2023). At the same time, persistent challenges remain—including limited resources, insufficient teacher training and qualifications (Braham, 1972; Erten & Keskin, 2019; Flach, 2009), high teacher turnover (Nosei, 2005), low graduation rates, and system fragmentation (Doherty & Male, 1966)—that have yet to be adequately addressed (Acín, 2017). In response to these difficulties, other studies present evidence that updating educational standards (Doherty & Male, 1966) and redefining the role of educators (Hall, 2016) increase the likelihood of successful compulsory education expansion. More specifically, the findings and themes within this category can be grouped into three areas of focus: (1) coverage and educational inclusion, (2) retention and dropout, and (3) educational pathways.

## **Coverage / Educational Inclusion**

In the articles analyzed, coverage is understood as the effective universalization of the right to education (Cruz, 2017). A substantial body of research argues that the expansion of compulsory education enhances system coverage (Djietror, 2011; Nobile, 2016), although its effectiveness depends on being accompanied by complementary pedagogical and social measures (Diniz Júnior, 2020; Rama, 2004; da Silva, 2019). Among these, nutrition (Rengifo, 2019), educational and career guidance (Erten & Keskin, 2019), and attention to students' individual characteristics (Rengifo, 2019) are particularly emphasized. In the absence of such measures, expansion may risk making the education system more exclusionary (Flach, 2009; Mancebo & Zorrilla, 2018), thereby widening gaps in secondary education coverage, especially for minority or historically marginalized populations (Giudice & González,

2023; Juusola, 2023). Conversely, there is evidence that compulsory schooling expansion fosters educational inclusion (de Barbieri, 2011; Djietror et al., 2011), increasing classroom heterogeneity and diversity (Casquero & Navarro, 2010; Erten & Keskin, 2019), while also bringing greater attention to the educational needs of previously unschooled groups (Ruiz et al., 2019).

## **Retention / School Dropout**

Retention refers to the continued presence of students within the education system until they complete a given level of schooling, thereby preventing premature dropout (Erten & Keskin, 2019; Kirdar et al., 2016; Mancebo & Zorrilla, 2018; Mussida et al., 2019). The studies analyzed indicate that the extension of compulsory education has significant effects on system retention. According to Mahmoud (2019), an additional year of compulsory schooling increases school enrollment by 0.6 to 0.8 years, although the effect is smaller for females, for whom enrollment rises by only 0.3 to 0.48 years, highlighting a clear gender inequality. This extension also contributes to higher youth employment (Juusola, 2023; Terigi et al., 2013), elevated enrollment rates (Giudice & González, 2023; Negură, 2020), and increased attendance at vocational or professional schools (Erten & Keskin, 2019). These developments directly impact the prevention of early school dropout and promote greater equality in school attendance across social classes and ethnic groups (Rauscher, 2014). Nevertheless, some evidence suggests that compulsory schooling expansion can be associated with higher dropout rates (Hall, 2016; Negură, 2020), particularly in rural areas (Wu, 2010).

## **Educational Pathways**

Regarding educational pathways, the reviewed studies suggest that extending compulsory education helps prevent premature tracking (Merino, 2005). Simultaneously, it promotes greater diversity in school trajectories (Briscioli, 2017) and fosters educational mobility, particularly among urban populations

(Wu & Marois, 2024). However, some evidence indicates that expansion may constrain the diversity of pathways (Juusola, 2023) or reduce them to the replication of existing socioeconomic patterns based on students' social and economic backgrounds (Valdés, 2022). In any case, the extension of compulsory education has stimulated the creation of vocational and professional schools across various educational levels (Doherty & Male, 1966). Indeed, many students who entered the education system following the reform opted to continue their studies in vocational rather than academic institutions (Erten & Keskin, 2019). Despite this, the expansion has enhanced access to higher education (Hall, 2016; Wu, 2010), although its impact on equity within the university system remains limited. Finally, this diversification of educational pathways faces substantial constraints, particularly due to insufficient resources to adequately address student heterogeneity and their diverse educational trajectories (Briscioli, 2017).

## **Socio-Cultural Effects**

The studies analyzed report numerous socio-cultural effects. From a social perspective, the expansion of compulsory education is considered an appropriate response in societies characterized by poverty (Oreja Cerruti, 2023), as it has been identified as a factor that promotes social integration and cohesion (Merino, 2005). This is reflected in improvements in safety and social well-being, as several studies indicate that compulsory education reduces crime and delinquency (Erten & Keskin, 2019; Gray et al., 2021; Machin et al., 2012).

Reductions in risk behaviors, such as teenage pregnancy, have also been observed (Gray et al., 2021). However, the relationship between education and early motherhood is not conclusive. Some studies suggest that educational expansion does not directly reduce adolescent pregnancy (James & Vujić, 2018; Kirdar et al., 2016) but rather contributes to delaying the birth of the first child (Ní Bhrolcháin & Beaujouan, 2012). Evidence indicates that this shift in fertility timing is primarily driven by macroeconomic and structural factors rather than cultural transformations (Ní Bhrolcháin &

Beaujouan, 2012).

Another notable social effect is the delay in youth emancipation, resulting both from the prolongation of schooling and from the economic conditions associated with remaining in the education system (Miret, 2004). Concurrently, the social value of educational credentials has declined, particularly in the case of the secondary school diploma, which has lost some of its significance as a labor market credential, especially for women in urban settings (Kırdar et al., 2016).

From a cultural perspective—and although socioeconomic and familial factors continue to play a substantial role (Casquero Tomás & Navarro Gómez, 2010)—one of the main effects observed is an increase in cultural capital at both the individual and family levels (Braham, 1972; Petrongolo, 1999), as well as its contribution to strengthening democratic participation (Gray et al., 2021).

## Equality/Equity

From the perspective of equality, the studies analyzed highlight that the expansion of compulsory education contributes to sociocultural equality (Lamelas & Barbeito, 2024; Luo & Chen, 2018) by reducing inequalities (Diniz Júnior, 2020; Misuraca et al., 2022; Murtin & Viarengo, 2011), particularly in the educational domain (Juusola, 2024; Nobile, 2016). However, they also caution that when coverage is not universal, it can generate new forms of inequality (Meschi & Scervini, 2014). While its role in promoting equal educational and social opportunities (de Barbieri, 2011; Doherty & Male, 1966; Flach, 2009; Mancebo & Zorrilla, 2018; Merino, 2005; Tabak & Çalik, 2020; Wu & Marois, 2024) is widely recognized, some studies question its effectiveness, arguing that it does not guarantee equitable access in socioeconomic terms (Wu, 2010). In this regard, they emphasize that the equitable distribution of educational opportunities is more decisive than the mere existence of compulsory schooling. This is reflected in the persistence of inequalities in grade repetition, dropout, and over-age enrollment—particularly among youth from lower-income sectors—despite

expanded access (Nobile, 2016). Furthermore, no clear relationship has been established between the expansion of compulsory education and the reduction of social inequality in access to higher education (Shavit & Westerbeek, 1998). Finally, the findings and themes within this category can be grouped into two areas of interest: (1) gender and (2) territorial disparities.

## Gender

Regarding gender, multiple studies indicate that the expansion of compulsory education can play a significant role in promoting equality (Kirdar et al., 2016; Miret, 2004; Wu & Marois, 2024), both socially and in the labor market (Mussida et al., 2019). This effect is explained by the capacity of extended schooling to broaden educational opportunities for women—who have historically faced greater barriers to accessing the education system (Luo & Chen, 2018)—and by its function as a compensatory mechanism against sociocultural norms and practices that have limited female participation in certain contexts, particularly in rural or traditionalist settings (Erten & Keskin, 2019). Several authors argue that such policies help reduce structural and symbolic barriers, producing positive impacts on women's social inclusion and labor market participation (Kirdar et al., 2016; Miret, 2004; Wu & Marois, 2024; Mussida et al., 2019).

Nevertheless, this optimistic perspective must be tempered in light of evidence showing that the expansion of compulsory education does not operate in a gender-neutral manner and may even produce unintended or contradictory effects. For instance, some studies suggest that, rather than closing gaps, educational expansion in certain contexts may reinforce existing inequalities, particularly when not accompanied by active inclusion and support measures (Mahmoud, 2019). Specifically, school dropout rates remain substantially higher among boys, raising questions about the differential effects of compulsory schooling by gender (Casquero Tomás & Navarro Gómez, 2010). This pattern indicates that persistence in the education system depends not only on access but also on the material, motivational, and cultural conditions that differently influence men and women.

## Territorial Disparities

With respect to territorial disparities, the evidence is ambivalent. Some studies suggest that the expansion of compulsory education has exacerbated inequalities between rural and urban areas, as well as across jurisdictions, due to the uneven distribution of resources and the structural limitations of disadvantaged regions (de Barbieri, 2011; Doherty & Male, 1966; Wu, 2010). In contrast, other research indicates that, when coupled with targeted support policies, this measure can promote territorial equity and improve educational access in rural contexts (Kirdar et al., 2016). Additionally, some studies link these two dimensions by noting that the expansion of compulsory education may increase gender disparities in school attendance within rural settings (Negură, 2020). Paradoxically, however, it has also been observed that such expansion can help reduce educational disparities across geographical areas, particularly benefiting women in rural regions (Kirdar et al., 2016).

## Ideological Influences

The category of ideological influences encompasses aspects related both to the ideals that justify the expansion of compulsory education and to the transformations it produces in civic mentality. The studies analyzed indicate that extending compulsory education is associated with societal progress and modernization (Alcántara, 2019; Andrés & Esquivel, 2017; Rengifo Streeter, 2019), reinforces nation-building (Andrés & Esquivel, 2017; Jones et al., 1998; Negură, 2020), and shapes citizenship (Flach, 2009; Rama, 2004) by enhancing political and ideological awareness among the general populace (Braham, 1972) and youth in particular (Luo & Chen, 2018). Furthermore, by highlighting the societal importance of education (Diniz Júnior, 2020; Mancebo & Zorrilla, 2018), it supports the recognition of education as both a right and a social achievement (Acín, 2017; Cruz, 2017; Krawczyk, 2011; Oreja Cerruti, 2023; Ruiz et al., 2019; Ruiz & Scioscioli, 2018), contributes to debates regarding the public and free nature of education (Lamelas & Barbeito, 2024), and acts as a counterbalance to the influence of churches,

sects, and other private entities in the sector (Andrés & Esquivel, 2017). Nonetheless, some studies reveal a lack of consensus regarding its actual necessity (de Barbieri, 2011), as well as its potential role as an instrument of social reproduction (Wu, 2010).

## **Social and employment opportunities**

Many of the articles analyzed address, either partially or fully, the social and labor opportunities generated by the expansion of compulsory education, viewing it as a strategic investment in social, economic, political, and human development (Diniz Júnior, 2020). Although evidence regarding its impact on the expansion of human capital is mixed (Casquero Tomás & Navarro Gómez, 2010; de Barbieri, 2011; Erten & Keskin, 2019; Wu & Marois, 2024), studies consistently indicate that extended schooling reduces the risk of unemployment (Gray et al., 2021; Mussida et al., 2019), enhances social and labor inclusion (Acín, 2017; Jones et al., 1998; Juusola, 2023)—including for adolescents (Abiétar-López et al., 2017)—increases productivity (Machin et al., 2012), and fosters employability by facilitating adaptation to labor market demands (Hall, 2016; Murray, 1997; Paoletta, 2017; Wu, 2010) as well as improving workforce qualifications (Ruiz et al., 2019). These effects, in turn, influence quality of life (Casquero Tomás & Navarro Gómez, 2010; Diniz Júnior, 2020), promote social mobility (Wu, 2010; Wu & Marois, 2024)—including intergenerational mobility (Bethäuser, 2017; Rama, 2004)—and contribute both to higher income (Gray et al., 2021; Kirdar et al., 2016) and to reducing income inequality (Mussida et al., 2019), particularly in rural areas (Strawiński & Broniatowska, 2021). Nonetheless, consensus has yet to be reached on whether compulsory schooling reduces unemployment in recessionary contexts (Hall, 2016) or directly influences labor market outcomes (Mahmoud, 2019).

Despite these positive effects, the articles also highlight potential negative consequences, including limited improvements in individuals' economic situations, the risk of credential inflation without corresponding labor market gains (Rauscher, 2015), overqualification (Jones et al., 1998),

higher unemployment among the most educated, loss of early work experience (Erten & Keskin, 2019; Hall, 2016), and a mismatch between compulsory schooling and actual economic needs (Braham, 1972). Additionally, the inability to work while studying (Juusola, 2023) may exacerbate socioeconomic inequalities, perpetuating the influence of family economic status on children's opportunities (Wu, 2010).

## **International Effects**

Some of the effects identified in the analyzed articles pertain to politics and international relations. Several studies note that the expansion of compulsory education not only fosters alliances (Giudice & González, 2023) and highlights asymmetries between nations, but also brings certain developing countries into legislative and geopolitical alignment with the West—particularly Europe—by adapting their national legislation to the guidelines of international organizations (Diniz Júnior, 2020) and aligning with European educational policies and objectives (Braham, 1972; Casquero Tomás & Navarro Gómez, 2010).

## **Impact on Economic Variables**

One aspect emphasized by the analyzed studies is the impact of expanding compulsory education on countries' economic variables. Numerous articles argue that such expansion drives economic development (Murtin & Viarengo, 2011; Rauscher, 2015; Wu, 2010)—although some studies report no statistical correlation between increased compulsory schooling and economic growth (Holmes, 2013)—fosters the modernization and industrialization of the economy (Braham, 1972), promotes innovation (Rauscher, 2015), and supports the creation of higher-quality employment opportunities (Shavit & Westerbeek, 1998). Furthermore, there is evidence that extending education generates high rates of return on investment, particularly at lower educational levels (Nitungkorn, 1988).

## Resources

As expected, the increase in the years of compulsory schooling has a significant impact on resources, both within the educational system and at the national level. It is therefore unsurprising that a substantial number of studies examine the individual and collective costs associated with this measure. Some of the analyzed articles argue that expanding compulsory education raises the marginal cost of schooling (Murtin & Viarengo, 2011), increases opportunity costs (Jones et al., 1998; Murray, 1997), and elevates implementation expenses (Erten & Keskin, 2019). Consequently, some authors question whether these high costs are justified by the outcomes achieved (Mancebo & Zorrilla, 2018). Conversely, others contend that expansion leads to a more efficient use of invested resources (Kirdar et al., 2016), although they caution that it may exacerbate the unequal distribution of resources (Alcántara, 2019) and amplify deficiencies in infrastructure and educational materials (Braham, 1972; Nitungkorn, 1988). Additionally, there is a risk that it imposes an extra financial burden on families (Jones et al., 1998), who may be required to contribute to the system's viability through tuition and other fees (Wu, 2010), though this effect appears to diminish over time, likely as a result of scholarship policies (Petrongolo, 1999). Finally, some studies note that expansion may facilitate public–private collaboration in education and, ultimately, serve as a pathway toward the covert privatization of schooling (Diniz Júnior, 2020).

## Experiencias y/o percepciones

Any change in social structures affects the subjectivity of the individuals within them. Under the category of experiences and perceptions, the analyzed articles identify various personal effects associated with the expansion of compulsory education. Notably, some individuals report a sense of self-improvement and personal projection (Paoletta, 2017), as well as engagement in practices that reinforce their perception of success when achieving strong academic performance (Casquero Tomás & Navarro Gómez, 2010). Several studies also indicate that adolescents recognize the importance of continuing

their education to enhance their employment prospects (Abiétar-López et al., 2017), although in some cases they develop unrealistic expectations regarding their future, influenced by the longer period of compulsory schooling (Jones et al., 1998). In addition to these positive effects, negative experiences are also reported, including fatigue and lack of motivation, feelings of irrelevance, the undervaluing of alternative educational pathways (Murray, 1997), and resistance to compulsory schooling (Paoletta, 2017), which may diminish perceived well-being by restricting a sense of autonomy (Kırdar et al., 2016). Finally, the expansion of compulsory education is noted to potentially increase feelings of alienation among rural populations (Negură, 2020).

## Discussion and Conclusions

The results presented underscore the diversity of conceptions surrounding the expansion of compulsory education, as well as the complexity and the multiplicity of factors with which it is interwoven. From both historical and contemporary perspectives, this process appears characterized by persistent tensions between the objectives of the state's nation-building project and the socioeconomic and cultural conditions that shape its implementation. In this regard, although schooling is generally perceived as a marker of progress, it remains an ambivalent phenomenon: for some, it constitutes a disciplinary imposition; for others, a means of accumulating "human capital" aimed at economic productivity; and for still others, a pathway to knowledge that counters ignorance and irrationality (Gimeno, 2000).

This ambivalence is particularly pronounced when contrasting the priorities of countries that have achieved high levels of educational coverage with those that continue to face challenges in ensuring the genuine universality of their educational systems (Ruiz & Schoo, 2014). In the latter, the expansion of compulsory education remains primarily focused on increasing access, whereas in the former, debates center on issues such as extending schooling beyond basic levels, enhancing the quality of education provided, and addressing persistent inequalities in terms of equity and opportunity (Pires & Brutten, 2007). Accordingly, while international discourse often emphasizes

the need to prolong the period of compulsory schooling (Akboga, 2015), in many developing countries the priority continues to be ensuring that primary and secondary education are genuinely accessible to the entire population, as the fulfillment of the right to education depends largely on this (Moreno Olmedilla, 2005).

However, coverage represents only one of the multiple dimensions implicated in the global expansion of compulsory education (Castro & Serra, 2020). As the analyzed articles indicate, this phenomenon must be understood in relation to its effects on the structure and organization of the education system, on the transformation of social expectations regarding citizenship, on the evolution of the labor market, and on the reconfiguration of individuals' life trajectories (Woodin et al., 2013). In this regard, examining the educational, sociopolitical, economic, and personal implications of compulsory education expansion—implications that constitute both the guiding question and the rationale of this study—is essential for understanding the scope and limits of this transformation across diverse contexts. Therefore, each of these dimensions is explored in greater detail below, with the aim of providing a comprehensive perspective on the challenges and contradictions that characterize this process.

From an educational perspective, the analysis indicates that the expansion of compulsory education has undeniable formative effects on both individuals and the broader school community. These effects manifest as improvements in students' knowledge, skills, values, and behaviors (Miralles Romero & Castejón Costa, 2009). However, research shows that such improvements do not always materialize, whether due to school dropout, limited coverage, poor academic outcomes, or other factors that constrain the actual impact of schooling. Consequently, rather than focusing solely on policies and legislation, it is essential to reflect on the effective implementation of compulsory education across different school contexts. This entails addressing students' needs, providing appropriate guidance and support, and ensuring that compulsory schooling translates into genuine educational opportunities rather than merely extending the system without guaranteeing its effectiveness. In this regard, it is crucial to consider the pedagogical purposes of the years in which compulsory education is extended, to examine

both the aims and the methods of this process, and to ensure that its expansion adheres to criteria of quality and equity beyond mere coverage. Achieving this requires revisiting school content, instructional methods, and organizational structures, thereby avoiding a retention-focused approach devoid of genuine pedagogical transformation.

From a sociopolitical perspective, the close relationship between education and the social and political life of individuals is undeniable (Dewey, 2004). The expansion of education, beyond transforming the school environment, impacts factors such as equality, inclusion, social mobility, quality of life, and disparities in opportunities linked to gender or place of origin. However, research—whether empirical, theoretical, or historical—demonstrates that these effects are neither uniform nor linear. Findings often yield contradictory conclusions, even within the same population, highlighting the complexity of the phenomenon and the difficulty of making categorical claims regarding its impact. It is therefore essential to consider the specificities of each community, avoiding the assumption that education produces homogeneous effects across contexts. At the same time, it must be acknowledged that education alone does not guarantee social or political success (Tarabini, 2020). While it represents a step in the right direction, the expansion of compulsory education must be accompanied by policies that foster equality of opportunity, labor market integration, and access to culture, among other dimensions. Only through coherent and coordinated strategies can meaningful improvements in individuals' sociopolitical sphere be realized.

As demonstrated, the expansion of compulsory education also carries significant economic implications. On one hand, it contributes to economic development and modernization, primarily by enhancing individual productivity, thereby facilitating access to better employment opportunities and reducing income inequality. On the other hand, it entails a substantial increase in the costs of the education system (Rauscher, 2014), prompting debates regarding the return on investment and the efficiency of resource allocation, while also fostering public–private partnerships or, in some cases, covert privatization of education (Ball & Youdell, 2007). Given this dual effect, it is evident that the economic dimensions of expanding compulsory

education require careful examination, considering both its benefits and its associated costs and risks. Striking a balance between educational investment, the outcomes achieved, and the financial sustainability of the system is therefore essential to ensure that the growth of schooling translates into tangible improvements in social well-being and long-term economic development.

The expansion of compulsory education also exerts a significant impact on the personal dimension. These effects, which arise from how individuals perceive and experience their integration into an expanding education system, are positive for those who regard the system as a challenge to overcome, an opportunity to enhance their career prospects, or a reinforcement of academic success already attained (Gimeno, 2013). This perspective is particularly pronounced in developing countries, where confidence in education as a pathway to social and economic advancement remains strong. Conversely, negative effects are also evident, including fatigue, lack of motivation, feelings of irrelevance or alienation, and rejection of compulsory schooling. Such experiences correspond with critiques of the education system that characterize it as producing alienating relationships, wherein power is exercised over individuals at the expense of their freedom and autonomy (Laval, 2004). Both perspectives—the one emphasizing the benefits of educational expansion and the one highlighting its adverse effects—reflect the ongoing debate concerning the purposes of schooling: should it innovate and adapt to contemporary conditions, or maintain certain principles to uphold a shared culture? (Quintana, 1988). This ambivalence indicates that any policy aimed at expanding compulsory education must consider these subjective effects, since, however commendable the economic, sociopolitical, or formative objectives may be, the success of such expansion ultimately hinges on the meaning it holds and the degree of acceptance by those directly affected (López, 2007).

As the document analysis demonstrates, the expansion of compulsory education is a multidimensional phenomenon whose effectiveness is closely linked to the educational, sociopolitical, economic, and personal contexts in which it is implemented. Thus, although extending compulsory schooling may present an opportunity to guarantee the right to education, expansion alone

does not necessarily lead to improvements in educational quality or equity. Its impact depends on how the additional time is implemented and utilized, which means that structural challenges—such as inequality, exclusion, and school dropout—may persist or even intensify, particularly when pedagogical conditions and system resources are not aligned with students' needs.

For compulsory education to serve as a genuine tool for equity, it is essential to adopt pedagogical strategies that address students' heterogeneity and maximize their formative potential. Adapting teaching processes, implementing multiple instructional strategies, and allocating resources in a differentiated manner are crucial to providing greater support for students from more disadvantaged backgrounds, with the aim of achieving equitable learning outcomes (Alcántara, 2019). Accordingly, the extension of compulsory education should not be regarded as an end in itself but as a starting point for the development of more inclusive and equitable educational systems. Far from supposing “another brick in the wall”—to borrow Pink Floyd's famous metaphor—the expansion of compulsory education should represent a genuine opportunity for growth and development for all students, albeit experienced in diverse ways.

Finally, despite the scope of this analysis, the review has certain notable limitations that must be acknowledged, stemming precisely from the nature of the studies available. In particular, it does not explore in depth the contextual specificities of different countries, which may constrain understanding of how historical, cultural, and institutional factors shape both the implementation and outcomes of educational expansion. Similarly, due to the limited literature, the perspectives of teachers and students are scarcely represented, restricting access to relevant subjective insights. Moreover, although territorial and gender inequalities are recognized, no intersectional approach is employed that would allow examination of other significant variables, such as religion or ethnic origin. Finally, while the tension between public and private financing is noted, the economic and financial mechanisms underlying the sustainability and long-term impact of educational policies are not explored in detail. These limitations, however, suggest promising avenues for future research, including studies on the effects of expansion on teachers' trajectories and practices, the role of educational technologies

in school expansion policies, and longitudinal investigations assessing the impact of reforms across generations and diverse geographical contexts. Such work could enrich the academic debate while also critically addressing the pedagogical purposes of schooling, its significance, and the ways in which is implemented in terms of quality and equity.

## References

Abiétar-López, M., Navas-Saurin, A. A., Marhuenda-Fluixá, F. y Salvà-Mut, F. (2017). La construcción de subjetividades en itinerarios de fracaso escolar. Itinerarios de inserción sociolaboral para adolescentes en riesgo. *Psychosocial Intervention*, 26(1), 39–45. <https://doi.org/10.1016/j.psi.2016.07.002>

Acín, A. (2017). Aspectos organizativos de la educación secundaria de adultos en Córdoba y en Cataluña: un análisis comparado. *Revista Latinoamericana de Educación Comparada* 8(12), 102–118. Recuperado de: <https://dialnet.unirioja.es/descarga/articulo/6570347.pdf>

Akboga, S. (2015). The expansion of compulsory education in Turkey: local and world culture dynamics. *Compare: A Journal of Comparative and International Education*, 46(5), 789–810. <https://doi.org/10.1080/03057925.2015.1106306>

Alcantara, W. R. (2019). Compulsory school and investment in public education: A historical perspective (São Paulo, 1874-1908). *História da Educação*, 23. <https://doi.org/10.1590/2236-3459/81785>

Andrés, Y. P. y Esquivel, R. M. (2017). Educación escolar y masonería: krausismo y laicidad entre España y Costa Rica a finales del siglo XIX. *REHMLAC: Revista de Estudios Históricos de la Masonería Latinoamericana y Caribeña*, 9(1), 7. <http://dx.doi.org/10.15517/rehmlac.v9i1.28631>

Ball, S. y Youdell, D. (2007). *Privatización encubierta en la educación pública*. Instituto de Educación, Universidad de Londres. <https://www.ei-ie.org/es/item/25671:privatizacion-encubierta-en-la-educacion-publica>

Bernal, A. y Martín, J. P. (2001). La dialéctica saber/poder en Michel Foucault: Un instrumento de reflexión crítica sobre la escuela. *Aula abierta*, 77, 99–110

Betthäuser, B. (2017). Fostering Equality of Opportunity? Compulsory Schooling Reform and Social Mobility in Germany. *European Sociological Review*, 33(5), 633–644. <http://doi:10.1093/esr/jcx066>

Braham, R. L. (1972). *Education in Romania: A Decade of Change*. Recupe-

rado de: <https://files.eric.ed.gov/fulltext/ED065419.pdf>

Briscioli, B. (2017). Aportes para la construcción conceptual de las “trayectorias escolares”. *Actualidades investigativas en educación*, 17(3). <https://doi.org/10.15517/aie.v17i3.30212>

Carnevale, A. P., Smith, N. y Strohl, J. (2013). Recovery: Job growth and education requirements through 2020. [Recovery: Job Growth And Education Requirements Through 2020 | DG](#)

Casquero Tomás, A. y Navarro Gómez, M. L. (2010). Determinantes del abandono escolar temprano en España: un análisis por género. *Revisita de Educación, extra 1*, 191–213. Recuperado de: <https://hdl.handle.net/20.500.12799/1202>

Castro, A., y Serra, M. F. (2020). Espacio escolar y utopía universalizadora: Definiciones, tensiones y preguntas en torno a lo espacial y la ampliación del derecho a la escolaridad. *Perfiles Educativos*, 43(171). <https://doi.org/10.22201/iisue.24486167e.2021.171.59383>

Consejo Escolar de Estado. (2023). Informe 2023 sobre el estado del sistema educativo. Curso 2021-2022. Ministerio de Educación, Formación Profesional y Deportes. <https://www.educacionfpydeportes.gob.es/dam/jcr:baf7ad89-bee7-4e72-b3f2-0237c217d6d7/i23cee-informe.pdf>

Cruz, M. N. D. (2017). Early childhood education and extension of compulsory schooling: repercussions for the cultural development of the child. *Cad. CEDES*, 37(102), 259–276. <https://doi.org/10.1590/CC0101-32622017173587>

Dale, N. (12 de marzo de 2025). El Departamento de Educación despidió a la mitad de su plantilla, la alternativa a la promesa de Trump de liquidar la agencia. *El País*. <https://elpais.com/us/2025-03-12/el-departamento-de-educacion-despide-a-la-mitad-de-su-plantilla-la-alternativa-a-la-promesa-de-trump-de-liquidar-la-agencia.html>

da Silva, M. (2019). Expansion of compulsory schooling in Brazil: what happened to secondary education?. *Ensaio: Avaliação e Políticas Públicas em Educação*, 28(107), 274–291. <https://doi.org/10.1590/S0104-40362019002701953>

De Barbieri, L. M. (2011). Educación y escuela en el año del bicentenario de Argentina historia reciente: Tucumán 1990/2010. *Atlantic Review Of Economics*, 1(1), 2. Recuperado de: <https://dialnet.unirioja.es/descar>

[ga/articulo/3922056.pdf](#)

Dewey, J. (2004). *Democracia y educación: Una introducción a la filosofía de la educación*. Ediciones Morata.

Diniz Júnior, C. A. (2020). Obrigatoriedade e gratuidade da educação nos Estados Parte do Mercosul. *Revista Educación, Política Y Sociedad*, 5(2), 50–66. <https://doi.org/10.15366/reps2020.5.2.003>

Djietror, B. B. K., Okai, E. y Kwapon, O. A. T. F. (2011). Promoting Inclusive Education in Ghana. *I-manager S Journal On School Educational Technology*, 6(3), 16–28. <https://doi.org/10.26634/jsch.6.3.1375>

Doherty, E. M. y Male, G. A. (1966). *Education in Spain* (No. 44). US Department of Health, Education, and Welfare, Office of Education. Recuperado de: <https://files.eric.ed.gov/fulltext/ED053593.pdf>

Egido, I. (2013). Presentación: la educación infantil en perspectiva europea. *Revista Española de Educación Comparada*, 21, 11–28.

Erten, B. y Keskin, P. (2019). Compulsory schooling for whom? The role of gender, poverty, and religiosity. *Economics of Education Review*, 72, 187–203. <https://doi.org/10.1016/j.econedurev.2019.06.001>

Flach, S. D. F. (2009). The right to education and its relationship with the enlargement of schooling in Brazil. *Ensaio: Avaliação e Políticas Públicas em Educação*, 17, 495–520. <https://doi.org/10.1590/S0104-40362009000300006>

Gimeno, J. (2000). *La educación obligatoria: su sentido educativo y social*. Morata.

Gimeno, J. (2012). La educación obligatoria: Una escolaridad igual para sujetos diferentes en una escuela común. En José Gimeno, Rafael Feito, Philipe Perrenoud, y María Clemente (Comp.), *Diseño, desarrollo e innovación del currículum* (48–66). Morata.

Gimeno, J. (2013). *En busca del sentido de la educación*. Morata.

Giudice, J. y González, I. (2023). Educación superior en la región: heterogeneidades, desafíos y transformaciones. *Integración y Conocimiento: Revista del Núcleo de Estudios e Investigaciones en Educación Superior de Mercosur*, 12(2), 188–210. <https://doi.org/10.61203/2347-0658.v12.n2.42052>

Gluz, N. y Rodríguez Moyano, I. (2018). Obligatoriness challenged: Who leaves whom? School's exclusion of young people in vulnerable conditions. *Education Policy Analysis Archives*, 26, 162. <https://doi.org/10.19033/epaa.v26.o162>

<https://doi.org/10.14507/epaa.26.3194>

Gondra, J. G. (2010). ¿ Gobierno de los otros? Expansión del tiempo escolar y obligatoriedad de la enseñanza en Brasil. *Revista Educación y Pedagogía*, 58, 37–49. <https://dialnet.unirioja.es/descarga/articulo/3650005.pdf>

Gray, D., Montagnoli, A. y Moro, M. (2021). Does education improve financial behaviors? Quasi-experimental evidence from Britain. *Journal of Economic Behavior y Organization*, 183, 481–507. <https://doi.org/10.1016/j.jebo.2021.01.002>

Hall, C. (2016). Does more general education reduce the risk of future unemployment? Evidence from an expansion of vocational upper secondary education. *Economics of Education Review*, 52, 251–271. <https://doi.org/10.1016/j.econedurev.2016.03.005>

Holmes, C. (2013). Has the Expansion of Higher Education Led to Greater Economic Growth? *National Institute Economic Review*, 224(1), R29–R47. <https://doi.org/10.1177/002795011322400103>

James, J. y Vujić, S. (2018). From High School to the High Chair: Education and Fertility Timing. *Economics of Education Review*, 69, 1–24. <https://doi.org/10.1016/j.econedurev.2018.12.002>

Jones, G. W., Nagib, L., Sumono y Handayani, T. (1998). The expansion of high school education in poor regions: The case of East Nusa Tenggara, Indonesia. *Bulletin of Indonesian Economic Studies*, 34(3), 59–84. <https://doi.org/10.1080/00074919812331337420>

Juusola, H. (2023). What do young people think about the extension of compulsory education?. *Educational Research*, 65(4), 478–495. <https://doi.org/10.1080/00131881.2023.2263885>

Kırdar, M. G., Dayıoglu, M. y Koc, I. (2016). Does longer compulsory education equalize schooling by gender and rural/urban residence?. *The World Bank Economic Review*, 30(3), 549–579. <https://doi.org/10.1093/wber/lhv035>

Krawczyk, N. (2011). Some contemporary challenges of secondary education in Brazil. *Cadernos de Pesquisa*, 41, 752–769. <https://doi.org/10.1590/S0100-15742011000300006>

Lamelas, G. A. y Barbeito, I. G. (2024). A 140 años de la sanción de la Ley 1420: conmemorar, rememorar y recrear sentidos en el horizonte de lo común. *Anales de la Educación Común*, 5(1-2), 33–39. Recuperado

de: <https://cendie.abc.gob.ar/revistas/index.php/revistaanales/article/view/2192/3565>

Laval, C. (2004). *La escuela no es una empresa. El ataque neoliberal a la enseñanza pública*. Paidós

Lira, A. C. M. y Lara, A. M. de B. (2022). Nos rastros do discurso: A ampliação da obrigatoriedade de matrícula e a pré-escola como preparatória. *Revista Ibero-Americana De Estudos Em Educação*, 17(4), 2833–2856. <https://doi.org/10.21723/riaee.v17i4.16594>

Liwiński, J. (2020). The impact of compulsory schooling on Hourly Wage: evidence from the 1999 education reform in Poland. *Evaluation review*, 44(5-6), 437–470. <https://doi.org/10.1177/0193841X20987104>

López, N. (2005). *Equidad educativa y desigualdad social. Desafíos de la educación en el nuevo escenario latinoamericano*. IIPE-UNESCO

López, O. S. (2019). In the interest of the public good: Texas pre-kindergarten compulsory law. *Contemporary Issues in Early Childhood*, 21(4), 356–360. <https://doi.org/10.1177/1463949119848452>

Luo, Y. H. y Chen, K. H. (2018). Education expansion and its effects on gender gaps in educational attainment and political knowledge in Taiwan from 1992 to 2012. *International Journal of Educational Development*, 60, 88–99. [https://doi.org/10.1016/j.ijedudev.2017.10.014Get rights and content](https://doi.org/10.1016/j.ijedudev.2017.10.014)

Machin, S., Vujić, S. y Marie, O. (2012). Youth crime and education expansion. *German Economic Review*, 13(4), 366–384. <https://doi.org/10.1111/j.1468-0475.2012.00576.x>

Mahmoud A. A. (2019). Keeping Kids in School: The Long-Term Effects of Extending Compulsory Education. *Education Finance and Policy*, 14(2): 242–271. [https://doi.org/10.1162/edfp\\_a\\_00254](https://doi.org/10.1162/edfp_a_00254)

Mancebo, M. E. y Zorrilla, J. P. (2018). “Del dicho al hecho hay un gran trecho”: Obstáculos para la expansión de la escolaridad media en Uruguay. *Education Policy Analysis Archives*, 26(161), 1–29. <https://doi.org/10.14507/epaa.26.3189>

Marín, A. (22 de enero de 2024). Educación obligatoria hasta los 18: ventajas e inconvenientes de su implantación. *Huffingtonpost*. <https://www.huffingtonpost.es/sociedad/educacion-obligatoria-18-ventajas-e-inconvenientes-implantacion.html>

Merino, R. (2005). De la LOGSE a la LOCE. Discursos y estrategias de alum-

nos y profesores ante la reforma educativa. *Revista de Educación*, 336, 475-503. Recuperado de: <https://www.educacionfydeportes.gob.es/dam/jcr:70c71491-ee12-4bb9-93e2-50f10a14e814/re33625-pdf.pdf>

Meschi, E. y Scervini, F. (2014). Expansion of schooling and educational inequality in Europe: the educational Kuznets curve revisited. *Oxford Economic Papers*, 66, 660–680. <https://doi.org/10.1093/oep/gpt036>

Miralles Romero, M.J. y Castejón Costa, J.L. (2009). Los efectos de la escuela en los contextos educativos y sus aplicaciones metodológicas. *International Journal of Developmental and Educational Psychology*, 1, 507–514. <https://www.redalyc.org/pdf/3498/349832322056.pdf>

Miret, P. (2004). ¿Qué relación tiene el aumento en los años de escolaridad no obligatoria en la emancipación de los jóvenes en Cataluña durante la segunda mitad del siglo XX?. *Papers de demografía*, 249. Recuperado de: [https://ddd.uab.cat/pub/worpap/2004/220519/papersdemografia\\_a2004n249.pdf](https://ddd.uab.cat/pub/worpap/2004/220519/papersdemografia_a2004n249.pdf)

Misuraca, M. R., Szilak, S., Barrera, K. A. y Ghelfi, F. D. (2022). La Jornada extendida en la educación secundaria bonaerense. Condiciones y necesidades. *Revista Del IICE*, (52). <https://doi.org/10.34096/iice.n52.10908>

Moreno Olmedilla, J. M. (2005). Secondary Education in Afghanistan: a portrait of post-conflict education reconstruction. *Revista española de educación comparada*, 11, 381–406. Recuperado de: <https://revistas.uned.es/index.php/REEC/article/view/7415>

Murray, Å. (1997). Young people without an upper secondary education in Sweden. Their home background, school and labour market experiences. *Scandinavian Journal of Educational Research*, 41(2), 93–125. <https://doi.org/10.1080/0031383970410201>

Murtin, F. y Viarengo, M. (2011). The expansion and convergence of compulsory schooling in Western Europe, 1950–2000. *Economica*, 78(311), 501–522. DOI: [10.1111/j.1468-0335.2009.00840.x](https://doi.org/10.1111/j.1468-0335.2009.00840.x)

Mussida, C., Sciulli, D. y Signorelli, M. (2019). Secondary school dropout and work outcomes in ten developing countries. *Journal of Policy Modeling*, 41(4), 547–567. <https://doi.org/10.1016/j.jpolmod.2018.06.005>

Negură, P. (2020). Compulsory primary education and state building in rural Bessarabia (1918–1940). *Journal of Romanian Studies*, 2(1), 35–58. <https://doi.org/10.25162/jgo-2022-0010>

Ní Bhrolcháin, M. y Beaujouan, É. (2012). Fertility postponement is largely due to rising educational enrolment. *Population Studies*, 66(3), 311–327. <https://doi.org/10.1080/00324728.2012.697569>

Nitungkorn, S. (1988). The problems of secondary education expansion in Thailand. *Japanese Journal of Southeast Asian Studies*, 26(1), 24–41. Recuperado de: <https://repository.kulib.kyoto-u.ac.jp/dspace/bitstream/2433/56311/1/KJ00000131420.pdf>

Nobile, M. (2016). La escuela secundaria obligatoria en Argentina: Desafíos pendientes para la integración de todos los jóvenes. *Última Década*, 24(44), 109–131. Recuperado de: <https://ultimadecada.uchile.cl/index.php/UD/article/view/54167>

OECD (2012), *Equity and Quality in Education: Supporting Disadvantaged Students and Schools*, OECD Publishing, <https://doi.org/10.1787/9789264130852-en>.

OECD (2022). *Education at a Glance 2022: OECD Indicators*, OECD Publishing, <https://doi.org/10.1787/3197152b-en>.

Oreja Cerruti, M. (2023). Las trayectorias como principio estructurante de las políticas para la escuela secundaria en Argentina: un análisis crítico de las orientaciones gubernamentales. *Revista Argonautas*, 13(20), 38–54. Recuperado de: <https://fchportaldigital.unsl.edu.ar/index.php/argonautas/article/view/499/434>

Paglayan, A. S. (2022). Education or indoctrination? The violent origins of public school systems in an era of state-building. *American Political Science Review*, 116(4), 1242–1257. <https://doi.org/10.1017/S0003055422000247>

Paoletta, H. (2017). ¿Es obligatoria la educación secundaria para los jóvenes y adultos?: sentidos acerca de la obligatoriedad escolar presente en Centros Educativos de Nivel Secundario. *Educación, Lenguaje y Sociedad*, 14(14), 1–26. DOI: <http://dx.doi.org/10.19137/els-2017-141406>

Petrongolo, B. (1999). ¿Incentiva el paro juvenil la escolarización secundaria?. *Ekonomiaz: Revista vasca de economía*, (43), 10–37. Recuperado de: <https://2013.economicsofeducation.com/user/pdfssesiones/176.pdf>

Pires, J. y Brutten Baldi, E. M. (2007). La enseñanza media y la enseñanza técnica en el contexto de la reforma de la educación básica brasileña.

*Problemas y perspectivas. Revista mexicana de investigación educativa*, 12(32), 139–164. Recuperado de: <https://www.redalyc.org/pdf/140/14003208.pdf>

Quintana, J.M. (1988). *Teoría de la educación. Concepción antinómica de la educación*. Dykinson.

Rama, G. W. (2004). La evolución de la educación secundaria en Uruguay. *REICE: Revista Iberoamericana sobre Calidad, Eficacia y Cambio en Educación*, 2(1). <https://doi.org/10.15366/reice2004.2.1.001>

Rauscher, E. (2014). Hidden gains: Effects of early U.S. Compulsory schooling laws on attendance and attainment by social background. *Educational Evaluation and Policy Analysis*, 36(4), 501–518. <https://doi.org.sire.ub.edu/10.3102/0162373714527787>

Rauscher, E. (2015). Educational expansion and occupational change: US compulsory schooling laws and the occupational structure 1850–1930. *Social Forces*, 93(4), 1397–1422. Recuperado de: <https://muse.jhu.edu/article/581906>.

Rengifo Streeter, F. (2019). La crisis educativa chilena. Escolarización y política social, 1930-1960. *Revista de historia social y de las mentalidades*, 23(1), 138–170. <https://doi.org/10.35588/rhsm.v23i1.3536>

Ruiz, G. R. y Scioscioli, S. (2018). El derecho a la educación: dificultades en las definiciones normativas y de contenido en la legislación argentina. *Revista Española de Derecho Constitucional*, 114, 105–129. doi: <https://doi.org/10.18042/cepc/redc114.04>

Ruiz, G., Scioscioli, S. y Rodríguez, M. L. (2019). La educación secundaria en cinco países de América del Sur: definiciones normativas y alcances empíricos desde la perspectiva del derecho a la educación. *Bordón: Revista de pedagogía*, 71(4), 101–116. <https://doi.org/10.5944/reec.27.2016.14521>

Ruiz, M. C. y Schoo, S. (2014). La obligatoriedad de la educación secundaria en América Latina. Convergencias y divergencias en cinco países. *Foro de Educación*, 12(16), pp. 71–98. doi: <http://dx.doi.org/10.14516/fde.2014.012.016.003>

Sevilla, D. (2007). La Ley Moyano y el desarrollo de la educación en España. *Hespérides: Anuario de investigaciones*, 15, 625–640.

Shavit, Y. y Westerbeek, K. (1998). Educational stratification in Italy: Reforms, expansion, and equality of opportunity. *European Sociological Review*

view 14(1), 33–47. Recuperado de: <https://hdl.handle.net/1814/71346>

Silva, M. (2018). The school geography in the context of high school's reform: an analysis to besides the place. *Geosaberes*, 10(20), 1–10. <https://doi.org/10.26895/geosaberes.v10i20.687>

Strawiński, P. y Broniatowska, P. (2021). The impact of prolonging compulsory general education on the labour market. *Educational Studies*, 50(4), 413–433. <https://doi.org/10.1080/03055698.2021.1957670>

Tabak, H. y Çalık, T. (2020). Evaluation of an educational reform in the context of equal opportunities in Turkey: Policy recommendations with evidence from PISA. *International Journal of Contemporary Educational Research*, 7(1), 321–334. DOI: <https://doi.org/10.33200/ijcer.685893>

Tarabini, A. y Bonal, X. (2016). *Los principios de un sistema educativo que no deje a nadie atrás*. Save the Children. [los\\_principios\\_de\\_un\\_sistema\\_educativo\\_que\\_no\\_deje\\_a\\_nadie\\_atras.pdf](https://www.savethechildren.es/los-principios-de-un-sistema-educativo-que-no-deje-a-nadie-atras.pdf)

Tarabini, A. (2020). ¿Para qué sirve la escuela? Reflexiones sociológicas en tiempos de pandemia global. *Revista de Sociología de la Educación-RASE*, 13(2), 145–155. <https://doi.org/10.7203/RASE.13.2.17135>.

Terigi, F., Briscioli, B., Scavino, C., Morrone, A. y Toscano, A. G. (2013). La educación secundaria obligatoria en la Argentina: entre la expansión del modelo tradicional y las alternativas de baja escala. *Revista del IICE*, (33), 27–46. <https://doi.org/10.34096/riice.n33.1099>

Valdés, M.T. (2022). Horizontal inequality in the transition to upper secondary education in Spain. *Papers*, 107 (2), 1–26. <https://doi.org/10.5565/rev/papers.2968>

Verger, A., Altinyelken, H. K. y Novelli, M. (Eds.). (2018). *Global education policy and international development: New agendas, issues and policies*. Bloomsbury Publishing. <https://hdl.handle.net/11245/1.390439>

Woodin, T., McCulloch, G. y Cowan, S. (2013). Raising the participation age in historical perspective: policy learning from the past? *British Educational Research Journal*, 39(4), 635–653. Recuperado de: <http://www.jstor.org/stable/24464787>

Wu, J. y Marois, G. (2024). Education Policies and Intergenerational Educational Mobility in China: New Evidence for the 1986–95 Birth Cohort. *Popul Res Policy Rev* 43. <https://doi.org/10.1007/s11113-024-09887-2>

Wu, X. (2010). Economic transition, school expansion and educational inequality in China, 1990–2000. *Research in Social Stratification and mobility*, 28(1), 91–108. <https://doi.org/10.1016/j.rssm.2009.12.003>



# **Policy research on the expansion of compulsory education: a systematic review (2015-2024)**

## **Investigación sobre políticas de ampliación de la educación obligatoria: revisión sistemática (2015-2024)**

<https://doi.org/10.4438/1988-592X-RE-2025-411-720>

**Carmen Álvarez-Álvarez**

<https://orcid.org/0000-0002-8160-2286>

*University of Cantabria*

**Edwin José Triana-Teherán**

<https://orcid.org/0000-0002-4928-285X>

*Autonomous University of Barcelona*

### **Abstract:**

Different countries worldwide are considering changes to compulsory education policies to extend the duration of basic schooling due to its benefits for individuals, societal progress, and economic development. However, such reforms imply significant challenges and far-reaching implications that must be carefully addressed. This study presents a systematic review of scientific literature published between 2015 and 2024. The articles were identified through two academic databases (WOS and Scopus) and two artificial intelligence tools (Consensus and Perplexity). After a rigorous screening process, a total of 22 relevant articles focusing on the expansion of pre-primary, primary, and secondary education stages were analyzed. This review explores the challenges, implications, benefits, and potential negative impacts of such reforms. The findings highlight the inherent complexity of policies aimed at expanding compulsory education. Key considerations include investment in infrastructure, teacher training and recruitment, opportunity costs, curriculum updates, and the importance of deliberate planning and coordination to mitigate the pressures on the

education system. Notably, the review emphasizes that expanding compulsory education particularly benefits vulnerable groups, including girls and female adolescents, students from rural areas, and individuals from lower socioeconomic backgrounds. Nevertheless, the expansion of compulsory schooling does not automatically guarantee quality or equity. The study underscores the need for targeted measures to address these issues, given that education systems are diverse, unequal, and often inadequately equipped to accommodate diversity or provide alternatives for individuals who wish to leave formal education to pursue work opportunities.

**Key words:** compulsory education; educational policy; access to education; educational reform; equity.

### **Resumen:**

Los diferentes países del mundo se plantean realizar cambios en las políticas de educación obligatoria para ampliar los años de escolarización básica por los beneficios que producen para los ciudadanos, el avance de las sociedades y la economía. Sin embargo, estos procesos de cambio conllevan numerosos desafíos y tienen considerables repercusiones que deben considerarse. En este artículo se realiza una revisión sistemática de la literatura científica publicada durante el periodo de 2015 a 2024. Los artículos se localizaron a través de dos bases de datos (WOS y Scopus) y dos herramientas de inteligencia artificial (Consensus y Perplexity). Tras realizar un proceso de filtraje se trabajó con un total de veintidós artículos válidos que abordan la ampliación de las etapas de Educación Infantil, Primaria y Secundaria. Se exploran los desafíos, las implicaciones, los beneficios y otros impactos negativos. Los resultados muestran la gran complejidad inherente de las políticas de ampliación de la educación obligatoria y focalizan en aspectos de interés que todos los estados deben sopesar sosegadamente: la inversión en infraestructura, la formación y contratación de profesorado, el coste de oportunidad, la necesaria actualización curricular, y la conveniencia de planificar y coordinar intencionadamente todos los esfuerzos para aminorar la carga de presión que sufrirá el sistema escolar. La revisión realizada pone de relieve que la ampliación de la educación obligatoria beneficia muy especialmente al alumnado más vulnerable: las niñas y las adolescentes, los estudiantes de zonas rurales y las clases sociales más bajas. No obstante, la ampliación de la escolarización obligatoria no es sinónimo automático de calidad y equidad, haciendo visible también la necesidad de medidas que aborden ambas cuestiones decididamente, ya que los sistemas educativos son plurales, desiguales y tienen deficiencias para atender a la diversidad y ofrecer alternativas a las personas que desean trabajar y abandonar el sistema educativo.

**Palabras clave:** educación obligatoria; política educativa; acceso a la educación; reforma educativa; equidad.

## Introduction

Compulsory education is a key component in the development of modern education systems, as it ensures a more equal access to knowledge and promotes both individual and social benefits (Baltagi et al., 2019; Gluz et al, 2018; Grenet, 2013). Increasing the duration of compulsory education has a significant impact on the reduction of education inequalities, especially among the most vulnerable groups (Osorio, 2019), such as when early childhood education (Correa, 2011; Mesomo and Souza, 2019), or Primary Education is extended (Maeda et al., 2024), and even Secondary Education (Afonso and Aubyn, 2006).

In addition, it is important to point out that the impact of education policies is not homogenous, as it can considerably vary as a function of the social, economic, cultural, and institutional context into which they are implemented (Lewis and Nguyen, 2020). In this sense, Besche-Truthe (2022) has proposed a comparative classification of countries according to the duration of compulsory education, establishing eight differentiated groups. The analysis performed by the author reveals that there is no clear geographical pattern in this distribution, which evidences the influence of political and structural factors specific to each country. Within this framework, Spain is found among the countries with a prolonged compulsory education, including Early Childhood, Primary, and Secondary Education, with an expansive trend towards posterior stages such as Post-Compulsory Secondary Education and Higher Education. This group, composed of 35 countries, is mostly characterized by having high levels of human development, according to the Index of Human Development of the United Nations Development Program (United Nations Development Programme, 2025), which suggests a good correlation between a sustained investment in education and the degree of socioeconomic development.

The decisions related with increasing the duration of compulsory education are inherently complex due to their impact on diverse aspects of the social and educational fabric (Correa, 2011; Mesomo and Souza, 2019; Gluz et al, 2018; Osorio, 2019). In first place, students are the first group that is most affected and benefitted, as the intention is to extend their stay in the

education system to guarantee basic skills and better prepare them for their future insertion into the workforce (Besche-Truthe, 2022; Brunello et al., 2009). However, these policies must consider the pre-existing inequalities that could make difficult the permanence of vulnerable students, as well as those coming from families with limited resources or unfavorable socioeconomic contexts (Bernstein, 1971; Gluz et al, 2018).

Therefore, it is important to not only provide opportunities for attending school, but also make students feel comfortable and even part of the education system (Maeda et al., 2024). Nevertheless, prolonging compulsory education tends to reduce education gaps, as it offers more opportunities to groups that are more at-risk, thus creating a more equitable society (OECD, 2012; Osorio, 2019). Nevertheless, if the expansion of the existing compulsory schooling is lengthened to an age in which the basic skills are already established (by creating compulsory post-secondary schooling), additional education may be less effective (Tominey, 2010).

As for the teaching staff, prolonging compulsory education tends to imply greater demands on educators, who must adapt to a more diverse student body with more heterogeneous education needs (Correa, 2011). This underlines the importance of investing in continued teacher training, in pedagogic resources that facilitate inclusive education, in teacher support policies, as their preparation is essential for achieving the successful implementation, and in financial measures (Correa, 2011; UNESCO, 2019). In addition, given the demands and the regulatory and curricular changes that frequently occur in Spain, it is possible to highlight the tension that this measure could produce in some of the teaching staff, specifically the Secondary Education teachers (Sanz Ponce et al., 2023).

The changes also greatly affect the business fabric, as an increase in the minimum schooling age could alter the availability of young workers, especially in sectors that traditionally depend on them, thereby implying readjustments between the labor market and the school system (Grenet, 2013). However, these policies can benefit business in the long term when provided with staff that is better qualified for the demands of the current market. As the human capital model argues, increasing the duration of compulsory education improves work productivity and contributes to general economic growth

(Harmon, 2017). In the labor market and the economy, a positive impact on employability and income has been observed when increasing the duration of compulsory education, particularly in those with a lower level of initial education (Brunello et al., 2009). For example, some studies on reforms in the United Kingdom and other European countries have shown that the additional years of training improve the basic skills needed in different work sectors, which contributes to a higher economic mobility and a reduction in salary inequalities. Comparative studies have shown that education systems that efficiently optimize their resources to obtain the maximum benefits from these policies, such as Finland and the Netherlands, achieve high levels of academic performance and equity with lower relative costs, while other countries face challenges to maximize the return of these policies (Afonso and Aubyn, 2006).

Reforms such as those implemented in Sweden in the 20th century, which introduced comprehensive education lasting 9 years, helped reduce class barriers when providing more equal education opportunities. However, these policies also faced opposition, especially from those who argued for the early selection by academic level, which highlights the complexity of balancing social and political demands (Erikson and Jonsson, 1996). In the Spanish context, Viñao (2004) and Escolano (2010) have indicated that increasing the duration of compulsory education has played an essential role in the modernization of the education system and the promotion of social equity.

Likewise, it is fundamental to underline that the benefits transcend the individual and positively affect society in general. A citizenry with higher levels of education tends to become involved in civil and political life with a greater commitment, exerting their rights and duties in an informed and critical manner. This increase in democratic participation contributes to the strengthening of the institutions, the consolidation of a more inclusive and deliberative political culture, and the creation of a more cohesive and equal society. As a result, a more stable and resilient social setting is created, against modern challenges, such as inequalities, polarization, or exclusion (UNESCO, 2019). In this way, increasing the duration of schooling is an essential pillar for progress and the sustainability of modern democracies.

As a whole, these policies are a magnificent tool for promoting social cohesion and economic development, although they require specific adjustments to maximize their impact in different European contexts. It is important, necessary, and relevant, for these decisions to be based on solid, research-based evidence. For this, the guideline changes must be founded on rigorous and relevant information, which promotes more transparent and efficient decisions, aligned with the public interests (Imlig and Ruoss, 2015).

The present article presents a systematic review of the publications found in the Web of Science and Scopus databases in the last ten years. The systematic review of compulsory education expansion policies is essential, as these directly affect different areas, such as the reduction of education inequalities, health improvement, the development of work skills, and long-term economic growth (Baltagi et al., 2019). However, their success depends on contextual factors, such as socioeconomic conditions, the educational infrastructure, and the support system for vulnerable students (Correa, 2011; Mesomo and Souza, 2019; Osorio, 2019). A systematic review allows for the identification of good practices, the assessment of results from different regions, and the adaptation of strategies to local needs. In addition, it provides a solid basis of evidence that provides information for those responsible for decision making, to reduce the application of inefficient or counterproductive measures (OECD, 2012; UNESCO, 2019).

## Method

The general aim of the present study is to perform an exhaustive study of the scientific articles on the expansion of compulsory education published in the last decade. The objective was not only to compile and summarize the knowledge created in this area, but also to develop a current diagnosis that allows us to comprehensively understand the most relevant variables underlined in previous studies: (1) the challenges faced by the different countries, (2) implications of the changes, (3) the benefits obtained, and (4) other negative impacts observed.

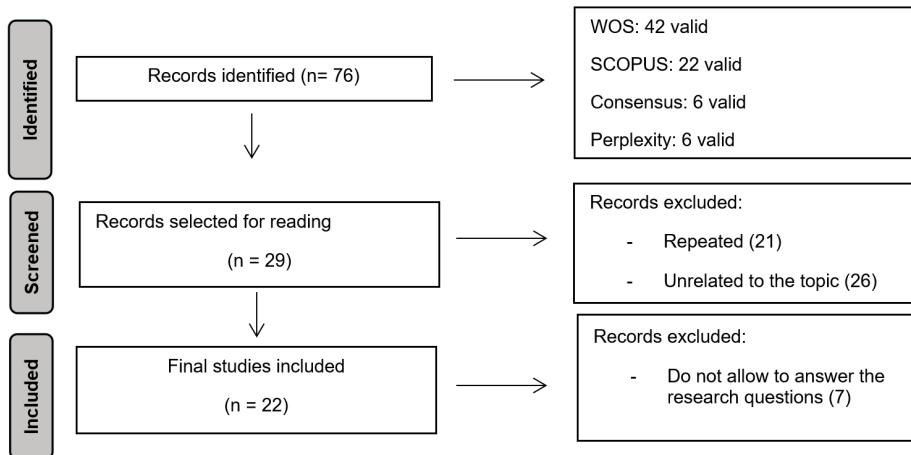
For this, searches were performed in two relevant databases: the Web

of Sciences (WOS) and Scopus, given their international importance. The method followed, in line with the PRISMA guidelines (Page et al., 2021), started with the design of a search equation common to both databases, with the search performed in the “title” field: (extension OR expansion OR lengthening OR prolongation OR increase OR enhancement OR widening OR broadening OR augmentation OR advancement) AND (compulsory OR mandatory OR required OR obligatory OR attendance OR basic) AND (school OR education). A total of 64 articles were found, 42 in WOS and 22 in Scopus.

To complete the search, two artificial intelligence tools that are gaining importance in the scientific field were used: consensus and perplexity, increasing the records found to 76. The search equation was provided, and the tools were asked to find articles in both databases, with 12 more different articles found that had not been found in the WOS and Scopus databases, and which fit the topic (6 in Consensus and 6 in Perplexity). The prompt used was: “You are an education researcher and want to find scientific articles between 2015 and 2024. The search equation was: (extension OR expansion OR lengthening OR prolongation OR increase OR enhancement OR widening OR broadening OR augmentation OR advancement) AND (compulsory OR mandatory OR required OR obligatory OR attendance OR basic) AND (school OR education)”.

When reviewing the title, keywords, and abstract, 47 articles were discarded, because: they were duplicates (21) or were not related to the topic (26). Finally, 26 articles successfully passed the screening phase. In addition, 7 articles were eliminated as they could not provide an answer to the research questions. A total of 22 articles were included in the study. The search process is found in the following flow diagram (see Figure 1).

**Figure I.** Flow diagram: Seventy-six texts were identified (42 in WOS, 22 in Scopus, 6 in Consensus, and 6 in Perplexity). During screening, 21 duplicates and 26 texts unrelated to the topic were excluded, leaving 29 articles to be read. During reading, 7 articles that did not answer the research questions were excluded, leaving a final total of 22 studies.



Source: Author created

The variables object of study were structured around four main categories that allowed for a detailed and exhaustive analysis. In first place, an analysis was performed of the challenges associated to the policies analyzed, which included the main challenges, difficulties, and barriers identified in diverse studies. In second place, the repercussion from these policies are analyzed, underlining the changes needed in the practical, theoretical, and strategic areas that different countries must address to guarantee the expansion of compulsory education. In third place, the benefits obtained are considered, understood as the opportunities, advantages, and achievements obtained by the different countries thanks to the implementation of these policies. Lastly, other impacts generated are addressed, a category that encompasses additional effects, both positive and negative, which are not exclusively limited to the benefits expected, but which are still relevant. This classification allows us to perform a comprehensive analysis of the variables studied, which provides a

balanced and critical view of the policies examined.

The selected articles were obtained in full, which allowed for an exhaustive and detailed analysis of each of them. Relevant information related with the four previously-described key variables was extracted from the 22 articles included in the study. This information was used to construct a highly complex table-matrix that served as the core tool for the analysis. This table-matrix organized the data systematically, which facilitated the qualitative treatment of the information. The categorization implied developing successive phases of coding, thematic grouping, and review, to guarantee the consistency of the results obtained.

## Results

The 22 articles analyzed address the expansion of compulsory education in different stages of education and contexts. The focus, centered on very varied topics, analyzed significant changes in the lengthening of the schooling period. The following table, organized according to stages of education and alphabetical order of the authors, presents a summary of the articles (see Table 1).

**Table I.** The 22 studies analysed are summarised, with indications of authors and date of publication, countries, human development index, educational stages, changes in educational policies and focus of the study.

Authors and date	Countries	Human development index	Stages of education	Changes in the education policies	Focus of the study
da Cruz, 2017	Brazil	High	Early Childhood	Extend compulsory education to 9 years, between Preschool and Primary	Articulation between Early Childhood and Primary Education
Akboga, 2016	Turkey	Very high	Primary	Extension of primary education from 5 to 8 years.	Shift from a broad religious-led education system to a “modern” secular system
Bamidele et al., 2024	Nigeria	Medio	Primary	Universal Basic Education Program	Analyze school drop-outs

Dursun and Cesur, 2016	Turkey	Very high	Primary	Compulsory schooling from 5 to 8 years	Impact of compulsory education on hope and happiness
Elsayed, 2019	Egypt	High	Primary	Extension of Primary Education from 5 to 6 years	Educational reform of Primary Education
Fischer et al., 2020	Sweden	Very high	Primary	Expansion of Primary Education through reform	Educational reform of Primary Education
Gulesci et al., 2020	Turkey	Very high	Primary	Extension of Primary Education from 5 to 8 years	Effect of compulsory schooling on the rejection of domestic violence
Kunt Šimunović, 2024	Turkey	Very high	Primary	Increase in compulsory schooling from 5 to 8 years	Impact of increased compulsory schooling on patience
Kırdar et al., 2018	Turkey	Very high	Primary	Compulsory schooling from 5 to 8 years	Increase in the age of schooling
Valente, 2019	Tanzania	Medio	Primary	Elimination of tuition fees	Impact of the elimination of tuition fees
Avendano et al., 2020	Great Britain	Very high	Secondary	Reform of the Compulsory School Leaving Age	Raise the minimum school leaving age to 16
Brilli and Tonello, 2018	Italy	Very high	Secondary	Increase compulsory education by one year (from 14 to 15)	Crimes committed by adolescents
da Silva, 2019	Brazil	High	Secondary	Increasing the duration of basic education	Access to basic education
Erten and Keskin, 2019	Turkey	Very high	Secondary	Extend education from 8 to 12 years	Extending education to 12 years
Iñigo and Río, 2016	Argentina	Very high	Secondary	Expansion of Secondary Education	Universalization of reading and writing
Juusola, 2023	Finland	Very high	Secondary	Extension of Secondary Education to age 18	Students' thoughts on expanding compulsory education
Oppong-Nkrumah et al., 2019	Burkina Faso, Colombia, Malawi	Low, high and low	Secondary	Schooling between 12 and 17 years	Comparison of basic education in three low-income countries
Rauscher, 2016	United States	Very high	Secondary	Compulsory schooling laws (1850-1930)	School mobility
Rauscher, 2015	United States	Very high	Secondary	Compulsory schooling laws (1850-1930)	School mobility
Rolleston and Iyer, 2019	Vietnam	High	Secondary	Enrollment in tenth grade (upper secondary school)	Factors influencing enrollment
Valero-Gil and Valero, 2022	Mexico	High	Secondary	Schooling between 12 and 14 years	Increase in school attendance
Peng and Wang, 2024	China	High	Secondary	Reform of Compulsory and Free Education	Impact of free compulsory education in rural China

Source: Author created

As Table I shows, one of the articles was framed within Early Childhood Education, nine in Primary Education, and twelve in Secondary Education. All of them were published between 2015 and 2024. According to the country, a great variety was found, although 6 studies were conducted in Turkey. Given that the level of development of the participating countries may be of interest to the reader to better understand the studies, their ranking in the classification of the United Nations Development Programme (United Nations Development Programme, 2025) has been indicated in the Human Development Index (HDI) column. The study included 13 countries with a very high HDI, 7 countries with a high HDI, 2 with a medium HDI, and 2 with a low HDI. Most of the studies analyzed had a very high or high HDI (20), such as the current ranking of Spain. Only 2 studies were far from the most common profile: one performed in Burkina Faso, Colombia, and Malawi, with a low, high, and low HDI, respectively (Oppong-Nkrumah et al., 2019), and another conducted in Nigeria (Bamidele et al., 2024) and Tanzania, with a medium HDI level (Valente, 2019).

To account for the results of the study, these have been organized into four main axes that allow for a comprehensive understanding of the findings, following the four previously-described categories: (1) challenges, which encompass the main difficulties and barriers faced in the process analyzed; (2) implications, underlining the practical, theoretical, and strategic consequences derived from these challenges; (3) benefits, which reflect the opportunities and advantages associated with the practices or decisions studied; and (4) other impacts, incorporating negative collateral effects that are not strictly framed within the previous categories, although they are relevant for the overall understanding of the results. Given that the articles reviewed addressed the growth of Early Childhood Education, Primary Education, and Secondary Education, the results will be shown organized by axes and stages.

## Challenges

The challenges described by the articles reviewed were related with structural limitations, social resistance, and problems in the implementation that were identified in different contexts in the different countries. Knowing about them can help in better planning the process of change.

In the Early Childhood Education stage, the only article that addressed it posed three challenges (da Cruz, 2017): (1) Investments in Early Childhood Education in Brazil are insufficient. (2) It is necessary to improve the quality of schools in Early Childhood Education. (3) Educational segmentation between stages must be avoided.

In the Primary Education stage, the nine studies reviewed posed several challenges, organized according to frequency, from higher to lower:

- Investment: (1) in creating and improving infrastructure; (2) in building or improving school facilities; (3) for teachers' salaries (Bamidele et al., 2024; Elsayed, 2019; Fischer et al., 2020; Gulesci et al., 2020; Kirdar et al., 2018; Kunt Šimunović, 2024; Valente, 2019). Availability and/or teacher training (Bamidele et al., 2024; Elsayed, 2019; Kirdar et al., 2018; Kunt Šimunović, 2024).
- Transportation in rural areas, the establishment of boarding schools and consolidation of rural schools (Gulesci et al., 2020; Kunt Šimunović, 2024).
- Create teaching materials to be used when teaching during the new academic years to be implemented (Bamidele et al., 2024).
- Encourage family participation and take into account the socio-economic barriers that prevent them from becoming involved in the educational process of children (Bamidele et al., 2024).
- Cultural resistance to increasing the time devoted by children or young people to schooling (Kirdar et al., 2018).
- Reduction in the time devoted to Secondary Education by increasing the time devoted to Primary Education (Akboga, 2016).
- Increase in the student-teacher ratio (Valente, 2019).
- Tensions in the educational offerings of religious and secular schools (Akboga, 2016).

- Parents decide when their children start primary school, which is lax (Dursun and Cesur, 2016).
- A rapid increase in enrollment in many developing countries could worsen the quality of education (Valente, 2019).

In the Secondary Education stage, the twelve studies reviewed posed many challenges, some of which were similar to those described previously in Primary Education. These are ordered according to their frequency of appearance in the studies, from the most mentioned to the least.

- Significant investment in infrastructure, teaching staff and pedagogical resources (da Silva, 2019; Erten and Keskin, 2019; Oppong-Nkrumah et al., 2019; Peng and Wang, 2024); Rolleston and Iyer, 2019; Valero-Gil and Valero, 2022).
- Opportunity cost. For low academic performance students, the decision to continue formal schooling for another year may mean losing immediate job opportunities (Avendano et al., 2020; Erten and Keskin, 2019; Juusola, 2023; Valero-Gil and Valero, 2022).
- Discomfort among low-performing students who want to leave secondary school to work (Avendano et al., 2020; Brilli and Tonello, 2018; Juusola, 2023).
- Poverty and lack of economic opportunities that generate resistance because low-income families require all members to survive (Oppong-Nkrumah et al., 2019; Valero-Gil and Valero, 2022; Peng and Wang, 2024).
- Implement security measures in educational centers to prevent violence and bullying (Brilli and Tonello, 2018).
- Increase in enrollment (Brilli and Tonello, 2018).
- High rates of educational dropout and exclusion (da Silva, 2019).
- Segmentation between general preparatory training and technical and vocational training, which reflects the different educational and professional paths available (da Silva, 2019).
- Outdated resume (da Silva, 2019).
- Educational segmentation in different, very marked stages (Iñigo and Río, 2016).
- Difficulty taking a year off (Juusola, 2023).

- Achieve free education (Oppong-Nkrumah et al., 2019).
- Existence of child labor prior to the legal working age (Oppong-Nkrumah et al., 2019).
- Elites seeking to maintain their educational and social advantage in education by taking actions that keep them in a privileged position (Rauscher, 2015, 2016).
- State expenditure favors the attendance of more students (Rolleston and Iyer, 2019).
- Restricted access by exam-based selection (Rolleston and Iyer, 2019).
- Regional inequalities that exacerbate the educational gap between areas with greater and lesser financial capacity (Peng and Wang, 2024).
- Migrations make the continuation of education difficult (Peng and Wang, 2024).

## Implications

Taking on a process of changing the duration of the schooling period logically has many implications, such as reforms, pedagogic transformations, and guideline adaptations. Knowing the implications of this change can help visualize the viability of extending the schooling time of children and youth in any country.

In the Early Childhood stage, the only article that addressed it described an implication that must be considered: Early Childhood Education must not only become a preparatory stage for Primary Education. This means that it must not only be centered on learning how to read and write, as it hinders age-appropriate play and interactions (da Cruz, 2017).

In the Primary Education stage, the nine studies reviewed posed numerous implications when extending the basic schooling period, such as:

- Highly trained teachers are required to teach at higher levels (Bamidele et al., 2024; Elsayed, 2019; Valente, 2019).
- A review of the curricula and study plans is necessary (Elsayed, 2019; Fischer et al., 2020).

- Adequate funding is important to cover expenses. A lack of funding can undermine the potential benefits of increasing access to education (Valente, 2019).
- The freedom to choose a vocation is restricted at earlier ages (Akboga, 2016).
- Education must respond to the needs of the labor market (Bamidele et al., 2024).
- Expanding schooling must be part of a broader quality improvement strategy that addresses disparities in educational outcomes (Fischer et al., 2020).
- Students who are most likely to be excluded from the educational system must be taken into account in order to provide them with the additional support they require (Valente, 2019).
- If the quality of education is low, it discourages enrolling in Secondary Education (Elsayed, 2019).
- Expanding children's schooling can have positive and negative impacts on their families' attitudes toward education (Gulesci et al., 2020).
- Taking into account both global and local culture and understanding the complex interaction between them in a reform process (Akboga, 2016).
- It may involve the closure of secondary schools and different types of centers (religious centers, for example) (Akboga, 2016).
- More patient people choose to further their education. However, an increase in the schooling age does not automatically guarantee an increase in patience (Kunt Šimunović, 2024).
- Socio-cultural change: Increased education can alter women's preferences and aspirations, leading to a delay in marriage and childbearing (Kırdar et al., 2018).
- It is necessary to continuously monitor and evaluate the educational change process (Valente, 2019).

In the Secondary Education stage, the twelve studies reviewed posed varied implications, with some of them coinciding with those previously found in Primary Education.

- Demand for higher quality education at all schools to achieve desirable capabilities in the population. However, as schooling increases, differences in quality increase (da Silva, 2019; Iñigo and Río, 2016; Rauscher, 2015, 2016).
- Need to offer alternative routes to low-performing students who want to work or work because they need to (Avendano et al., 2020; Oppong-Nkrumah et al., 2019; Valero-Gil and Valero, 2022).
- Education system preparation, policy review, coordination between different levels of government, and the mobilization of financial resources are required to ensure the system's sustainability. This includes having enough time for teaching staff availability (Brilli and Tonello, 2018; da Silva, 2019; Peng and Wang, 2024).
- Increasing schooling in the Secondary stage implies a reaffirmation of the right to education, an increase in the rate of access to the education system and a greater capacity to include the more vulnerable social sector (da Silva, 2019).
- In Secondary Education, the crime rate among 14-year-olds can be reduced by 11.5% (Brilli and Tonello, 2018).
- There may be a mismatch between supply and demand in the labor market (Erten and Keskin, 2019).
- Grades influence the perspective of the future: pressure to succeed at school (Juusola, 2023).
- Equity should imply that secondary school does not entail additional costs (Juusola, 2023).
- Access to the centers should be provided through a merit system in order to act fairly in the allocation of places (Rolleston and Iyer, 2019).

## Benefits

The articles reviewed referred to many benefits from the expansion of schooling in the contexts of the different countries analyzed. In summary, the following are described:

In the Early Childhood Education stage, the sole article analyzed

described the increase in the opportunity to access education of the 0-6 years-old population as a benefit of expanding schooling (da Cruz, 2017).

In the Primary Education stage, the nine studies reviewed provided six benefits from extending the period of schooling in this stage, related with a greater access of the population to education and improvement in knowledge, skills, and competences.

- Increasing the educational opportunities of women. This leads to a delay in the age of marriage and maternity. This also results in improvements in the mother's and children's health, the education of the children, and general well-being (Kırdar et al., 2018). Prolonged primary education significantly increases the happiness and empowerment of young women (Dursun and Cesur, 2016) and a longer compulsory education reduces the probability of considering domestic violence justifiable by 12 percentage points, which represents a 43 percent decrease (Gulesci et al., 2020).
- The equality of opportunities is promoted for children in rural contexts and from more disadvantaged communities, aside from reducing child labor (Akboga, 2016; Bamidele et al., 2024; Elsayed, 2019). In this way, individual and social empowerment, a higher access to education, and a reduction in inequalities is achieved (Valente, 2019).
- A reduction in poverty and health improvements (Bamidele et al., 2024; Elsayed, 2019).
- Better preparation for Secondary Education, Higher Education, and work, which requires a good development of basic skills (Elsayed, 2019; Fischer et al., 2020).
- Greater access to secular education and universal values such as democracy and human rights (Akboga, 2016).
- A longer period of schooling can help contribute to a cultural change that highly values planning and the future. When increasing the schooling age, people can be helped to make more rational decisions, planning for the future, and resist immediate gratification (Kunt Šimunović, 2024).

In the Secondary Education stage, the twelve studies reviewed mentioned five great benefits, with a high coincidence between them.

- Increase in the educational level of boys and girls: a higher proportion of students complete secondary school, and lower dropout rates (Avendano et al., 2020; da Silva, 2019; Erten and Keskin, 2019; Juusola, 2023; Peng and Wang, 2024; Rauscher, 2016; Valero-Gil and Valero, 2022).
- Improvements in training that facilitate access to the labor market (Avendano et al., 2020; Brilli and Tonello, 2018; da Silva, 2019; Iñigo and Río, 2016; Rauscher, 2016; Rolleston and Iyer, 2019; Peng and Wang, 2024) and the university (Juusola, 2023).
- Marginalization is prevented, health levels are improved and crimes are reduced (Brilli and Tonello, 2018; Juusola, 2023; Valero-Gil and Valero, 2022; Peng and Wang, 2024).
- Young people have more time to decide about the future (Juusola, 2023) and become more critical and academically competent citizens (da Silva, 2019; Rauscher, 2015; Peng and Wang, 2024).
- Child labor, child trafficking, and poverty are reduced, and further education for girls is encouraged (Oppong-Nkrumah et al., 2019; Valero-Gil and Valero, 2022; Peng and Wang, 2024).

## Other impacts

The articles reviewed also mentioned other impacts that were not so positive for Primary and Secondary Education that must be considered in the process of changing the duration of schooling of children and youth.

In the Primary Education stage, the nine studies reviewed posed eight negative aspects that must be considered.

- Not all education will be of quality, given the intrinsic disparities of educational systems (Bamidele et al., 2024; Elsayed, 2019; Fischer et al., 2020; Valente, 2019).
- Opportunity cost: loss of income due to a family member not working (Akboga, 2016; Elsayed, 2019; Fischer et al., 2020; Valente, 2019).
- High economic cost for countries (Bamidele et al., 2024; Kirdar et al., 2018).

- Increased costs for families (school supplies, transportation, or uniforms) (Elsayed, 2019; Fischer et al., 2020).
- Saturation or pressure exerted on all resources (human, economic, and intangible) of educational systems (Bamidele et al., 2024; Kirdar et al., 2018).
- In countries where religion plays an important role in education, even in public education, social polarization can occur between the (secular) and religious sectors. This can lead to demonstrations and debate about the role of religion in education (Akboga, 2016).
- Boys' literacy and schooling rates increase as compared to girls'. This creates a widening gender gap (Elsayed, 2019).
- Once women leave school, marriage and fertility rates increase, suggesting that education alone is not enough to change deeply rooted cultural norms (Kirdar et al., 2018).

In the Secondary Education stage, the 12 studies reviewed identify various negative impacts, with some of them coinciding with those found in Primary Education.

- Opportunity cost: families lose the possibility of having one more member contribute to their income through work (Valero-Gil and Valero, 2022 Erten and Keskin, 2019; Iñigo and Río, 2016; Oppong-Nkrumah et al., 2019; Peng and Wang, 2024).
- Pressure on the education system: A sudden increase in demand for education can put pressure on the infrastructure and available resources, which affects the quality of education (da Silva, 2019; Erten and Keskin, 2019; Peng and Wang, 2024).
- Not all education will be of quality, due to the intrinsic disparities of the different educational systems (da Silva, 2019; Erten and Keskin, 2019; Oppong-Nkrumah et al., 2019).
- Difficulty in addressing diversity by teachers (da Silva, 2019; Juusola, 2023).
- It worsens the mental health of low-performing students who want to work (Avendano et al., 2020).
- Crimes in schools increase (although they decrease outside of schools) (Brilli and Tonello, 2018).

- The number of students per teacher increases, given the increase in the influx of students, especially in vocational training schools (Brilli and Tonello, 2018).
- If the education system fails to respond to the needs and interests of young people, compulsory schooling can lead to an increase in school dropouts (da Silva, 2019).
- Pressure for success in students (Juusola, 2023).
- Possible credential inflation at the social level (Rauscher, 2016).
- Cost and test-based selection can exacerbate existing inequalities and limit access to education for low-income students (Rolleston and Iyer, 2019).
- Mismatch between supply and demand: If the labor market does not offer enough opportunities for people with higher educational levels, it can lead to frustration and unemployment (Peng and Wang, 2024).

## Discussion and conclusions

The results presented indicate that the expansion of compulsory education at all levels of education not only encompasses the school system, but also has effects on the economy and the labor market, which reinforces the inherent complexity of these decisions (Afonso and Aubyn, 2006; Correa, 2011; Maeda et al., 2024; Mesomo and Souza, 2019).

The twenty-two articles analyzed allowed us to identify challenges, implications, benefits, and other impacts on the policies to expand compulsory schooling. In all the studies analyzed, it was observed that the expansion of compulsory schooling increases access to education, providing options to become educated, to increase knowledge and skills, and to have more opportunities in the job market, which coincides with the previously consulted works (Baltagi et al., 2019; Gluz et al., 2018; Grenet, 2013; OECD, 2012; Osorio, 2019).

However, this systematic review of the literature showed that the expansion of compulsory schooling particularly benefits girls and female adolescents (Dursun and Cesur, 2016; Gulesci et al., 2020; New et al.,

2021; Kirdar et al., 2018), rural area inhabitants (Gulesci et al., 2020; Kunt Šimunović, 2024) and the most vulnerable (Akboga, 2016; Bamidele et al., 2024; Elsayed, 2019). Likewise, it was observed that compulsory schooling has indirect effects on health, co-habiting, the decrease in child labor, and the reduction of poverty (Oppong-Nkrumah et al., 2019; Valero-Gil and Valero, 2022; Peng and Wang, 2024).

Nevertheless, the expansion of schooling, although it seeks to promote social equality, has an opportunity cost for students from lower social classes and their families, as the students renounce the potential income from work when remaining at school (Lewis and Nguyen, 2020). This can lead to abandonment or resistance against these policies (Akboga, 2016; Elsayed, 2019; Fischer et al., 2020; Valente, 2019). Likewise, it brings with it a large cost for the different countries, when trying it to make it free or for families, in case that it is not offered as completely free (Bamidele et al., 2024; Correa, 2011; Kirdar et al., 2018; Mesomo and Souza, 2019; Osorio, 2019).

Education systems require a great coordination between the different levels of government, as well as large investments in infrastructures, installations, and resources, initial and permanent training of the professors, and the expansion of contracts of teachers, among other aspects (Brilli and Tonello, 2018; da Silva, 2019; Peng and Wang, 2024). A review and update of the curricula and study plans is also needed. All of this creates a great pressure on the education system of various countries (Bamidele et al., 2024; da Silva, 2019; Erten and Keskin, 2019; Kirdar et al., 2018; Peng and Wang, 2024).

On the other hand, the previous studies highlighted that the expansion of compulsory schooling is not automatically synonymous with quality and equity. It is necessary to adopt measures that address both matters in parallel, as the education systems are plural, unequal, and have deficiencies to tend to diversity and offer alternatives to people to do not desire a long period of schooling without preparing themselves to work in the job market (Correa, 2011; UNESCO, 2019). In addition, it is fundamental to consider that as the schooling time increases, quality gaps may appear within it (da Silva, 2019; Iñigo and Río, 2016; Rauscher, 2015, 2016).

The studies analyzed are mainly centered on economic aspects, such

as the impact on salaries and productivity. Nevertheless, this limited view does not completely address the importance of said policies. It is necessary to include a more humanistic and pedagogical perspective that takes into account aspects such as personal and social development, that lead to a complete analysis of the impact (Harmon, 2017).

In general, and as expected, the articles analyzed present a complex view of the expansion of compulsory education, demonstrating both its benefits and its implications and challenges for any country that plans to analyze the change in basic education policies (Correa, 2011; Mesomo and Souza, 2019; Gluz et al, 2018; Osorio, 2019).

Spain currently has a long and expanding compulsory education system (Besche-Truthe, 2022), just as another 34 countries, so that it is important to decide if expanding basic schooling is opportune, considering all the benefits and inconveniences evidenced in the present review: the possibilities in the local contexts, the investment, the equity, the quality of education, the job market, and the comprehensive development of students, among others. The expansion of the compulsory schooling age in Spain could create an increase in the demand for enrollment and resources, which would require a significant investment in infrastructure and teaching staff. Likewise, the teachers would face the challenge of managing a more heterogeneous student body that is less motivated. This would require the state to provide more resources and opportunities for professional development to prevent a possible increase in the rates of school dropout (OECD, 2012).

As for the limitations of the study, the heterogeneity of the duration of compulsory education in the contexts analyzed stands out, as it made the direct comparison of the results difficult, and the use of artificial intelligence, which, although it broadened the scope of the review, can affect the precision of the selection of articles. Delving into comparative studies that review the impact of the expansion of compulsory schooling in different contexts and that analyze its effects on the equity and quality of education of the most vulnerable groups is recommended. In future systematic reviews, other categories of analysis are recommended, such as the perspective of families, accessibility, or specific stages, such as Early Childhood Education (which is under-studied in the area of schooling expansion), as well as future studies

based on other publications that are not only articles, such as reports and regulations.

All changes seek benefits, but imply different challenges and impacts. Each country must carefully assess these implications to determine if they can face them. This means considering the multiple facets of the process of change and ensuring the successful implementation of the reform.

## Bibliographical references

Afonso, A., & Aubyn, M. (2006). Cross-country efficiency of secondary education provision: A semi-parametric analysis with non-discretionary inputs. *Economic Modelling*, 23(3), 476–491. <https://doi.org/10.1016/j.econmod.2006.02.003>

Akboga, S. (2016). The expansion of compulsory education in Turkey: local and world culture dynamics. *Compare*, 46(5), 789–810. <https://doi.org/10.1080/03057925.2015.1106306>

Avendano, M., de Coulon, A., & Nafilyan, V. (2020). Does longer compulsory schooling affect mental health? Evidence from a British reform. *Journal of Public Economics*, 183, 104137. <https://doi.org/10.1016/j.jpubeco.2020.104137>

Baltagi, B. H., Flores-Lagunes, A., & Karatas, H. M. (2019). The effect of education on health: Evidence from the 1997 compulsory schooling reform in Turkey. *Regional Science and Urban Economics*, 77, 205–221. <https://doi.org/10.1016/j.regsciurbeco.2019.05.001>

Bamidele, J. A., Weinoh, O., Aminat, A. R. A., & Zakari, M. (2024). Universal Basic Education (UBE) programme and school dropout syndrome in Northern States-Nigeria. *JPM - Journal of Perspectives in Management*, 8, 1–17. <https://doi.org/10.51359/2594-8040.2024.262973>

Bernstein, B. (1971). A critique of the concept of compensatory education. In *Class, codes and control. Volume 1: Theoretical studies towards a sociology of language* (pp. 147–168). Routledge & Kegan Paul.

Besche-Truthe, F. (2022). The Global Trajectories of Compulsory Education: Clustering Sequences of Policy Development. In *Global Pathways to Education* (pp. 65–96). <https://doi.org/10.1007/978-3-030-78885->

8.3

Brilli, Y., & Tonello, M. (2018). Does increasing compulsory education decrease or displace adolescent crime? New evidence from administrative and victimization data. *CESifo Economic Studies*, 64(1), 15–49. <https://doi.org/10.1093/cesifo/ifx027>

Brunello, G., Fort, M., & Weber, G. (2009). Changes in compulsory schooling, education and the distribution of wages in Europe. *Economic Journal*, 119(536), 516–539. <https://doi.org/10.1111/j.1468-0297.2008.02244.x>

Correa, B. C. (2011). Educação infantil e ensino fundamental: desafios e desencontros na implantação de uma nova política. *Educação e Pesquisa*, 37(1), 105–120. <https://doi.org/10.1590/S1517-97022011000100007>

da Cruz, M. N. (2017). Educação infantil e ampliação da obrigatoriedade escolar: Implicações para o desenvolvimento cultural da criança. *Cadernos CEDES*, 37(102), 259–276. <https://doi.org/10.1590/cc0101-32622017173587>

da Silva, M. R. (2019). Expansion of compulsory schooling in Brazil: What happened to secondary education? *Ensaio*, 28(107), 274–291. <https://doi.org/10.1590/S0104-40362019002701953>

Dursun, B., & Cesur, R. (2016). Transforming lives: the impact of compulsory schooling on hope and happiness. *Journal of Population Economics*, 29(3), 911–956. <https://doi.org/10.1007/s00148-016-0592-1>

Elsayed, M. A. A. (2019). Keeping Kids in School: The Long-Term Effects of Extending Compulsory Education. *Education Finance and Policy*, 14(2), 242–272. [https://doi.org/https://doi.org/10.1162/edfp\\_a\\_00254](https://doi.org/https://doi.org/10.1162/edfp_a_00254)

Erikson, R., & Jonsson, J. O. (1996). *Can education be equalized? The Swedish case in comparative perspective*. Westview Press.

Erten, B., & Keskin, P. (2019). Compulsory schooling for whom? The role of gender, poverty, and religiosity. *Economics of Education Review*, 72(June), 187–203. <https://doi.org/10.1016/j.econedurev.2019.06.001>

Escolano, A. (2010). La cultura material de la escuela y la educación patriomonial. *Educatio Siglo XXI*, 28(2), 43-64. https://revistas.um.es/educatio/article/view/111961

Fischer, M., Karlsson, M., Nilsson, T., & Schwarz, N. (2020). The Long-Term Effects of Long Terms - Compulsory Schooling Reforms in Sweden. *Journal of the European Economic Association*, 18(6). <https://doi.org/10.1111/jeea.12608>

[org/10.1093/jeea/jvz071](https://doi.org/10.1093/jeea/jvz071)

Gluz, N., Oliveira, D. A., & Rodriguez, C. (2018). Políticas de Inclusión y Extensión de la Obligatoriedad Escolar: Alcances, Deudas y Desafíos en la Materialización del Derecho a la Educación. *Archivos Analíticos de Políticas Educativas*, 26(155). <https://doi.org/10.14507/epaa.26.3788>

Grenet, J. (2013). Is Extending Compulsory Schooling Alone Enough to Raise Earnings? Evidence from French and British Compulsory Schooling Laws. *The Scandinavian Journal of Economics*, 115(1), 176–210. <https://doi.org/10.1111/j.1467-9442.2012.01739.x>

Gulesci, S., Gulesci, S., Meyersson, E., & Trommlerová, S. K. (2020). The Effect of Compulsory Schooling Expansion on Mothers' Attitudes Toward Domestic Violence in Turkey. *World Bank Economic Review*, 34(2), 464–484. <https://doi.org/10.1093/wber/lhy021>

Harmon, C. (2017). How effective is compulsory schooling as a policy instrument? *IZA World of Labor: Evidence-based policy making*. (348), 1–10. <https://doi.org/10.15185/izawol.348>

Imlig, F., & Ruoss, T. (2015). Evidence as source of power in school reforms: the quest for the extension of compulsory education in Zurich. *Paedagogica Historica*, 51, 64–71. <https://doi.org/10.1080/00309230.2014.997753>

Iñigo, L., & Río, V. (2016). Extensión de la escolaridad y obligatoriedad de la escuela secundaria en Argentina: el papel de la universalización de la lectura y escritura. *Universitas Humanistica*, 83(83). <https://doi.org/10.11144/javeriana.uh83.eeo>

Juusola, H. (2023). What do young people think about the extension of compulsory education? *Educational Research*, 65(4), 478–495. <https://doi.org/10.1080/00131881.2023.2263885>

New, S. C., Schurer, S. & Sulzmaier, D. (2021). Gender differences in the life-cycle benefits of compulsory schooling policies. *European Economic Review*, 141, 103986. <https://doi.org/10.1016/j.euroecrev.2021.103910>

Kırdar, M. G., Dayıoğlu, M., & Koç, İ. (2018). The effects of compulsory-schooling laws on teenage marriage and births in Turkey. *Journal of Human Capital*, 12(4), 640–668. <https://doi.org/10.1086/700076>

Kunt Šimunović, P. (2024). Education increases patience: Evidence from a change in a compulsory schooling law. *Economics and Human Biology*

gy, 53(March). <https://doi.org/10.1016/j.ehb.2024.101375>

Lewis, B. D., & Nguyen, H. T. M. (2020). Assessing the causal impact of compulsory schooling policy in Indonesia. *International Journal of Educational Research*, 104, 101693. <https://doi.org/10.1016/j.ijer.2020.101693>

Maeda, N., Someya, M., & Hatada, S. (2024). Prevention of School Attendance Problems in Japan: A Macro-Level Perspective on Avoidance Behaviour. *Journal of Psychology & Behavior Research*, 6(2), p69. <https://doi.org/10.22158/jpbr.v6n2p77>

Mesomo, A. C. & Souza, L. (2019). Obrigatoriedade de matrícula na pré-escola: análise do ponto de vista das famílias. *Linhas Críticas*, 25, 1–19. <https://doi.org/10.26512/lc.v25.2019.26433>

OECD. (2012). *Equity and Quality in Education: Supporting Disadvantaged Students and Schools*. OECD Publishing. <https://doi.org/10.1787/9789264130852-en>

Oppong-Nkrumah, O., Kaufman, J. S., Heymann, J., Frank, J., & Nandi, A. (2019). The impact of increasing the minimum legal age for work on school attendance in low- and middle-income countries. *SSM - Population Health*, 8, 100426. <https://doi.org/10.1016/j.ssmph.2019.100426>

Osorio, L. (2019). Política de ampliación de la jornada escolar y algunas de sus implicaciones. *Educación y Humanismo*, 21(36), 194–209. <https://doi.org/10.17081/eduhum.21.36.3149>

Page, M. J., McKenzie, J. E., Bossuyt, P. M., Boutron, I., Hoffmann, T. C., Mulrow, C. D., Shamseer, L., Tetzlaff, J. M., Akl, E. A., Brennan, S. E., Chou, R., Glanville, J., Grimshaw, J. M., Hróbjartsson, A., Lalu, M. M., Li, T., Loder, E. W., Mayo-Wilson, E., McDonald, S., ... Moher, D. (2021). The PRISMA 2020 statement: An updated guideline for reporting systematic reviews. *The BMJ*, 372. <https://doi.org/10.1136/bmj.n71>

Peng, W., & Wang, Y. (2024). Weathering the Storm: How do Free Compulsory Education and Early-life Shocks Shape Long-Term Education Attainment? *Peking University Research Repository (PKU)*. <https://econ.pku.edu.cn/docs/2024-06/20240619161431651594.pdf>

Rauscher, E. (2015). Educational expansion and occupational change: US compulsory schooling laws and the occupational structure 1850-1930. *Social Forces*, 93(4), 1397–1422. <https://doi.org/10.1093/sf/sou127>

Rauscher, E. (2016). Does educational equality increase mobility? Exploiting nineteenth-century U.S. compulsory schooling laws. *American Journal of Sociology*, 121(6), 1697–1761. <https://doi.org/10.1086/685443>

Rolleston, C., & Iyer, P. (2019). Beyond the basics: Access and equity in the expansion of post-compulsory schooling in Vietnam. *International Journal of Educational Development*, 66(September 2018), 223–233. <https://doi.org/10.1016/j.ijedudev.2018.09.002>

Sanz Ponce, J. R., Giménez Beut, J. A., García Grau, P., & López Luján, E. (2023). Dificultades de enseñanza. Un análisis de las percepciones de los estudiantes del Máster del Profesorado. *Profesorado, Revista de currículum y formación del profesorado*, 27(3), 197–218. <https://doi.org/10.30827/profesorado.v27i3.28005>

Tominey, E. (2010). The Timing of Parental Income and Child Outcomes: The Role of Permanent and Transitory Shocks. *Centre for the Economics of Education*. <https://doi.org/10.2139/ssrn.1690063>

UNESCO. (2019). *Informe de seguimiento de la educación en el mundo. Migración, desplazamiento y educación. Construyendo puentes, no muros*. Ediciones Unesco. <https://doi.org/10.54676/IWWM5074>

United Nations Development Programme (2025). *Human development. Report 2025. A matter of choice: people and possibilities in the age of AI*. <https://hdr.undp.org/system/files/documents/global-report-document/hdr2025reporten.pdf>

Valente, C. (2019). Primary education expansion and quality of schooling. *Economics of Education Review*, 73(June 2018), 101913. <https://doi.org/10.1016/j.econedurev.2019.101913>

Valero-Gil, J., & Valero, M. (2022). Why has there been a fall in child labour and an increase in school attendance in Mexico? *Development Policy Review*, 40(6). <https://doi.org/10.1111/dpr.12611>

Viñao, A. (2004). *Escuela para todos. Educación y modernidad en la España del siglo XX*. Marcial Pons.



# **Education counter-reform: critical review or backtracking?**

## **La contrarreforma educativa: ¿revisión crítica o huida hacia atrás?**

<https://doi.org/10.4438/1988-592X-RE-2025-411-721>

**Paula Sánchez Gil**

<https://orcid.org/0000-0003-4530-4625>

*Autonomous University of Madrid*

### **Abstract**

The emergence of educational innovation in Spain as a strategy for educational reform has generated an ambiguous response: while some support it, others, especially teachers, families and institutions, have shown mistrust. Criticism stems from academic results in standardised tests, high dropout rates, discipline problems in classrooms and the loss of some of the traditional functions of educational institutions. These reactions have prompted the formation of groups that question the direction of education under the standards imposed by current regulations and innovative reform. One of the key issues in the debate is compulsory schooling up to certain ages, a central component of progressive legislation.

The aim of this paper is to analyse the discourses of institutionalised groups of teachers, families and students in Spain that question the current model of compulsory schooling. To do so, we will examine their documents and speeches published on their official platforms. The result of this analysis allows us to identify points in common between these groups, as well as to point out their main arguments and avenues of debate regarding compulsory schooling. The paper concludes by providing a detailed profile of these organisations and their claims, and by contributing to an understanding of the criticisms and proposals surrounding the reform implemented in the light of educational innovation and the specific field of compulsory schooling in Spain.

Keywords: innovation, education, compulsory education, organisation, reform.

### **Resumen**

La irrupción de la innovación educativa en España como estrategia para reformar el ámbito educativo ha generado una respuesta ambigua: mientras algunos la apoyan, otros, especialmente docentes, familias e instituciones, han mostrado desconfianza. Las críticas surgen debido a los resultados académicos de pruebas estandarizadas, el alto abandono escolar, los problemas de disciplina en las aulas y la pérdida de algunas funciones tradicionales de las instituciones educativas. Estas reacciones han impulsado la formación de agrupaciones que cuestionan el rumbo de la educación bajo los estándares impuestos por la normativa vigente y la reforma innovadora. Uno de los aspectos clave en el debate es la obligatoriedad de la escolarización hasta determinadas edades, un componente central de las legislaciones progresistas.

El objetivo de este trabajo es analizar los discursos de las agrupaciones institucionalizadas en España de docentes, familias y estudiantes que cuestionan el actual modelo de escolarización obligatoria. Para ello, se examinarán sus documentos y discursos publicados en sus plataformas oficiales. El resultado de este análisis permite identificar puntos en común entre estas agrupaciones, así como señalar sus principales argumentos y vías de debate respecto a la obligatoriedad escolar. El trabajo concluye proporcionando un perfil detallado de estas organizaciones y de sus reclamos, y contribuyendo a comprender las críticas y propuestas en torno a la reforma ejecutada a la luz innovación educativa y al ámbito concreto de la escolarización obligatoria en España.

Palabras clave: innovación, educación, enseñanza obligatoria, organización, reforma.

## **Introduction**

In recent decades, the commitment to educational innovation has occupied a large part of the pedagogical debate. Articulated to overcome the limitations of the education system, it has permeated everything, from policies to practices, materializing in an imperative that cannot be ignored. Therefore, talking about the imperative to innovate implies accepting that neutrality is not an option: education systems around the world have committed themselves to varying degrees to innovation, backed by an intention to implement improvements

at different levels. In Spain, we find the seeds of this commitment at the beginning of the century. In 2001, the Ministry of Education, Culture and Sport announced the first National Awards for Educational Innovation (González, 2002), which until then had been known as the National Awards for Educational Research. The Ministry of Education and Science itself would split in 2018, renaming itself as the Ministry of Science, Innovation and Universities and integrating the term. In terms of investment, innovation has also been a priority in Spain: in 2024 alone, the Ministry of Education has allocated more than €54 million to innovation and excellence in vocational training (MECD, 2024).

At the regulatory level, Organic Law 2/2006, of 3 May, on Education included the word “innovation” 20 times, making the term ubiquitous in educational centres. At the social level, one of the greatest concerns of Spaniards regarding education lies in its shortcomings (Centre for Sociological Research, 2023), and 75% consider innovation to be key to bringing about a necessary and urgent transformation in education (COTEC, 2024). Public administrations, in line with this view, have taken on the responsibility of implementing a major educational change based on the imperative to innovate. However, this has not only been an institutional drive at the state level: private entities such as ABANCA have understood the capital value of educational innovation and annually organise awards for innovative experiences and teachers (Plataforma Educa, n.d.), and companies such as Google, Amazon and Acer, with no direct link to the field of education, sponsor them (Educational Innovation Awards, n.d.).

This general drive for educational change has generated both agreements and tensions between those who support comprehensive reform and those who call for a more conservative stance, reminding us that what is new is not necessarily better and that what already exists can be of great value, even if it is difficult to see amid constant novelty (Biesta, 2024). The OECD (2013), however, stresses that well-planned and targeted innovation can boost economic growth and help solve social problems, which are fundamental goals for any education system. This dichotomy between innovation and conservation is at the heart of the debate, fuelled not only by the limits and possibilities of pedagogy, but also by interests and contradictions present in

educational policies and reforms (Martínez and Rogero, 2021).

These tensions can open up spaces for dialogue (Bellamy, 2021), but they can also lead to polarisation and the systematic rejection of any change, perceived as an imposition under the imperative of innovation. Critics of educational change point out that innovative reforms impose new roles on professionals and institutions (Prieto et al., 2011), which would conflict with a democratic vision that considers all agents to be active participants in the educational debate, rather than mere recipients of guidelines. However, although these reforms involve prescriptions and are framed within an imperative for innovation, this does not mean that they are necessarily undemocratic or immoral, as they have followed the usual procedures of educational policy, both nationally and internationally, and are based on the collective confidence that tangible improvements will be achieved.

However, when a reform has already been implemented and the results it produces do not satisfy some of the stakeholders involved, this dissatisfaction turns into disappointment (Ascui-Gac & Thezá-Manríquez, 2024) and leads to questioning the need for and meaning of the promised change. In fact, even though they are in favour of innovation, part of the population distrusts the institutional management of it (Edelman, 2024) in view of the results obtained. It is therefore necessary to analyse the reform proposals formulated to date and the premises for improvement implicit in them, in order to understand at what point a gap has opened up between what is desirable and what has been achieved, leading to mistrust and a need for confrontation on the part of society.

## Critical premises regarding innovative educational reform

Internationally, innovative reform has been based on considering the institutional form of knowledge management obsolete and on the need to break with the past in favour of a present that is thirsty for the future (Valenzuela-Echeverri, 2023). Instead, it advocates prioritising skills-based, collaborative, barrier-free, personalised learning (Marimon-Martí et al., 2022), abandoning statism and promoting individual knowledge construction based on the

interests and needs of each student. In the Spanish educational context, mistrust of this approach is based on several critical premises: the first and most important *is that reforming the identity of educational institutions and abandoning their role as transmitters of knowledge is a mistake*.

Critical voices argue that the free and autonomous construction of knowledge requires, first, a transmissive process that awakens interest, and warn that it is not a question of confronting the past and the future (Bellamy, 2021). They argue that transmission is not only an intellectual activity, but also a comprehensive experience that involves different human dimensions and contributes to personal fulfilment and identity construction (Ibáñez et al., 2022). Thoilliez (2022) warns that conceiving knowledge solely as an individual construction deteriorates the relationship between teacher and learner, as it breaks the link of transmission of the valuable knowledge that the former bequeaths to the latter. In response to this, advocates of innovative reform question this emphasis on transmission, as it is based on the idea of the intrinsic goodness of the teacher and overlooks the fact that school is also a space of domination and social reproduction (Carrasco-Bahamonde, 2023). However, critics of this reform reply that the means for self-construction of knowledge are not exempt from manipulation either, as demonstrated by the role of algorithms in digital platforms and social networks (García-Marín & Serrano-Contreras, 2023). A second premise emerges from this debate: *the questioning of the role of educational environments and the essential role of teachers*.

From a reformist perspective, teachers act as guides and mediators of learning (Cabrera, 2023; Rico-Gómez & Ponce, 2022; Villanueva et al., 2021), offering security, respect and esteem to students (Córdova et al., 2022). However, critical positions of the innovative reform warn that, by losing their capacity to transmit knowledge, which is essential for motivating and guiding students, their role becomes diffuse (Solé, 2024), making it difficult to provide guidance even in their own professional practice. Thus, many teachers turn to social media to find teaching resources (Beltrán-Flandoli et al., 2023; Guillén-Gámez et al., 2023; Marcelo-Martínez et al., 2023), which facilitates individualised teaching and, in turn, encourages students to do the same to construct their own knowledge (Chávez-Moreno et al., 2021;

Martínez-Domingo et al., 2021). It is therefore worth asking, if teachers and students access knowledge through the same means, what differential role does the teacher play? Even more so when, in this digital context, the value of the teacher seems to lie not in their teaching ability but in their expertise as a consumer and their productivity as a content creator, the latter requirement being highlighted in awards such as the ABANCA for Best Innovative Teacher.<sup>1</sup>

Much of the debate also revolves around this digital issue, as one of the major commitments of the innovative reform has been the digitisation of educational settings, conceived as a way to connect multiple languages, knowledge and experiences (Biaconcini de Almeida, 2021), optimise knowledge management and contribute to social progress (Montoya & Agbu, 2022), as well as facilitating universal access to education and reducing inequalities (Uribe et al., 2022). However, critical voices of this reform warn that accessing information in a mere process of datafication (Sánchez-Rojo et al., 2022) is not the same as transforming it into meaningful knowledge capable of generating new questions and needs. They also warn of the risk of leaving educational management in the hands of private digital platforms with business interests, as this tends to reduce learning to the acquisition of skills useful for the labour market, when learning involves not only preparing for a job, but also questioning fundamental issues (Hitz, 2025). And so the third premise emerges: knowledge management and its relevance, that is, *the curriculum issue*.

## **The value of knowledge and the curriculum issue, the seed of confrontation**

Reform proposals advocate for what they consider to be a more meaningful curriculum (Salas-Hernández, 2023), focused on the interests of students and oriented towards the development of skills required by an increasingly globalised and digital world (Aparicio-Gómez, 2022; Gómez, 2023). From

---

<sup>1</sup> The contest rules specify that “the teacher’s presence on social media and platforms for the dissemination of knowledge will be valued (...) to confirm their passion for education by continuing to educate and transmit knowledge beyond the classroom.”

criticism to innovative reform, however, perceive this transformation as a concession to political correctness (Amilburu, 2022), which accelerates and disrupts content, generating disoriented teaching practices (Thoilliez, 2024) and questioning the existence of objective knowledge. They also denounce that this global and unstructured curriculum transfers all responsibility for learning to the student, making the construction of knowledge contingent on their own conditions (Enkvist, 2022), while institutions and teachers wash their hands of its transmission. In contrast to this logic that defends changing and personalised knowledge, critics defend the right to common and accessible knowledge. As Crato (2024) points out, renouncing unified knowledge responds to relativist and anti-scientific views that weaken its value. Thus, the debate shifts to the very meaning of knowledge in education.

The innovative reform is critical of what Freire termed ‘banking education’, in which building knowledge is equivalent to storing static information through repetition and memorisation (Hennig, 2023; Real & Ramos, 2023; Roa, 2021), and points to the role of the teacher as transmitter as its greatest representative when they offer knowledge that should not be processed, but stored. Instead, it proposes competency-based education, based on instrumental learning for life, which allows students to adapt to constant change from a leading role (Quilabert et al, 2023). The OECD justifies the competency-based model on the basis of the need to adapt to a complex, interconnected and changing world (OECD, 2019), and the United Nations refers to the value of its cross-cutting nature, which allows students to develop versatile profiles (United Nations, n.d.).

Critics of the competency-based model point to the lack of precision in this cross-cutting approach to knowledge, considering it alien to the reality of the education system (Aguirre, 2023). They question whether competencies, valued above all for preparing students for an intrinsically uncertain future, can really be transferred to any context (Bueno, 2022). According to Cañadell (2022), this uncertainty leads to the abandonment of students, who are no longer required to learn specific content, but simply to “learn to learn” in order to become users and investors in their own education. This skills development is described as a capitalised long-distance race, in which banks, companies and individuals reap economic benefits, displacing educational institutions

from their role in knowledge management (BBVA, 2012; Alcázar, 2023).

All these disagreements surrounding the innovative reform have therefore resulted in different demands from educational agents and scepticism about a promising future. Although the reform was proposed as a response to current needs for change (Palacios et al., 2021), it has failed to generate confidence in part of the education sector. This mistrust has led to the emergence of associations and groups calling for an urgent review of the changes, especially in key areas of the Spanish educational context, such as compulsory schooling.

## **The educational counter-reform and the debate on compulsory schooling**

The critical positions we explore in this paper through the analysis of various statements and documents that have been published do not propose new innovative reforms, but rather adopt a counter-reformist approach, opposing both the changes implemented, as reflected in the critical premises analysed, and the very need to carry them out. They argue that the innovative reform has led to an educational regression (Fundación Episteme, 2020), violating the rights of families and students (Observatori Crític de la Realitat Educativa [OCRE], n.d.) and being based on particular ideological interests. This has fuelled the debate on the universalisation of compulsory secondary education (Moreno & Gortázar, 2024), seen as a key exponent of the reforms, especially by teachers at this stage in Catalan public schools, where innovation has had a major institutional impact.

According to the counter-reformist approach, educational institutions have been stripped of their enlightening function and have become places where young people remain only because they are of a certain age. This is detrimental both to those who do not wish to study, who are forced to stay, and to those who do want to learn, who are limited by the low level or lack of interest of their classmates, considered unmanageable from the age of twelve onwards (Moreno, 2021). They argue that the comprehensive model, which prioritises respect for individual rhythms and interests, ends up being unfair,

as it focuses on students with greater difficulties. To prevent dropouts, Andreu Navarra (2019) points out, it forces teachers and institutions to “level down”, i.e. to take the worst results as a reference. Along these lines, Xavier Massó (2024), president of the Episteme Foundation, criticises the permissiveness of the current system and advocates a return to a more rigorous and demanding model, similar to the one prior to the legal reforms, which, according to Alberto Royo (2016), better guaranteed the social mobility that education promises.

These positions are reinforced by seemingly contradictory but essentially complementary trends that advocate flexible schooling tailored to each student in order to avoid uniformity that leads to mediocrity and to enhance individual abilities, as pointed out by Carmen Sanz (2013). From this perspective, the idea that educational institutions should give special encouragement to those with the greatest potential for achievement is endorsed, although it should be noted that this demand, if not accompanied by an increase in resources, would mean devoting less attention to the less efficient. This perspective, which is often presented as sympathetic to those who fail to adapt, defending freedom of choice and even justifying dropping out of school in search of a fulfilling life, it can contribute to reinforcing the idea that, at a certain point, education should be the preserve of those who have a background that allows them to pursue it with a promise of demonstrable effectiveness and efficiency.

Both positions agree in diagnosing an education system that is incapable of guaranteeing real learning for all students, which calls into question the point of maintaining institutions as they exist today. They argue that compulsory schooling in Spain responds more to the interests of the state than to an effective strategy for achieving good results, and they consider it ineffective to cater to unmotivated or unruly students, proposing instead to focus efforts on those who do take advantage of education. This gives rise to the defence of a chosen and meritocratic schooling system that recognises individual effort and merit as a guarantee of success. In the words of Gregorio Luri (2024), meritocracy treats people as dignified and respectable individuals by considering them committed to their own self-improvement. This idea stems from the conviction that discipline and effort are transformed into

knowledge, which is key to academic and social prosperity, as pointed out by members of La Facultad Invisible<sup>2</sup>, attributing the ineffectiveness of the Spanish education system to a lack of recognition of effort and knowledge (Sanmartín, 2024).

Thus according this perspective, hard work is the only solution for those born with fewer opportunities<sup>3</sup>, and that when educational institutions adjust to those who cannot or do not want to progress through effort, they end up becoming segregated spaces and lowering their standards in order to control the student body, as sociologist Rafael Merino indicates (Rodríguez & Oliveres, 2021), denying those who strive the opportunity to climb the social ladder. Merino adds that the centres that give in to this marginalisation are mostly public, and that this creates a vicious circle in which young people have low expectations, and institutions reinforce this, with no government doing anything to remedy the situation. This creates “ghettos” conducive to the proliferation of maladjusted, truant and unruly students, contributing to the complete deterioration of the education system and preventing it from achieving the universal goals for which it was designed.

## The ecosystem of the ungovernable

Hence, counter-reformists call for consideration of whether it is desirable for these students, who not only have low expectations but also little discipline, little effort or little knowledge in their individual ability to overcome them, to be forced to coexist with those who do wish to prosper. However, they do so without establishing mechanisms to intervene in these students' self-perception or without providing evidence about the number of vulnerable students who end up climbing the social ladder thanks to their academic performance. The attitude that seems common among students who fail due to an apparent inability to exceed expectations, a lack of interest in studying and

<sup>2</sup> It is an “apolitical, non-profit association with no membership fees,” according to the “About Us” section of its website, made up of people who have been awarded the National Prize for Academic Excellence at the End of their Studies by the Ministry of Education, as well as other similar academic awards.

<sup>3</sup> The Episteme Foundation and OCRE, among others, devote several entries on their websites to defending this issue.

a commitment to remaining in the same status, is attributed to those referred to as ‘ungovernable’. This is not only the case for vulnerable students, but also for the so-called “soft generation”, young people who, when they fall, no longer get up because they are waiting for someone else to lift them up, as pointed out by the writer Eva Millet (De Vega, 2017).

They point out that unruly individuals of any kind cannot be expected to be capable of self-management. Some earn this label through a lack of efficiency, but also through a lack of respect for academics and a disregard for knowledge. Their discipline is placed exclusively in the hands of teachers, they criticise. David Cerdá (2025), philosopher and economist, points out that it is not possible to teach those who do not respect the teacher, and calls for a common front against the interference of parents<sup>4</sup>, whom he blames for trying to pave the way for their children by taking paternalistic positions. As Professor Miriam Gallego (2025)<sup>5</sup> points out, this attitude leads them to raise spoilt and pampered children who are incapable of making an effort and committing themselves, thereby contaminating the educational space and condemning it to mediocrity.

By avoiding failure at all costs, they argue, the educational system becomes complicit by allowing students to move up a year without having learned, contributing to a decline in standards and disruptive behaviour, worsening discipline and the learning environment in the classroom, as indicated by Professor Paco Benítez (2025). Precisely one of the main reforms implemented by the LOMLOE has been the expansion of failed subjects with which it is possible to move up a year. This is another of the major counter-reformist criticisms, as they consider the system to be too permissive with academic failure.

Thus, we could summarise the main counter-reformist arguments as a concern for the value of knowledge in educational institutions, resulting in a loss of identity for these institutions, which in turn leads to a loss of confidence in their educational potential and a rapid deterioration of their function. This deterioration manifests itself in a lack of discipline and good behaviour, as well as a lack of effort and work on the part of students, a lack of authority

<sup>4</sup> This article appears in “Featured Articles” on the OCIRE website.

<sup>5</sup> It also appears in OCIRE’s highlights.

on the part of teaching staff, a lack of respect on the part of families, and a general decline in the standard of the education system. Counter-reformist voices endorse the need for a return to the basic fundamentals of learning (OCRE, 2024)<sup>6</sup>, that is, a return to the origins based on a reconsideration of the changes implemented, which are considered absurd (Benítez, 2025) and have led to the deterioration of the system. This deterioration is evident and culminates in compulsory schooling imposed on those who do not even acquire basic skills such as reading and writing, as indicated by professor and politician Bernat Joan i Martí (2024). According to these positions, this marks the beginning of the end for educational institutions if nothing is done to prevent it.

Based on these arguments, they assert that compulsory education until the age of sixteen should be reviewed, as the current system, in the words of Professor Ricardo Moreno, constitutes an act of barbarism against the most intelligent and hard-working students, which, moreover, in no way benefits the least able (Cunyat, 2012). However, abandoning compulsory schooling would mean renouncing a democratic achievement that has been maintained in Spain for more than three decades and accepting voluntary alternatives or those determined by academic results for those who, in their unruly state, were not likely to successfully complete a longer academic period.

It is striking that the latest legislation to conceive of this, the LODE, referred in its preamble to the success of extending compulsory education (LODE, 1985, para. 5). It is therefore worth asking whether making it more flexible again would be a step forward or an endorsement of the need to look back and accept failure.

## **Limits and possibilities of the educational counter-reform**

It is thus clear that there is disagreement regarding the relevance of the reform implemented in the Spanish education system under the banner of innovation. Debate on this issue, and especially on the desirability of compulsory schooling, is necessary.

---

6

This is stated in the manifesto of Col·lectiu Hèlios-OCRE IB, the Balearic branch of OCRE.

In fact, in February 2025, the Front Comú per una Educació de Qualitat (FCEQ) was formed, a “coalition of teachers, families and members of civil society” united to “demand that our leaders implement educational policies that allow all students, regardless of their socio-economic background, to become intellectually autonomous, emotionally mature and socially responsible citizens”. The FCEQ is made up of nine organisations that have drafted and signed the manifesto. Five are mainly composed of teachers: Associació de Catedràtics d’Ensenyaments Secundaris de Catalunya (ACESC), Col·lectiu Pere Quart, Sindicat «Professors de Secundària (ASPEPC-SPS)”, Impulsors del Manifest per a la millora de l’ensenyament secundari de Catalunya and Plataforma No al nou currículum. One is essentially made up of families, Plataforma per l’Educació de Qualitat, and the remaining three, Fundació Episteme, Observatori Crític de la Realitat Educativa (OCRE) and Seminari Ítaca d’Educació Crítica, are made up of a compendium of teachers, students, families and professionals related to different disciplines, such as economics and philosophy. Some of these groups have websites where they publish materials related to the demands of the manifesto, and various meetings and conferences have been organised with the participation of some of the most notable voices within this position<sup>7</sup>.

Both their objectives and their demands have been set out in the public manifesto «Manifest del front comú per una educació de qualitat» [Manifesto of the common front for quality education] (Front Comú Per una Educació de Qualitat, 2025), in which they call on society as a whole to participate. Among their concerns are the low academic results in the PISA standardised tests and the introduction in schools and colleges of what they consider to be “pseudo-scientific innovations that belittle knowledge, effort and a sense of responsibility”. Among the consequences they identify as most serious is a student body that finishes its schooling without sufficient maturity and self-government skills to confront abuses of power.

These demands, which arose in public schools in Catalonia but have been extrapolated to the whole country, are based on the conviction that the most disadvantaged students see their opportunities for social

<sup>7</sup> Both OCRE and the Episteme Foundation are prolific organisers of joint events. They share announcements and reviews of these events on their websites.

advancement limited, while those who can afford private schools have access to greater knowledge, thus widening inequalities. Their demands include: a curriculum structured by subject, an education system that values academic qualifications, objective assessments based on quantitative grades rather than qualitative indicators such as basic skills, and specific attention for pupils with difficulties, including behavioural problems. They also demand that teachers be recognised as public authorities, with continuous training, real academic freedom and trust in their professional judgement.

In addition, they call for transparent control of the education system, the standardisation of teaching materials based on scientific evidence, the protection of the state's cultural and linguistic heritage, and digitisation managed through specific training, independent of other subjects and based on free software that guarantees the protection of data for the entire educational community. They also share a concern for the emotional well-being of students and for problems of coexistence in the classroom, insisting that students be able to fully exercise their right to a public and quality education, a right they consider to have been violated by the transformations promoted by the state and regional administrations. Hence their opposition to reforms based on the imperative of innovation.

The counter-reformist proposals contained in the manifesto are not far removed from the general concerns and interests of society as a whole with regard to education. The national public media have echoed concerns about the results of the PISA tests (Martín, 2022), and the OECD's *Education at a Glance 2024* report confirms the inequalities that exist among students in the Spanish education system. The defence of linguistic diversity is shared by the Spanish Government, which in 2022 signed an agreement with the Generalitat de Catalunya for the protection and promotion of the Catalan language (Ministry of the Presidency, Justice and Relations with the Courts, 2022), and issues such as the protection of data in the educational community are supported nationally and internationally. The Spanish Data Protection Agency has published a specific guide to ensure this issue is addressed in educational centres (Spanish Data Protection Agency, 2021). We are talking about ideas that are generally shared, both at the citizen and institutional levels.

However, counter-reformist claims are specifically opposed to the current innovative educational reform, and are neither new nor recent. During the drafting of the LOE, the cornerstone of the current LOMLOE, demonstrations were organised throughout Spain, predicting a debacle in the education system. Some of the entities that signed the manifesto, such as the Association of Secondary School Teachers (Chatillard, 2005), appeared at these demonstrations, predicting current counter-reformist claims such as a decline in educational standards due to the possibility of promotion despite failing subjects or the limitation of families' freedom of choice (Asenjo, 2005). These, in turn, appeared in those demonstrations represented by the National Catholic Confederation of Parents of Students (CONCAPA) and the Confederation of Parents of Students (COFAPA), together with other organisations such as the Spanish Confederation of Education Centres (CECE) and the National Association of Special Education Centres (ANCEE). All of them continue to be critical of the LOMLOE and the reform carried out under its auspices.

Other entities that are not specifically educational and are openly conservative also joined these protests, such as the Family Forum and the Episcopal Conference. Both continue to be critical of the current education system. The Confederation of Students (CES), the Democratic Coalition of Students (CODE) and the Union of Student, absent from the FCEQ manifesto, took part in the rallies against the reform proposed by the LOE, although they expressly differentiated their positions, with the openly progressive student groups criticising the openly conservative ones and deciding not to appear together, as reported by *El Confidencial* (Efe, 2005). We are therefore talking about a disenchanted position that has been developing for more than two decades and has now become an urgent call for counter-reform. It is worth asking whether this counter-reform is possible and, if so, how it could be articulated democratically and not remain a mere nostalgic lament.

As for the confrontation with current regulations and the proposal to return to past laws as a strategy for progress, this does not seem to be a viable option. It is understandable that, in the face of discontent, the first option is to return to the past, but it is not possible to do so because the doors have closed behind us (Zanatta, 2021). When we admire what was but can never be

again, we do so not only because we consider the past to be necessarily better, but also because of the insecurity we feel in the face of a present fraught with difficulties and disappointments, which prevents us from developing and leads to enormous anxiety about current models of society (Montesó-Ventura, 2024). The first step, therefore, is to ask ourselves whether we have idealised and romanticised the past in a need to escape the present we inhabit. A counter-reform proposal that arises from the mere confrontation between the old and the new in a simplistic dichotomy can even lead to the loss of what has been achieved by defending it not from a pedagogical perspective, but from a nostalgic one.

In relation to the conflictive and unsustainable environment in classrooms and concerns about the “ghettoisation” of some public schools due to the poor atmosphere, this seems to be justified, in his view, by a concentration of unruly students that feeds on itself due to the permissiveness of families and institutions on the one hand, and the inaction of the State on the other. However, the report by the OECD (2024), the body that regulates the standardised tests whose results are used to justify some of the counter-reformist claims, reveals that it is the freedom of choice of school by families that is one of the aspects that most increases school segregation. Therefore, these processes of isolation of certain schools occur because they are not chosen by families and remain as residual options for the most vulnerable students or those whose families have less choice.

In Spain, this freedom is also specially protected, as shown by the Master Law on Freedom of Educational Choice passed in 2022 in the Community of Madrid. Furthermore, Spain is among the OECD countries with the highest enrolment in private and state-subsidised private schools. The report warns that, in order to ensure equity, it would be necessary to restrict these options in order to reduce segregation and offer equal opportunities to the most vulnerable students (OECD, 2024). Therefore, an educational counter-reform that aspires to defend the right to universal and emancipatory education, and to protect public schools from becoming ghettos, should critically examine the segregating effects of freedom of educational choice and its repercussions on the equitable distribution of students, as well as on their access to public resources, both in academic terms and in terms of well-being, bearing in mind

that this right to free choice is still not fully guaranteed.<sup>8</sup>

With regard to the academic level of students, the OECD points out that Spain has a school repetition rate that is higher than the European average, which limits equity and inclusion. In turn, the Progress in International Reading Literacy Study (PIRLS) shows that the socio-economic status of families has a decisive influence on academic performance, systematically favouring students from more affluent backgrounds. Thus, students' living conditions are revealed as a crucial factor in school failure, even above methodologies or curricular structures. An educational counter-reform that aims to improve academic standards should recognise that improving the material conditions of families would have a direct impact on educational quality and results, which in turn would allow for a more objective evaluation of the effectiveness of certain pedagogical or curricular methods, highlighting their possibilities and limitations.

## Conclusions

Finally, counter-reformist voices recognise that education is key to building societies that are open to the future and free from ignorance and neglect (Luri, 2024). It is thus concluded that, as we argue in this paper, a coherent counter-reform must point out the shortcomings of the education system, but also its possibilities, defending its value as a guarantor of what is possible and as a collective achievement, even if it raises debates on issues such as the configuration of the current compulsory model. It should also demand better conditions for its implementation and assert its unique potential to educate citizens who are critical, constructive and committed to common projects (Thoilliez, 2019). The growing challenges of compulsory schooling do not, in themselves, justify renouncing its value for democratic societies that defend universal rights.

In summary, in the face of discourses that prioritise action on

<sup>8</sup> For freedom of choice to exist, there must be the ability to choose. Families living in impoverished areas, rural and urban environments with a low supply of school places, or who arrive in Spain after the school year has begun, among others, have fewer opportunities to choose than those who live in environments with a greater supply or are of Spanish origin.

individuals rather than contexts to reduce inequalities, we must demand that the process be reversed (Sánchez & Prieto, 2020). Defending compulsory schooling is a responsibility and a commitment to hope in a disillusioned society. Any counter-reform proposal must reintroduce into the education system what has been stripped away, adapting to current contexts, because outside of it there is only precariousness, marginalisation and the loss of dignity and opportunities for emancipation. No educational proposal can accept that part of the population, especially the most vulnerable, is condemned to be ungovernable, especially for itself.

Among the limitations of this work is the speed with which these discourses emerge and become established as arguments for different groups. The rise of counter-reformist organisations is recent, making it necessary to investigate their evolution and the new focus of their criticism. This also constitutes a field for future study, which will allow for a deeper exploration of issues outlined here, such as the positions of families in the debate on compulsory schooling, or in areas that have yet to be explored, such as the voices of students who graduated under the innovative reform, whose trajectories will allow us to discern how much of the current mistrust was simply fear of the future and how much was a prelude to what was to come.

## Referencias bibliográficas

Agencia Española de Protección de Datos. (2021). *Guía para centros educativos*. <https://www.aepd.es/guias/guia-centros-educativos.pdf>

Aguirre, E. O. (2023). Aproximación crítica a las competencias clave y las competencias específicas de la LOMLOE como liderazgo para una innovación educativa. El caso de la didáctica de la lengua. *Supervisión* 21, 67(67).

Alcázar, P. (2023, marzo 27). 6 ejemplos emprendedores que han sabido innovar en educación infantil. *Emprendedores*. <https://emprendedores.es/ideas-de-negocio/oportunidades-de-negocio/educacion-infantil/>

Amilburu, M. G. (2022). Educar la memoria. En *Pedagogía de las cosas: Quiebras de la educación de hoy* (pp. 383–388). Octaedro.

Aparicio-Gómez, W. O. (2022). *Innovación en currículo y uso de las TIC*. Ed&TIC.

Ascui-Gac, S., & Thezá-Manríquez, M. (2024). Posturas políticas como variables inobservadas: Analizando la confianza institucional en la encuesta «Problemas, valores, actitudes y prácticas políticas». *Estudios Avanzados*, 41, 150–172. <https://doi.org/10.35588/r6bh3n48>

Asenjo, M. (2005, noviembre 7). De los vientos de la LODE a las tempestades de la LOE. *ABC*. [https://www.abc.es/familia/educacion/abci-vientos-lode-tempestades-200511090300-612167631102\\_noticia.html](https://www.abc.es/familia/educacion/abci-vientos-lode-tempestades-200511090300-612167631102_noticia.html)

Banco Bilbao Vizcaya Argentaria. (2012). *La rentabilidad privada y fiscal de la educación en España*. [https://www.bbvareresearch.com/wp-content/uploads/mult/120912\\_Observatorio\\_Economico\\_Espana-Rentabilidad\\_educacion\\_tcm346-357176.pdf](https://www.bbvareresearch.com/wp-content/uploads/mult/120912_Observatorio_Economico_Espana-Rentabilidad_educacion_tcm346-357176.pdf)

Bellamy, F. X. (2021). Crisis de la transmisión y fiebre de la innovación. *Teoría de la Educación. Revista Interuniversitaria*, 33(2), 169–178.

Beltrán-Flandoli, A. M., Pérez-Rodríguez, A., & Mateus, J. C. (2023). YouTube como ciberaula. Revisión crítica de su uso pedagógico en la Universidad Iberoamericana. *RIED. Revista Iberoamericana de Educación a Distancia*, 26(1), 287–306.

Benítez, P. (2025, enero 10). Daños colaterales del “prohibido repetir”. *Educational Evidence*. <https://educationalevidence.com/danos-colaterales-del-prohibido-repetir/>

Benítez, P. (2025, febrero 28). La escuela del mundo al revés (y algunas propuestas para darle la vuelta). <https://asociacionocre.org/la-escuela-del-mundo-al-reves-y-algunas-propuestas-para-darle-la-vuelta>

Biesta, G. (2024). Desinstrumentalizando la educación. *Teoría de la Educación. Revista Interuniversitaria*, 36(1), 1–12. <https://doi.org/10.14201/teri.31487>

Cabrera, J. D. (2003). Discurso docente en el aula. *Estudios Pedagógicos (Valdivia)*, 29, 7–26.

Carrasco-Bahamonde, J. A. (2023). Contribuciones sociológicas de Durkheim y Bernstein sobre la diversidad sociocultural en la escuela. *Sophia. Colección de Filosofía de la Educación*, 34, 237–263.

Cañadell, R. (2022). Rosa Cañadell (STEs): “En el enfoque competencial, el conocimiento interviene de forma accesoria, como puro instrumento” [Entrevistada por D. Francesch]. *Magisterio*. <https://stecyl.net/>

[rosa-canadell-stes-en-el-enfoque-competencial-el-conocimiento-interviene-de-forma-accesoria-como-puro-instrumento/](https://rosa-canadell-stes-en-el-enfoque-competencial-el-conocimiento-interviene-de-forma-accesoria-como-puro-instrumento/)

Centro de Investigaciones Sociológicas. (2023). *Encuesta sobre tendencias sociales (III)*. [https://www.cis.es/documents/d/cis/es3424marmt\\_a](https://www.cis.es/documents/d/cis/es3424marmt_a)

Cerdá, D. (2025, marzo 3). Un mínimo de respeto. *Educational Evidence*. <https://educationalevidence.com/un-minimo-de-respeto/>

Chacón, C. (2013). Se suele igualar por debajo, y con ello se trata mal a los que más destacan [Entrevistada por J. M. de Moya]. *Magisterio*. <https://www.magisnet.com/2013/04/se-suele-igualar-por-debajo-y-con-ello-se-trata-mal-a-los-que-ms-destacan/>

Chatillard, G. (2005, noviembre 13). Masiva marcha contra la LOE. *El Mundo*. <https://www.elmundo.es/elmundo/2005/11/12/espana/1131772817.html>

Chávez-Moreno, R. T., Romero-Leyva, F. A., Lugo-Tapia, T., Apodaca-López, C. A., Félix-Ortiz, G., & Ortiz-Castro, S. (2021). Uso de las redes sociales y rendimiento académico de estudiantes de preparatoria de la Universidad Autónoma de Sinaloa. *Ciencia Latina Revista Científica Multidisciplinar*, 5(5), 8515–8537.

Córdova, G. E. C., Moreta, J. E. S., Mayón, J. B. C., & Abad, A. C. (2022). El rol docente como guía y mediador del proceso de enseñanza-aprendizaje. *Ciencia Latina Revista Científica Multidisciplinar*, 6(6), 13911–13922.

Crato, N. (2024). Nuno Crato: “Los manuales son fundamentales para la buena formación” [Entrevistado por A. Navarra]. *Educational Evidence*. <https://educationalevidence.com/nuno-crato-los-manuales-son-fundamentales-para-la-buena-formacion/>

Cunyat, J. (2012). Ricardo Moreno: “De la buena y la mala educación”. *Joanet Cunyat. Entrevistas desde el periodismo independiente*. <https://joanencunyat.wordpress.com/2012/05/16/ricardo-moreno-de-la-buena-y-la-mala-educacion/>

De Vega, B. G. (2017, enero 11). Niños mimados, adultos débiles: Llega la ‘generación blandita’. *El Mundo*. <https://www.elmundo.es/papel/todologia/2017/01/11/5874d407268e3e6f3a8b45bc.html>

Edelman Trust Institute. (2024). *Edelman Trust Barometer. Informe España*. <https://www.edelman.com.es/trust/2024/spain-trust-barometer>

Efe. (2005, noviembre 8). Miles de jóvenes protestan contra la ley orgánica

de educación, aunque los motivos de las movilizaciones son diferentes y antagónicos. *El Confidencial*. [https://www.elconfidencial.com/sociedad/2005-11-08/miles-de-jovenes-protestan-contra-la-ley-organica-de-educacion-aunque-los-motivos-de-las-movilizaciones-son-diferentes-y-antagonicos\\_494788/](https://www.elconfidencial.com/sociedad/2005-11-08/miles-de-jovenes-protestan-contra-la-ley-organica-de-educacion-aunque-los-motivos-de-las-movilizaciones-son-diferentes-y-antagonicos_494788/)

Enkvist, I. (2022). Conocimiento en crisis. Ideologías en la educación actual con ejemplos de Suecia. *Educatio Siglo XXI*, 42(2), 153–156.

Front Comú per una Educació de Qualitat (2025). *Manifest del Front Comú per una Educació de Qualitat*. <https://docs.google.com/forms/d/e/1FAIpQLSc075tD7BJwIe0ZAVLWjKMQL9D6IK0jiR5vnqbzsiB-5Y8y41A/viewform?usp=s-08>

Fundación COTEC. (2024). *Informe COTEC. Percepción social de la innovación*. <https://cotec.es/informes/percepcion-social-de-la-innovacion-estudio-2024/>

Fundación Episteme. (2020, septiembre 23). Manifiesto fundacional. <https://es.fundacioepisteme.cat/2020/09/23/manifest-fundacional/>

Gallego, M. (2025, 16 de enero). La escuela como fábrica de burbujas de cristal. *Educational Evidence*. <https://educationalevidence.com/la-escuela-como-fabrica-de-burbujas-de-cristal/>

García-Marín, J., & Serrano-Contreras, I. (2023). (Un)Founded fear towards the algorithm: YouTube recommendations and polarisation [Miedo (in)fundado al algoritmo: Las recomendaciones de YouTube y la polarización]. *Comunicar*, 74, 61–70. <https://doi.org/10.3916/C74-2023-05>

Gobierno de España. (2023, 6 de septiembre). Educación destina 54M€ a la innovación y la excelencia en la Formación Profesional. <https://plan-derecuperacion.gob.es/noticias/ministerio-educacion-destina-54-millones-innovacion-excelencia-Formacion-Profesional-FP-prtr>

Gómez, Y. A. (2023). Innovación educativa y gestión curricular. *Anales de la Real Academia de Doctores*. <https://www.rade.es/imageslib/PUBLICACIONES/ARTICULOS/V8N3>

González, F. (2002). *Premios nacionales a la innovación educativa*. CIDE.

Guillén-Gámez, F. D., Ruiz-Palmero, J., Colomo-Magaña, E., & Cívico-Ariiza, A. (2023). Construcción de un instrumento sobre las competencias digitales del docente para utilizar YouTube como recurso didáctico: análisis de fiabilidad y validez. *Revista de Educación a Distancia*

(RED), 23(76). <https://doi.org/10.6018/red.559883>

Hennig, B. (2023). El proyecto contrahegemónico de la Red Trashumante a través de la educación popular: apuestas contrarias a la educación bancaria. *Teoría de la Educación. Revista Interuniversitaria*, 35(2), 115–132. <https://doi.org/10.14201/teri.31219>

Hitz, Z. (2025). Educación y vida intelectual. *Teoría de la Educación. Revista Interuniversitaria*, 37(1), 15–23. <https://doi.org/10.14201/teri.31847>

Joan i Martí, J. (2024, 16 de octubre). A quart d'ESO sense saber llegir. *Periódico de Ibiza y Formentera*. <https://www.periodicodeibiza.es/opinion/firmas-del-dia/2024/10/16/2259713/quart-eso-sense-saber-llegir.html>

Ley Orgánica 8/1985, de 3 de julio, reguladora del Derecho a la Educación. (BOE n.º 159, de 4 de julio de 1985). <https://www.boe.es/eli/es/lo/1985/07/03/8>

Luri, G. (2024). *Prohibido repetir*. Rosamerón.

Marcelo-Martínez, P., Yot-Domínguez, C., & Marcelo, C. (2023). Los docentes y las redes sociales: Usos y motivaciones. *Revista de Educación a Distancia (RED)*, 23(72). <https://doi.org/10.6018/red.547821>

Marimon-Martí, M., Cabero, J., Castañeda, L., Coll, C., de Oliveira, J. M., & Rodríguez-Triana, M. J. (2022). Construir el conocimiento en la era digital: retos y reflexiones. *Revista de Educación a Distancia (RED)*, 22(69). <https://doi.org/10.6018/red.524351>

Martín, A. (2023, 5 de diciembre). España baja en Matemáticas, Lectura y Ciencias en un contexto mundial de “caída sin precedentes” tras la pandemia. *RTVE Noticias*. <https://www.rtve.es/noticias/20231205/informe-pisa-2022-espana-baja-matematicas-lectura-ciencias/2464630.shtml>

Martínez J. & Rogero, J. (2021). El entorno y la innovación educativa. *REICE. Revista Iberoamericana sobre Calidad, Eficacia y Cambio en Educación*, 19(4).

Martínez-Domingo, J. A., Trujillo-Torres, J. M., Rodríguez-Jiménez, C., Berral-Ortiz, B., & Romero-Rodríguez, J. M. (2021). Análisis de los canales de YouTube como influencers del aprendizaje en Educación Primaria. *Revista Espacios*, 42(3), 130–145. <https://doi.org/10.48082/espacios-a21v42v03p10>

Massó, X. (2024). Xavier Massó: «Educativamente estamos entrando en el “esperpento”» / Entrevistado por Eva Serra. *Educational Evidence*.

<https://educationalevidence.com/xavier-masso-educativamente-estamos-entrando-en-el-esperpento/>

Ministerio de la Presidencia. (2022). Acuerdo para la protección y el impulso de la lengua catalana. <https://www.mpr.gob.es/prencom/notas/Documents/2022/270722-acuerdo-lengua.pdf>

Montesó-Ventura, J. (2024). Nostalgia como anhelo del presente que nunca llegó a ser. *Éndoxa: Series Filosóficas*, 54, 217–239. UNED. <https://doi.org/10.5944/endoxa.54.2024.38992>

Montoya, M. S. R., McGreal, R., & Agbu, J. F. O. (2022). Horizontes digitales complejos en el futuro de la educación 4.0: luces desde las recomendaciones de UNESCO. *RIED. Revista Iberoamericana de Educación a Distancia*, 25(2), 9–19. <https://doi.org/10.5944/ried.25.2.32911>

Moreno, J. M., & Gortázar, L. (2024). *Educación universal. Por qué el proyecto más exitoso de la historia genera malestar y nuevas desigualdades*. Debate.

Moreno, R. (2021, 25 de septiembre). Ricardo Moreno: “La escuela no es un parque de atracciones”. *Faro de Vigo*. <https://www.farodevigo.es/fa-roeduca/foro-de-educacion/2021/09/25/ricardo-moreno-escuela-parque-atracciones-57677811.html>

Navarra, A. (2019). Andreu Navarra, profesor: “La educación actual ha convertido al docente en un monitor de tiempo libre” / Entrevistado por Olga R. Sanmartín. *El Mundo*. <https://www.elmundo.es/papel/historias/2019/10/12/5da0829efc6c83b40b8b45a7.html>

OCDE. (2024). *Panorama de la Educación. Indicadores de la OCDE 2024. Informe español*. Instituto Nacional de Evaluación Educativa. [https://www.libreria.educacion.gob.es/libro/panorama-de-la-educacion-indicadores-de-la-ocde-2024-informe-espanol\\_184584/](https://www.libreria.educacion.gob.es/libro/panorama-de-la-educacion-indicadores-de-la-ocde-2024-informe-espanol_184584/)

Observatori Crític de la Realitat Educativa. (2024, 13 de mayo). La associació OCRE dona la benvinguda al col·lectiu Helios. <https://asociacionocre.org/lassociacio-ocre-dona-la-benvinguda-al-collectiu-helios>

Observatori Crític de la Realitat Educativa. (s. f.). Manifiesto de OCRE. [https://asociacionocre.org/wp-content/uploads/2023/02/31ene-Manifiesto-de-OCRE\\_CAS.pdf](https://asociacionocre.org/wp-content/uploads/2023/02/31ene-Manifiesto-de-OCRE_CAS.pdf)

OECD. (2013). *La Estrategia de Innovación de la OCDE: Empezar hoy el mañana*. Foro Consultivo Científico y Tecnológico. <https://doi.org/10.1787/9789264080836-es>

Palacios, M. L., Toribio, A., & Deroncele, A. (2021). Innovación educativa en el desarrollo de aprendizajes relevantes: una revisión sistemática de literatura. *Revista Universidad y Sociedad*, 13(5), 134–145.

Premios Innovación Educativa. (s.f.). *Premios Innovación Educativa*. <https://www.premiosinnovationeducativa.com/>

Prieto, V., Quiñones, I., Ramírez, G., Fuentes, Z., Labrada, T., Pérez, O., & Montero, M. (2011). Impacto de las tecnologías de la información y las comunicaciones en la educación y nuevos paradigmas del enfoque educativo. *Educación Médica Superior*, 25(1), 95–102.

Quilabert, E., Moschetti, M., & Verger, A. (2023). Del discurso pedagógico a la política: la irrupción de la innovación educativa en la agenda pública. *Teoría de la Educación. Revista Interuniversitaria*, 35(2), 57–79. <https://doi.org/10.14201/teri.31221>

Rico-Gómez, M. L., & Ponce, A. I. (2022). El docente del siglo XXI: Perspectivas según el rol formativo y profesional. *Revista Mexicana de Investigación Educativa*, 27(92), 77–101.

Roa, J. C. (2021). Importancia del aprendizaje significativo en la construcción de conocimientos. *Revista Científica Estelí*, 63–75. <https://doi.org/10.5377/farem.v0i0.11608>

Rodríguez, P., & Oliveres, V. (2021, 3 de diciembre). ¿La meritocracia son los padres? Cómo el sistema educativo falla a las clases bajas frente a las altas. *elDiario.es*. [https://www.eldiario.es/catalunya/meritocracia-son-padres-sistema-educativo-falla-clases-bajas-frente-altas\\_1\\_8534992.html](https://www.eldiario.es/catalunya/meritocracia-son-padres-sistema-educativo-falla-clases-bajas-frente-altas_1_8534992.html)

Royo, A. (2016). Alberto Royo: “A la escuela se va a aprender, no a buscar la felicidad” / Entrevistado por Iván Cámara. *El Mundo*. <https://www.elmundo.es/cronica/2016/03/12/56d9c02846163f05388b4583.html>

Salas-Hernández, J. I., Guarnizo, C. M., Salazar, L. E., & Murillo, S. A. (2023). La integración de aprendizajes socioemocionales en el currículo universitario: desafío de innovación. *Revista Digital de Investigación en Docencia Universitaria*, 17(1). <https://doi.org/10.19083/ridu.17.1.1738>

Sánchez, A., & Prieto, M. (2020). Jóvenes transitando a la educación posobligatoria: El reflejo de la injusticia hermenéutica en sus discursos. *Revista de Sociología de la Educación - RASE*, 13(4), 579–596. <https://doi.org/10.7203/RASE.13.4.17843>

Sánchez-Rojo, A., Alonso-Sainz, T., & Martín-Lucas, J. (2024). La pedagogía ante el desafío digital: Nuevas materialidades. *Teoría de la Educación. Revista Interuniversitaria*, 36(2), 25–42. <https://doi.org/10.14201/teri.31752>

Sanmartín, O. R. (2024, 18 de septiembre). Los jóvenes de sobresalientes entregan un informe al Gobierno para mejorar la educación. *El Mundo*. <https://www.elmundo.es/espagna/2024/09/17/66e9b48bfc-6c8364788b4593.html>

Solé, J. (2024). Autoridad, vínculo y saber en educación. Transmitir un testimonio de deseo. *Teoría de la Educación. Revista Interuniversitaria*, 36(2), 43–58. <https://doi.org/10.14201/teri.31753>

Thoilliez, B. (2019). Vindicación de la escuela como espacio para el desarrollo de experiencias democráticas: aproximación conceptual a las prácticas morales de reconocimiento y respeto. *Educación XXI*, 22 (1), 295-314, doi: 10.5944/educXXI.21657

Thoilliez, B. (2022). Conservar, legar, desear. Prácticas docentes edificantes para restaurar el carácter público de la educación. *Revista de Educación*, (395).

Thoilliez, B. (2024, 27 de junio). Las tiranías de la innovación educativa. *ABC*. <https://www.abc.es/opinion/bianca-thoilliez-tiranias-innovacion-educativa-20240628195812-nt.html>

Uribe, J. C. M., Chirinos, H. L. H., Chirinos, B. G. H., & Carbajal, L. A. D. (2022). Competencias de tecnología e innovación en la enseñanza híbrida. *LEX-Revista de la Facultad de Derecho y Ciencias Políticas*, 20(29), 267–286.

Valenzuela-Echeverri, C. E. (2023). Tradición, saber y escuela: una relación en crisis. *Pedagogía y Saberes*, (58), 141–150.

Villanueva, S. V., Campos, S. A. V., Villanueva, C. A. V., & Villanueva, L. V. (2021). Hacia el conectivismo: docente y estudiante, sus roles en el espacio virtual. *Paidagogo*, 3(1), 52–65.

Zanatta, L. (2021). Populismo y nacionalismo: la nostalgia de la armonía perdida. *Nacionalismo*, 21.



# **The (manufactured?) pedagogical debate behind Compulsory Secondary Education**

## **El debate pedagógico (¿manufacturado?) tras la Educación Secundaria Obligatoria**

<https://doi.org/10.4438/1988-592X-RE-2025-411-722>

**Miriam Prieto Egido**

<https://orcid.org/0000-0001-5396-2404>

*Universidad Autónoma de Madrid*

**Noelia Fernández González**

<https://orcid.org/0000-0003-2883-2207>

*Universidad Autónoma de Madrid*

**Patricia Villamor Manero**

<https://orcid.org/0000-0002-8154-8451>

*Universidad Complutense de Madrid*

### **Abstract**

In Spain, the Community of Madrid has authorized pre-primary and primary schools to teach the first two years of Compulsory Secondary Education. This policy measure has been justified by a vague need related to childcare, preventing youth gangs, addictions and school drop-out and failure, and reconciling family and work. For the 2025-2026 school year, 52 pre-primary and primary schools have signed up for this proposal (although in the end only 49 have had sufficient demand). This article attempts to look deeper into the needs this policy is meant to address. To that end, interviews were held with the principals at schools that will be implementing it next year, as well as with principals at assigned secondary schools,

schools that are already running these courses, schools that have not been authorized by the administration to do so and representatives of principals of pre-primary and primary schools and secondary schools. Our results show that the vague pedagogical debate is articulated into two types of tensions: an understanding that the 12-to-14-year-olds stage is part of childhood or adolescence (thereby stressing the retention purpose of primary schools and the accompanying purpose of secondary schools), and the generalist *grammar of schooling* at the former and the specialized grammar at the latter. These tensions raise the question of whether we are facing a process of *primarization* of Compulsory Secondary Education, and the effects this may have on its comprehensive nature.

*Keywords:* Secondary Compulsory Education, childhood, adolescence, grammar of schooling, comprehensiveness, basic education, compulsory education.

## Resumen

La Comunidad de Madrid inició el curso pasado la autorización para que los centros de educación infantil y primaria puedan impartir los dos primeros cursos de la Educación Secundaria Obligatoria. Esta medida se ha justificado desde una necesidad imprecisa relacionada con el cuidado de la infancia, la prevención de las bandas juveniles o las adicciones y del abandono y el fracaso escolar, y la conciliación familiar. A esta propuesta se han adherido para el presente curso escolar 52 centros de educación infantil y primaria (aunque finalmente solo 49 han tenido demanda suficiente para aplicar la medida). Mediante entrevistas realizadas con direcciones de los centros que la aplicarán a partir del curso 2025-2026, institutos adscritos, centros que ya imparten estos cursos, centros que no han sido autorizados por la administración a hacerlo y representantes de las direcciones, se ha tratado de profundizar en las necesidades educativas a las que pretende dar respuesta esta medida. El debate pedagógico, indefinido en los discursos, se articula en los resultados en dos tipos de tensiones: la concepción de la etapa 12-14 años como parte de la infancia o de la adolescencia, y consecuentemente la función de retención de los centros de educación primaria y de acompañamiento de los institutos, y la gramática escolar generalista de los primeros y especializada de los segundos. Estas tensiones plantean la cuestión de si nos encontramos ante un proceso de *primarización* de la Educación Secundaria Obligatoria, y los efectos que éste pueda tener sobre su carácter comprensivo.

*Palabras clave:* Educación Secundaria Obligatoria, infancia, adolescencia, gramática escolar, comprensividad, educación básica, educación obligatoria.

## Introduction

In September 2024, the President of the Community of Madrid announced that newly created pre-primary and primary schools would teach through the 1st and 2nd year of Compulsory Secondary Education (ESO). This policy measure was presented with arguments mixing ideas of a pedagogical and social nature, such as addressing the needs for reconciling work and family, and for fighting against high failure and dropout rates with other dangers regarding safety and security, such as “addictions and the potential influence of gangs.” One month after this first announcement, Madrid’s Board of Education announced that they were extending this policy to existing schools, and in December they announced that 25 pre-primary and primary schools would be participating in the upcoming school year. Finally, on February 3, the Board published a list that increased that number of schools to 52<sup>1</sup> for the 2025-2026 school year<sup>2</sup>.

This policy significantly alters how the 1990 General Organic Law on the Ordering of the Education System (LOGSE, in Spanish) initially organized compulsory education into six years of primary school from the ages of 6 to 12 and four years of Compulsory Secondary Education to be taught at Secondary Education Institutes from the ages of 12 to 16. Subsequent reforms of the Spanish education system passed in laws in 2002 (LOCE), 2006 (LOE), 2013 (LOMCE), and 2020 (LOMLOE) brought about internal changes but did not change the duration or structure of Compulsory Secondary Education<sup>3</sup>. The policy measure proposed by the Community of Madrid distributes the 4 years of Compulsory Secondary Education into two different schools, which raises the question of whether this entails a *de facto* split of this stage in secondary education.

Although this measure does not arise from a process of detecting educational needs, it does usher in a new context of debate on the structure of secondary education, which is a stage historically noted for being poorly

1 At the time of writing this article, the number has dropped to 49 since three schools finally opted out due to lack of demand by the families.

2 The press releases are referenced at the end of this article.

3 The current structure of the Spanish education system can be found at: <https://eurydice.eacea.ec.europa.eu/es/eurypedia/spain/estructura-y-organizacion-del-sistema-educativo>

defined. Consequently, the present article aims to look deeper into how this policy is enacted and how it connects to the longstanding historical context in light of the discourse voiced by the principals of the schools involved in the measure.

## **Compulsory Secondary Education: A stage with its own identity?**

### **The configuration of Compulsory Secondary Education: a differentiated stage**

Secondary education, particularly in its lower stage, is an especially thorny issue in every education system (Puelles, 2011); it has always had to fight for its own identity (Nasarre, 2000), in part because, unlike the other stages, it is aimed at an poorly defined, intermediate student body (often known as middle school years) nestled between mass education and the introduction of higher studies. Until 1970, students began this stage at the age of 10; it was not until the General Education Law (LGE) established General Basic Education (EGB) that it included a general, shared stage for the whole population that put off secondary education until the age of 14. It is a stage whose target student body has been shifting, going from being school years aimed at a very exclusive part of Spanish society to becoming more generalized, reaching its current level of one hundred percent of students from the ages of 12 to 16.

From the very start in the initial debates of the experimental phase, one of the aims of the LOGSE reform was to make education compulsory up to the age of 16. The draft bill *Hacia la reforma* (MEC, 1985) justified the increase with two key goals: equal opportunity and extension of comprehensiveness, seeking to give the whole population a higher level of common education. Thus, the basic and compulsory stage increased by two years (ages 6-16) but the number of years in primary education was cut to six while secondary education was increased, thereby creating a lower stage of secondary education (known in Spain as ESO) for the first time.

This change was one of the most controversial points before the reform was passed. In 1987, Maravall (the Minister of Education at that time) presented his *Proyecto para la reforma de la enseñanza. Educación infantil, primaria, secundaria y profesional. Propuesta para el debate* (Ministerio de Educación, 1987). It called for splitting primary and the new lower secondary into twelve years because that age coincided with pre-adolescence (proposal 10.1). In addition, the project, heavily debated by the educational community for a year, gathered different opinions on how long ESO should last and even on how to distribute the different “cycles<sup>4</sup>” of the compulsory secondary education stage between primary and secondary schools. In fact, the Ministry’s initial proposal was for the first cycle of ESO (ages 12–14) to be taught in EGB schools by *maestros* (primary-trained teachers), thereby leveraging both those schools’ resources and their educators’ training, while the second cycle (ages 14–16) would be taught alongside upper-secondary education (*Bachillerato* and vocational training) in high schools and vocational training schools (*Institutos de Educación Secundaria y Profesional*). However, the long-term goal was always to create an integrated ESO stage—taught at a single type of school with a unified teaching body (Proposal 11.19).

Even though that was the Ministry’s primary plan, feedback from the educational community—documented in the *Papeles para el Debate* publication series (Ministerio de Educación, 1988)—overwhelmingly advocated for the entire stage to be taught in high schools by university-trained secondary teachers (*profesores de secundaria*), as was ultimately ratified in the LOGSE reform (Marchesi, 2020). However, upper-cycle EGB *maestros* (primary school teachers with a 3-year teaching degree) retained protected status, enabling them to transition to teaching the first two years of ESO (LOGSE, Fourth Transitory Provision). Simultaneously, it remains ambiguous whether this decision reflects the law’s recognition of secondary education as an extension of primary education (LOE, Preamble; Puelles, 2011, p. 723).

<sup>4</sup> Translator’s note: In the Spanish education system, “ciclos” are multiple academic years based on developmental and curricular criteria: e.g., primary school has three 2-year cycles: 1st and 2nd grade, 3rd and 4th grade, and 5th and 6th grade.

## Compulsory Secondary Education: Global or specialized?

Despite ongoing debates and criticism, ESO's structure as an independent educational stage assigned to high schools (known in Spain as *institutos de educación secundaria, (IES)*) has survived subsequent reforms, though modifications have compromised its comprehensive nature through horizontal tracking within the stage.

The first modifications were introduced under the Organic Law on Education Quality (LOCE, 2002), which established tracked pathways (Article 26) in the third and fourth years of ESO. This indirectly undermined the comprehensive model while granting the same final diploma. The fourth year was structured as an orientation and preparatory phase for subsequent studies.

Subsequently, the Organic Law on Education (LOE, 2006) reinstated ESO's comprehensive model while retaining the fourth year's orientation function (Article 25). Yet its most innovative proposal was undoubtedly the introduction of a new master's level postgraduate degree (Articles 94, 95, and 100) as a mandatory training requirement for teaching across all secondary education levels (Tiana, 2009).

The *Organic Law for the Improvement of Educational Quality* (LOMCE, 2013) marked a complete break from the comprehensive model that had been maintained—with varying degrees of success and support—in the structure of compulsory education since LOGSE. The LOMCE structurally divided ESO into two cycles: the first encompassing the initial three years, and the second—of a propaedeutic nature—the fourth year. Not only did the final cycle divide its curriculum, it also granted different diplomas through two distinct pathways: an 'academic' track providing exclusive access to *Bachillerato* (Spain's university-preparatory upper-secondary program), and an 'applied' track mandatorily for entry into vocational training. The LOMCE also promoted basic vocational training as of the third (or even second) year of compulsory secondary education. Another major change was the requirement of evaluations to graduate from this stage of secondary education.

The current law—Organic Law 3/2020 of December 29th, amending Organic Law 2/2006 of May 3rd on Education (LOMLOE)—reinstates a

single certification stage granting access to all of Spain's non-tertiary post-compulsory education (Articles 21 to 32). This new structure retains a number of elective subjects that facilitate tracking pathways not explicitly stated in the law itself. Furthermore, it eliminates organization of the stage into cycles (through the repeal of Article 23 bis of the LOE) while maintaining the orientation function assigned to the fourth year.

It is inherently challenging to combine, within a single educational stage, the basic and compulsory nature characteristic of primary education with the specialization and horizontal and vertical segmentation typical of secondary education that was ultimately assigned to ESO (Viñao, 2004). This lack of definition is largely due to the intrinsic tension within lower-secondary education in modern systems concerning whether this stage should serve a propaedeutic purpose, a terminal purpose, or both (Nasarre, 2000; Puelles, 2011). According to all regulations over the last 40 years, compulsory secondary education must simultaneously prepare students for further academic study and for entry into the job market. This ambiguity has led to ESO being viewed as a natural extension of primary education, with which it shares more features and similarities—due to its comprehensive and compulsory nature—than with post-compulsory secondary education (Viñao, 2011). However, for many policymakers and education professionals, this vision is considered one of the major failings of this educational stage (Nasarre, 2000, p. 19). It is no coincidence that upper-secondary teachers decried the LGE, lamenting the '*egebeización*'—the assimilation to EGB culture—of secondary education, nor that those same teachers now protest against ESO and the loss of *Bachillerato*'s distinct identity (Puelles, 2011, p. 723). Furthermore, ESO's comprehensive model (identical objectives for all students in the same schools) has been identified as the cause of the perceived decline in Spanish education since the LOGSE was passed (Delibes, 2006; García Garrido, 2002; Nasarre, 2000). In a contrasting interpretation, Viñao (1992) observed the '*bachilleratization*'—the imposition of an academic, university-preparatory model—of the second stage [of EGB] and predicted this same for the LOGSE's ESO, which he credits with reinforcing this very process of academization.

## Method

The objective of this study was to understand the *meanings* assigned to the proposal of teaching the first two years of ESO in primary schools (*Centros de Enseñanza Infantil y Primaria* (CEIPs)) by those who were previously responsible for this stage, represented by secondary school principals at the IESs, and by those who are being responsible for its implementation in the 2025-2026 academic year. To this end, interviews were conducted with the principals of 7 out of the 52 designated 'CEIP+1and2<sup>5</sup>' (Table 1), representing 13.4% of the total population.

**Table I.** Type of school where the interviewee works

DAT*	School pseudonym	Type of school
1	CEIP Las Praderas	CEIP not selected to incorporate years 1 and 2
1	CEIPSO Los Brotes	Secondary added recently**
1	IES Tallo	Affiliated with a school that recently added secondary
2	CEIP Los Montes	CEIP+1and2
2	CEIP Las Hojas	CEIP+1and2
2	CEIP Las Semillas	CEIP+1and2
2	IES Frutos	Affiliated with CEIP+1and2
3	CEIP Las Hierbas	CEIP+1and2
4	CEIP Las Flores	CEIP+1and2
4	CEIP Los Pétalos	CEIP+1and2
4	IES Ramas	Affiliated with CEIP+1and2
5	CEIP Los Bosques	CEIP+1and2
5	CEIP Los Jardines	CEIP+1and2
5	CEIP Los Valles	CEIP+1and2
5	IES Arboleda	Affiliated with CEIP+1and2
5	IES Rosedal	Affiliated with CEIP+1and2
5	IES Limbo	Affiliated with CEIP+1and2
-	ADIMAD	Association of High School Principals in Madrid

<sup>5</sup> We use the designation 'CEIP+1and2' to refer to primary schools (CEIP) that are incorporated the first and second years of lower-secondary education (ESO) in the 2025-2026 academic year and therefore are not yet combined primary and lower-secondary schools (CEIPSO).

-	<i>Consejo de Directores</i>	The Community of Madrid's consultative body
Source: original work by authors.		
*To protect the identity of the interviewees and the schools, we have used a numerical process to make the DAT (Regional Management Area) to which they belong anonymous.		
**To protect the identity of the interviewee and the school, we do not state the specific year they added secondary education.		

For a better understanding of how this measure has been received at secondary schools that are affiliated with CEIPS+1and2, especially in light of the presumable drop in enrollment and the elimination of some of their functions, we have also interviewed administrators from 5 secondary schools that are affiliated with CEIP+1and2. The selection of participants responds to a theoretical sampling criterion typical of grounded theory (Flick, 2012). In accordance with this criterion, we contacted all the CEIP+1and2 and interviewed all the principals who agreed to participate, as well as their affiliated IES, assuming that their interventions would also offer different discursive positions regarding this measure (Barbeta-Viñas, 2021). In view of the variety of territorial contexts in the region, we sought to ensure that the interviews covered the five territorial areas into which the community is administratively distributed in terms of education.

In accordance with the criterion of gradual selection, when preparing for the first interviews, we found other participants whose voices might also represent the same positions, although in different contexts. They would therefore enrich the variety of participating voices. Thus, we also interviewed the school principals of: a primary school that applied to add years 1 and 2 of ESO but was not finally selected; a school that became a CEIPSO; and two members representing the Association of Principals and Public High Schools of Madrid (ADIMAD) and the *Consejo de Directores de la Comunidad de Madrid* (the official advisory board for principals of public schools in the Madrid region, encompassing early childhood, primary, special, and combined primary-lower secondary education). Thus, our analysis material consists of 19 interviews, with which we have reached the saturation point (Table 2).

**Table II.** Number of people interviewed at each type of school

CEIP+1and2	High Schools affiliate with CEIP+1and2	Primary school recently converted into a CEIPSO	IES affiliated with a school recently converted into a CEIPSO	CEIP not selected to incorporate years 1 and 2	Representatives from groups of school principals
9	5	1	1	1	2
<b>Total: 19 interviews</b>					

Source: original work by authors

In keeping with hermeneutic and critical research approaches, we do not conceptualize interviews as a technique for capturing an objective ‘truth.’ Instead, we see them as interactions between participants, thereby gaining access to their subjective meanings regarding the object of study (Kaufmann, 2021). From this premise, our analysis identified that the key elements structuring the discursive framework are the participants’ understandings of 12-14-year-old students and the ‘grammar of schooling.’ In view of this, our procedure has been to analyze the discursive positions (Barbeta-Viñas, 2021; Conde, 2009) that emerge in the interviews on both topics. Unlike content analysis, which seeks to quantify the most representative elements, discursive approaches aim to analyze texts in light of their context through an iterative process. This analysis is artisanal in nature, characterized by a continuous back-and-forth between the texts and theory, resulting in a circular and always provisional interpretation. Thus, the analysis of discursive positions affirms their collective—not individual—nature. These positions are intrinsically connected to the likewise collective social positions that individuals occupy within a given context, such as their social standing, roles, identities, or social practices. The analysis of discursive positions elucidates the dialectical relationship between text and context by observing how this relationship is expressed through linguistic usage.

In light of this dialectical relationship between text and context, our analysis considers two contextual dimensions (in addition to the interview situation itself): (1) the immediate context generated by this specific policy measure, which activates these discursive positions, and (2) a long-standing context characterized by the persistent ambiguity of lower-secondary education. We have deliberately omitted a third contextual aspect, even though the interviews reveal it as key: the current landscape of competition between

schools, a defining feature of the Community of Madrid (Prieto Egido, 2022). Although the interviewees do indeed reference this context of competition to explain their motivations, this article focuses exclusively on the pedagogical arguments they deploy regarding this measure.

## **Results: The debate behind the first two years of Lower-Secondary Education (ESO)**

The Community of Madrid's proposal under analysis here constitutes a hybrid measure: the first two years of lower-secondary education would be taught by secondary-level teaching staff, but within early childhood and primary education schools (CEIP). The interviews reveal, however, that this hybrid nature lacks a precise justification. This ambiguity is reflected in the participants' positions, which mirror the undefined nature of the pedagogical need or problem the measure purportedly aims to address.

The criticism of this measure raises two essential, yet unresolved, questions that—as presented in the following pages—emerge from the discourses of the interviewed principals: who is responsible for teaching 12-14-year-old students, and to what end? And which *grammar of schooling* best addresses their needs? In the discourses of the primary (CEIP) and secondary (IES) school principals, we identified two distinct models of conceptualizing childhood. Whereas the CEIP principals seek to retain and prolong childhood for as long as possible, the IES principals aim to guide students beyond this life stage, albeit with varying degrees of support. These conceptions, in turn, suggest two models for supporting these students: one of control and one of autonomy. As we will see, these models find their place within two distinct—each internally coherent—*grammars of schooling*.

## Who is ESO for? Childhood versus adolescence

Not a single primary or secondary school principal we interviewed cited specific difficulties experienced by students during the transition to secondary school or their first years there, nor did they mention any negative effects caused by this move (Calvo and Manteca, 2016). In contrast to the specific motivations for implementing ‘CEIP+1and2’ put forward by the regional government—such as preventing addiction or youth gang involvement, reducing early school leaving and academic failure, and improving work-life balance—a far less defined idea permeates the discourse of CEIP principals: ‘they are too young to go to secondary school’. However, the lack of a clear reason *why* they are considered too young is just as unanimous as the idea itself.

This claim of a lack of maturity at age 12—a view held by CEIP principals and concurred with by IES principals—encompasses a confluence of different observations. Behind the assertion ‘they are too young,’ CEIP principals express fears such as students’ access to cultural content not designed for children—which they perceive as threatening—and the pressure of new responsibilities associated with the transition to secondary school. Although they concede that there is no homogeneity in their maturity levels (*‘some are young,’ ‘some adapt well’*), this does not invalidate their overall impression that they are too young to move on to secondary school. When viewed together, their arguments reproduce the image of childhood fabricated over the last two centuries: that of a subject whose natural spaces are the family and the school, whose main activity is play, and who is kept separate from the adult world—its tasks, responsibilities, and cultural consumption (Carli, 1999). Whether because they perceive learners that age as not yet capable (immature) or because it is a risk for them to want to grow up too quickly, they maintain that this boundary must be reinforced. This notion of a boundary aptly reflects the ambivalent perceptions surrounding this transition, framing it as a ‘rite of passage’ (Ávila Francés et al., 2024).

This representation of childhood approaches a form of exaltation through expressions that valorize protection—such as *‘my children,’ ‘well-cared-for chicks,’ ‘like a mother hen brooding over her students,’* and *‘being*

*more closely watched*'—or through nostalgic references to play, lamenting that the young learners must give up play when they go on to secondary school. The discourses of the CEIP principals reflect an *infantilized* conception of 12-14-year-old students (Alcubierre Moya, 2016), a conception in which the need for protection is paramount and which assigns schools the primary function of monitoring them. Consistent with this perception, they identify the smaller size of primary schools as an ideal characteristic for providing a 'family-like' environment. They contrast this with the large, populous institutes filled with older students. CEIPs, their principals affirm, are perceived by families as a contained and protective space—sometimes even one of surveillance or control—where childhood can be prolonged. This can be observed in the following testimonies from primary school principals:

[Families] have the peace of mind that their 'well-cared-for chicks' are still at school; they have the lunchroom, someone keeps a closer eye on them, they don't mix with older kids—in the end, they will still be the oldest in the school. (CEIP Las Semillas)

Right now, we enroll 50 students by name in the sixth grade of primary. It's true that over there [at the institute], we're talking about them having... even 200 students in a sixth-grade cohort? That's rough. In the end, even when you want to get to know them, it's complicated. [...] They are still 'my kids' from the moment they enter at age 3. (CEIP Las Flores)

It's not the same to say 'I want him in the lunchroom, where I know he will eat and that there is someone to keep an eye on him,' versus 'my son goes to the cafeteria—who knows what he eats or doesn't eat?' (CEIP Las Hierbas)

In contrast, IES principals characterize these fears as an attitude of irrational and unfounded overprotection. They highlight how hard secondary schools work to make students feel welcome, support them, and ensure their transition to high school is smooth. From their perspective, students have a mandate to 'adapt' to the secondary school, hinting at the need to develop student autonomy. This stance distances them from the CEIPs' recurrent model of surveillance, yet without failing to recognize the need for support—a need inherent to both the transition itself and students of that age:

When was the LOGSE reform implemented? In 1992, I think, if memory serves me. And ever since, there have been a lot of graduating classes, 20, 25, 30 classes in this education system. And no one is traumatized from having to go home and microwave their own meal. So I think it's legitimate for parents to have that fear because as parents, we all want to protect our kids. But it's also true that you get used to it and things work out and move forward. No kid has ever gone hungry. (IES Ramas)

Schools aren't what they used to be; they've changed a lot. The kids in the first year of ESO get a lot of support. All the schools have plans for how to help and support them during the first few days, student helpers, mediators. (ADIMAD)

In regard to this autonomy, there are other concerns about the children's transition into secondary school, such as going home from school alone or having smart phones, but these concerns are the family's, not the school's. In fact, the family's support and view of the student changes when they reach high school; this change is felt to be a rite of passage toward a degree of freedom:

Families make a lot of changes in how they help their child or how they treat them when they start high school, not when they reach a certain age. In other words, it's not so much about age as it is about going to high school. They're given a lot more freedoms when they start high school. But they're really too young for those freedoms [...] you can't tell your twelve-year-old they have free use of a cell phone, but when they go to high school, they get free reign. You can't stop looking at your twelve-year-old's class notebooks ever, but when they start high school parents do. (IES Tallo)

In consonance with how CEIP principals depict their students and little children, there is a degree of fear of their having contact with the older students at the IES, often presented as a fear the families have and that the school has to deal with. In contrast, the IES principals respond to this idea, noting that the conflicts do not arise from contact with older students (there are no conflicts between grades) but between students in the same grade, and

the ones that cause the most trouble are usually the first and second year students in ESO (Calmaestra et al., 2016). That innocent childhood purported by pre-primary and primary schools is dashed upon entering high school, but according to the high school principals, it is due not to the change in venue but to the child's own evolutionary process, thereby associating trouble-making with age.

We have problems between the kids in first year A and first year B because they behave as they do, and we'll have that here in grade school or in second year of ESO or in third year. We don't have those problems, we don't have gangs or fighting, or of the older kids picking on the younger ones; the older kids keep as far away as they can from the younger ones. (IES Rosedal)

The interviews show that the primary teaching staff believe that by knowing all the students and their families and keeping them in the same place despite the change in stage, they can stave off new or bigger problems. However, just by having these students go somewhere else seems unlikely to address the core issues that arise in high schools everywhere. Furthermore, as the representative from ADIMAD notes, they have no way of knowing how these same students will behave one or two years from now, nor have they been able to prepare for dealing with challenges other than the ones they have faced so far at their school.

Seeing the sixth graders I have now, I'm not at all worried about them getting along or not. (CEIP Los Montes)

We haven't had much problem with this [the first and second year ESO students getting along]. In the end, I think there will be some problems of some students not getting along, but really, they've all known each other for years and years. The fifth and sixth graders already fight over who gets the ball on soccer days, who gets the field first, [...] I think that's also given them some bonding, some respect, so I do hope that's one of the advantages to this way. (CEIP Los Jardines)

## What is ESO for? Globalization vs specialization

In the interviews, the high school principals refer to the risks of splitting up compulsory secondary education, with arguments that have reverberated in public opinion. In contrast, for primary school principals, it is not about the split, but about the space, since secondary education teachers will ensure continuity. Thus, the school principals' discourses reflect a clash in the *grammars of schooling* (Elías, 2015; Viñao, 2002) at primary and secondary schools:

We have no primary or secondary here...no, here we're all one school, a CEIPSO, and we all work together, secondary, primary, and whatever else they throw at us, as we've all been working so far, so nothing is going to change, and if it does, I'm closing up shop. I don't get why we're each going separately. We'll have four more groups, and they're our kids, right? They've spent the last nine years here. (CEIP Los Montes)

[...] this isn't primary and secondary of ESO; it's seventh and eighth grade; and... and we'll do whatever we think is best for the kids. The school's projects stay at the school regardless of how old the students are. And the teaching staff has to fit in with the school's projects. (CEIP Los Bosques)

The reference to the "school's project" that comes up again and again in the CEIP principals' discourse captures the spirit of a global, comprehensive grammar of schooling that is also correlative of an equally globalizing teacher identity (except for the specializations) (Bolívar et al, 2005). This same globalizing feature is what turns the teaching staff into the basic organizational unit (RD 82/1996, art. 38). In contrast, the discourse from the high school principals focuses on the specialized structure of this stage. This aspect reflects a grammar of schooling organized into didactic departments, thereby making the subject matter its curricular unit (RD 83/1996, art. 40). The following extracts represent both lines of reasoning:

What is taught in primary school and what is taught in secondary school are different, the way of teaching it in primary school is different from how it is taught in secondary school. Primary school

attends more to more global structures and secondary to subject matter. How can, say, biology teachers really do quality teaching if they are teaching biology, physics, math, and technology? The way I see it, they can't. But that's what's happening now. The quality of education is taking a beating. (IES Tallo)

We're always unsure, especially in primary school, where there's a greater calling for the profession, we are concerned about doing the right thing, treating the students well, looking out for them, of course, and for quality teaching [...] For instance, in our organization we are thinking that if someone teaches French, if French turns out to be a compulsory elective we have to offer, since if that person wants to, for us we would like them also to teach language arts [...] The longer that person is here, the more involved they are in the projects. (CEIP Los Bosques)

Although the LOMLOE allows for ESO subjects to be integrated into broader interdisciplinary fields (Article 24)—a change that could potentially modify the ‘grammars of schooling’ of high schools towards a more globalized conception, aligning them with those of primary schools—this remains merely a curricular change. For it to have a real impact on these grammars of schooling and on teacher identities, it would need to be followed by organizational reform. Precisely this lack of organizational change within high schools has been one of the noted shortcomings of the LOGSE reform regarding ESO, which represented a curricular—but not an organizational—shift (Bolívar, 2010). This dual approach to the ESO stage combining the globalized perspective of primary schools’ *grammar of schooling* with the specialized one of high schools may reflect the persistence or resurgence of the debate surrounding ESO’s hybrid nature, which is both basic and specialized (Viñao, 2004). This same debate also surrounded the upper cycle of EGB (Viñao, 1992), a system that now appears to be looked back on with nostalgia as a potential solution.

However, the debate about lower-secondary education does not occur in a vacuum, but within a structure that has remained in place for 30 years—a *structure* that, in turn, shapes the very reasoning of high school principals. They defend a holistic vision of the educational stage based on the work

they effectively carry out as a collective, a point they are keen to emphasize ('we place great importance on it,' 'we are very demanding,' 'excellent work,' 'effort towards,' 'we have been working on this for years'). From this perspective, continuity within the same school is the essential condition for success at this educational stage. This is especially true from the third year onward, which is when options for specialization become formalized (through elective subjects, programs of curricular diversification<sup>6</sup>, and basic vocational training cycles<sup>7</sup>). Only continuity within the same school guarantees what they attribute to those first two years: a unified, '*homogenizing*' educational approach and a consistent diagnostic function:

When you get the first-year students in ESO, there's a lot of work to do because you're the one who has to set the basis for everyone to move forward together [...] Third year of ESO is radically different, the curricula are already jam-packed with things at a much higher level of difficulty. The effort at evening out everything that has been taught in each place and all that planning to squeeze everything in smoothly and progressively, you can't do it if they go into the third year of ESO. (IES Tallo)

We give a lot of weight to the diversification profile. We're very demanding about defining the learner for that program, so we have diversification groups that really work well and help a lot of the kids get into upper secondary school. We don't know what profile they're going to send us from second year of ESO from a CEIPSO. (IES Rosedal).

These excerpts reveal the importance the high school principals attribute to their own work, in this case, their work on orientation during the first few years of ESO. This specific defense of their work on orientation is an example of their more general defense of their specialization in subject matters, by which they show their knowledge of the stage, of the student body, and thus, that they are the best suited to teach them. Thus, throughout

<sup>6</sup> This program allows for the curriculum to be modified starting from the 3rd year of ESO so that the stage's objectives and competencies are achieved by organizing the subjects into broader interdisciplinary fields and using a specific methodology.

<sup>7</sup> Vocational Studies is part of compulsory basic education and is designed to prepare students for the job market or to go on to vocational training.

the interviews, they voiced a number of concerns about potential devaluation of secondary education: a decline in quality if the incorporation of Years 1 and 2 into primary schools (CEIP) comes at the expense of teacher specialization; the incorporation in Year 3 of a highly disparate student body, having lost the homogenizing effect of taking the first two years in a high school; and the risk of increased early school leaving by delaying the transition to high school until a more critical age—14, which can extend to 16 in the case of students who have had to repeat a year.

For high school principals, specialized teaching staff is a central aspect for this educational stage; they also emphasize the importance of having stable faculty to guarantee its delivery. This organizational issue is especially critical for secondary schools (Red por el Diálogo Educativo, 2020). The organization of the first years of secondary education within primary schools (CEIP), combined with the limited number of teaching hours allocated per specialization, will prevent the creation of permanent posts. Consequently, the teaching of these courses will be carried out by interim teaching staff. While CEIP principals do not attach importance to this issue, placing their guarantee of continuity on the school's project itself, for high school (IES) principals, the continuity of their teaching staff is key to ensuring the continuity of the educational stage:

If we hire more full-time teachers to share our team's way of working, we'll set the bases and a way of working. (IES Ramas)

How can a teacher fully invest in a school's educational project or way of working if they only spend four hours a week there because they have to divvy up their day working at other schools? How invested can teachers be at a school? How engaged can they really become? (IES Tallo)

The short-term, interim, and part-time contracts they predict for the teaching positions that will be opened at the CEIP+1and2 are chief concerns among high school principals. They understand that part-time work, especially at schools with different grammars of schooling, creates material conditions that hinder teacher commitment to student development.

## Conclusions: Towards a ‘*primarization*’ of Secondary Education (ESO)?

A primary line of inquiry in this study has been to understand the rationale for this policy, particularly after confirming that the Madrid government’s motives do not align with the motivations of the primary schools (CEIP)—as expressed by their principals—for implementing it. There is no indication in the school principals’ discourse of any specific prior demand to incorporate the first two years of ESO into primary schools. Furthermore, we have not found any debate in recent academic or grey literature that calls for this measure. This lack of prior debate leads us to identify a manufactured debate, one that was activated by the announcement from the Presidency of the Community of Madrid regarding the expansion of the ‘CEIP+1and2’ model and that unfolds within a context of competition among schools. Nevertheless, aware of this fact, this study has sought to recover the pedagogical meanings that school principals attribute to this measure.

We have identified a discursive framework that pivots around two distinct perceptions of students in the first two years of ESO, each consistent with the two differentiated grammars of schooling of each type of school. In light of this, and borrowing Viñao’s concept of ‘*egebeización*,’ we argue that this policy advances a *primarization* of these two years of ESO. We define ‘*primarization*’ as the subsumption of the first two years of ESO under the *grammar of schooling* of the primary schools that come to host them, and their consequent subordination to the globalizing, generalist educational model of primary education, to the detriment of the specialized instruction found in secondary education. Thus, IES principals expressed concern that this policy breaks the unity of ESO, connecting to a historical debate around the principle of comprehensiveness. It is upon this principle, at least discursively, that ESO’s compulsory and globalizing character has been built. This principle would be effectively suspended by separating ESO into two types of schools with markedly different characteristics (Marchesi, 1995), which are grounded in different perceptions of students (childhood versus mature or maturing subjects), different modes of relating to them (control/protection versus autonomy), and different grammars of schooling

(globalizing versus specializing). Thus, another effect of this *primarization* is that, when faced with the two perceptions of students, the control/protection model is privileged over the support model. This is driven by a discourse that exalts childhood and, consequently, strives to retain it, ultimately causing its infantilization. Finally, this article contributes to a critical understanding of this policy's effects by examining the systemic foundations upon which it is built. Thus, we observe that the gap between the different depictions of students as well as between the different grammars of schooling reflects long-standing discursive continuities that this policy, far from resolving, has brought to the surface. Consequently, we argue that the 'CEIP+1and2' policy by itself does not resolve or alleviate the clash between the two grammars of schooling—a key problem identified in the literature on primary-to-secondary transitions (Gimeno, 1997)—but merely postpones it for two years.

This discursive framework reflects the tensions that have shaped lower-secondary education within the broader historical narrative of the 20th century, a period during which it was established as a compulsory stage of basic education. This discourse is now emerging as a still incipient debate, due to the embryonic state of the policy itself, which began in September 2025. However, we maintain that, even at this incipient stage, this proposal alters the structure of ESO and could, in a sense, fracture it. In light of this finding, we emphasize the importance of ensuring that educational reforms not only arise from regulatory processes that allow for the participation of all members of the educational community, but also stem from diagnostic, analytical, and discursive processes to clearly identify needs, the most appropriate policy measures to address them, and their implications. This study is necessarily constrained by the policy's incipient character. Its focus is further limited to the views of school principals, since they are the officials responsible for requesting and, where applicable, implementing the policy measure in their schools. Nevertheless, their testimonies are but a preliminary sketch of a picture that must be fully rendered with the voices of all other stakeholders in the educational community.

## References

Alcubierre Moya, B. (2016). La infantilización del niño. In A. Villegas, N. Talavera, and R. Monroy (Coords.), *Figuras del discurso: exclusión, filosofía y política* (321-343). Bonilla Artigas Editores.

Ávila Francés, M.; López Fernández, S.; Sánchez Pérez, M.C. and Paños Martínez, L. (2024). Transición de Primaria a Secundaria: vivencias del alumnado y percepción de docentes y familias. *Revista de Sociología de la Educación-RASE*, 17(1), 73-90. <http://dx.doi.org/10.7203/RASE.17.1.27864>.

Barbata-Viñas, M. (2021). Las posiciones discursivas en el análisis sociológico del discurso. *Revista Internacional de Sociología*, 79(3) e189. <https://doi.org/10.3989/ris.2021.79.3.20.169>

Bolívar, A. (2010). Contexto de la educación secundaria: estructura y organización. In F. Imbernón (Coord.), *Procesos y contextos educativos: enseñar en las instituciones de educación secundaria* (35-60). Graó.

Bolívar, A., Gallego, M. J., León, M. J. and Pérez, P. (2005). Políticas educativas de reforma e identidades profesionales: El caso de la educación secundaria en España. *Archivos Analíticos de Políticas Educativas*, 13(45). Retrieved [25-6-205] from <http://epaa.asu.edu/epaa/v13n45/>

Calmaestra, J., Escorial, A., García, P., Del Moral, C., Perazzo, C., and Ubrich, T. (2016). *Yo a eso no juego: Bullying y ciberbullying en la infancia. Save the children.*

Calvo, A., and Manteca, F. (2016). Barreras y Ayudas Percibidas por los Estudiantes en la Transición entre la Educación Primaria y Secundaria. *REICE. Revista Iberoamericana Sobre Calidad, Eficacia y Cambio En Educación*, 14(1). <https://doi.org/10.15366/reice2016.14.1.003>

Carli, S. (1999). La infancia como construcción social. In S. Carli (Comp.), *De la familia a la escuela. Infancia, socialización y subjetividad*. Santillana.

Comunidad de Madrid. (September 12, 2024). *Díaz Ayuso anuncia que los nuevos colegios públicos también impartirán 1º y 2º de ESO y tendrán jornada partida.* <https://www.comunidad.madrid/noticias/2024/09/12/diaz-ayuso-anuncia-nuevos-colegios-publicos-tambien-impartiran-1o-2o-eso-tendran-jornada-partida>

Comunidad de Madrid. (October 15, 2024). *La Comunidad de Madrid in-*

*corporará desde el próximo año los cursos de 1º y 2º de Secundaria a colegios públicos de Infantil y Primaria. <https://www.comunidad.madrid/noticias/2024/10/15/comunidad-madrid-incorporara-proximo-ano-cursos-1o-2o-secundaria-colegios-publicos-infantil-primaria>*

Comunidad de Madrid. (December 26, 2024). *La Comunidad de Madrid abrirá en 2025 los nuevos colegios públicos con 1º y 2º de la ESO. <https://www.comunidad.madrid/noticias/2024/12/26/comunidad-madrid-abrira-2025-nuevos-colegios-publicos-1o-2o-eso>*

Comunidad de Madrid. (February 3, 2015). *Díaz Ayuso anuncia que el próximo curso más de medio centenar de colegios públicos comenzarán a impartir Educación Secundaria. <https://www.comunidad.madrid/noticias/2025/02/03/diaz-ayuso-anuncia-proximo-curso-medio-centenar-colegios-publicos-comenzaran-impartir-educacion-secundaria>*

Conde, F. (2009). *Análisis sociológico de sistema de discursos*. CIS.

Delibes, A. (2006). *La gran estafa. El secuestro del sentido común en educación*. Grupo Unisón.

Elías, E. (2015). La cultura escolar: Aproximación a un concepto complejo. *Revista Electrónica Educare*, 19(2), 285-301. <http://dx.doi.org/10.15359/ree.19-2.16>

Flick, U. (2021). *Introducción a la investigación cualitativa*. Morata.

García Garrido, J. L. (2002). La nueva Ley de Calidad: Reflexiones en la perspectiva internacional. *Revista de Educación*, 329, 23-38.

Gimeno Sacristán, José (1997). *La transición a la educación secundaria. Discontinuidades en las culturas escolares*. Morata

Gutiérrez, L. (October 15, 2024). Madrid rescata el modelo de EGB para que los alumnos sigan en su colegio en 1º y 2º de ESO. *20 minutos*. <https://www.20minutos.es/noticia/5644076/0/madrid-rescata-el-modelo-de-egb-para-que-los-alumnos-sigan-en-su-colegio-en-1-y-2-de-eso/>

Gimeno Sacristán, José (1997). *La transición a la educación secundaria. Discontinuidades en las culturas escolares*. Morata

Kaufmann, J-C. (2021). *La entrevista comprensiva*. Dado Ediciones.

Ley Orgánica 1/1990, de 3 de octubre, de Ordenación General del Sistema Educativo (LOGSE). (Boletín Oficial del Estado no. 238, 1990, October 4).

Ley Orgánica 2/2006, de 3 de mayo, de Educación (LOE). (Boletín Oficial del Estado no. 106, 2006, May 4).

Ley Orgánica 10/2002, de 23 de diciembre, de Calidad de la Educación (LOCE). (Boletín Oficial del Estado no. 307, 2002, December 24).

Ley Orgánica 8/2013, de 9 de diciembre, para la mejora de la calidad educativa (LOMCE). (Boletín Oficial del Estado no. 295, 2013, December 10).

Ley Orgánica 3/2020, de 29 de diciembre, por la que se modifica la Ley Orgánica 2/2006, de 3 de mayo, de Educación (LOMCE). (Boletín Oficial del Estado no. 340, 2020, December 30).

Marchesi, Á. (1995). La reforma de la educación secundaria: la experiencia de España. *Revista iberoamericana de Educación*, 9, 77-90.

Marchesi, Á. (2020). La LOGSE en la educación española. Breve relato de un cambio histórico. *Avances en Supervisión Educativa*, 33. <https://doi.org/10.23824/ase.v0i33.681>

Ministerio de Educación y Ciencia. (1987). *Proyecto para la reforma de la enseñanza. Propuesta para el debate*. MEC.

Ministerio de Educación y Ciencia. (1998). *Papeles para el debate. 5 volúmenes*. MEC.

Monarca, H., Rappoport, S. and Sandoval, M. (2013). La configuración de los procesos de inclusión y exclusión educativa. Una lectura desde la transición entre Educación Primaria y Educación Secundaria. *Revista de Investigación en Educación*, 11(3), 192-206.

Nasarre, E. (2000). Finalidades y exigencias de la Educación Secundaria obligatoria, en Ministerio de Educación y Cultura, *La educación secundaria a debate. Situación actual y perspectivas* (13-26). Centro de publicaciones

Puelles, M. D. (2011). La educación secundaria en la España democrática: antecedentes, problemas y perspectivas. *Cuadernos de pesquisa*, 41(144), 710-731.

Prieto Egido, M. (2022). El gobierno de las palabras. Sobre el derecho a la educación en la Ley Maestra de Libertad de Elección Educativa de la Comunidad de Madrid. *Revista Educación, Política y Sociedad*, 7(2), 152-171.

Real Decreto 82/1996, de 26 de enero, por el que se aprueba el Reglamento Orgánico de las Escuelas de Educación Infantil y de los Colegios de Educación Primaria. (Boletín Oficial del Estado no. 44, 1996, February 20).

Real Decreto 83/1996, de 26 de enero, por el que se aprueba el Reglamento Orgánico de los Institutos de Educación Secundaria. (Boletín Oficial del Estado no. 45, 1996, February 26).

Red por el Diálogo Educativo (2020). Hacia el diseño de un modelo organizativo consensuado. In M. Fernández-Enguita (Coord.), *La organización escolar. Repensando la caja negra para poder salir de ella*, 17-33. REDE and ANELE.

Soler, J. (2024, October 30). Los 25 colegios que se suman a la 'EGB' de Ayuso: Madrid adaptará sus instalaciones para acoger 1º y 2º de la ESO. El Español. [https://www.elespanol.com/madrid/comunidad/20241030/colegios-suman-egb-ayuso-madrid-adaptara-instalaciones-acerca/897160717\\_0.html](https://www.elespanol.com/madrid/comunidad/20241030/colegios-suman-egb-ayuso-madrid-adaptara-instalaciones-acerca/897160717_0.html)

Tiana, A. (2009). *Por qué hicimos la Ley Orgánica de Educación*. Wolters Kluwer.

Viñao, A. (1992). La Educación General Básica: entre la realidad y el mito. *Revista de Educación*, 4, 47-71.

Viñao, A. (2002). *Sistemas educativos, culturas escolares y reformas*. Morata

Viñao, A. (2003). La educación comprensiva. Experimento con la utopía... tres años después. In L. Alanís Falantes (Coord.), *Debate sobre la ESO. Luces y sombras de una etapa educativa*, 35-66. Akal.

Viñao, A. (2004). *Escuela para todos: educación y modernidad en la España del siglo XX*. Marcial Pons Historia.

Viñao A. (2011). Del bachillerato de élite a la educación secundaria para todos (España, siglo XX). *Historia de la Enseñanza Media en Aragón*, 449-472.

Viñao, A. (2016). La Ley Orgánica de Mejora de la Calidad Educativa (LOM-CE) de 2013: ¿una reforma más? *Historia y Memoria de la Educación*, 3, 137-170. <https://doi.org/10.5944/hme.3.2016.14811>

## **Funding**

This article has been written within the framework of the research project “The imperative of educational innovation: analysis of its reception and articulation in the Spanish education system” (IMPNOVA) (Ref: PID2022-138878NA-I00), funded by 2022 Call for Projects in Knowledge Generation from the National Research Agency of Spain.

# **Teacher education in response to the expansion of compulsory schooling: reflections from the Autonomous Community of Catalonia**

## **La formación docente frente a la ampliación de la escolaridad obligatoria: reflexiones desde la Comunidad Autónoma de Cataluña**

<https://doi.org/10.4438/1988-592X-RE-2025-411-723>

**Karine Rivas Guzmán**

<https://orcid.org/0000-0002-4230-3136>

*University of Barcelona*

**Isaac Caldúch Pérez**

<https://orcid.org/0000-0003-0516-3768>

*University of Barcelona*

### **Abstract**

The proposal to extend compulsory schooling to the age of 18, as outlined in the report by the State School Council, opens up a crucial debate on the meaning of basic education and, in particular, on teacher education. This article analyzes the challenges that such an extension would entail for both initial teacher education and professional development, taking the case of Catalonia as a reference. Based on a qualitative, interpretative methodology, the study triangulates documentary sources, interviews with key stakeholders, and a focus group with education professionals. The findings identify four key dimensions: (1) the need to strengthen ethical commitment as a core principle in access to and training for the teaching profession; (2) the importance of modeling this commitment within university teaching; (3) the centrality of the practicum as a strategic space for constructing teacher identity; and (4) the urgency of

consolidating training teams with diverse and socially engaged profiles. These dimensions suggest that a potential extension of compulsory education would require profound transformations in teacher education models, beyond regulatory or curricular reforms. The conclusions point to an opportunity to rethink the architecture of teacher education from a more inclusive and contextualized perspective, aligned with current educational challenges. Experiences such as the MIF Program, the institute-school model, and the Sensei residency program offer valuable reference points for moving in this direction. Finally, the article highlights the need for teaching policies that ensure equitable access to the profession, promote ethically grounded training connected to the realities of educational institutions, and recognize teachers as key agents in supporting increasingly diverse and continuous educational trajectories.

*Key words:* teacher education, preservice teacher education, access to the profession, teacher professional development, compulsory education, educational legislation.

## Resumen

La propuesta de ampliar la escolarización obligatoria hasta los 18 años, recogida en el informe del Consejo Escolar del Estado, abre un debate esencial sobre el sentido de la educación básica y, en particular, sobre la formación del profesorado. Este artículo analiza los desafíos que dicha ampliación implicaría para la formación inicial y el desarrollo profesional docente, tomando como referencia el caso de Cataluña. Desde una metodología cualitativa de corte interpretativo, se triangulan fuentes documentales, entrevistas a actores clave y un grupo de discusión con profesionales de la educación. Los resultados permiten identificar cuatro dimensiones clave: (a) la necesidad de reforzar el compromiso ético como eje en el acceso y la formación docente, (b) la importancia de modelar dicho compromiso desde la docencia universitaria, (c) la centralidad del prácticum como espacio formativo estratégico para construir identidad docente, y (d) la urgencia de consolidar equipos formadores con perfiles diversos y socialmente comprometidos. Estas dimensiones sugieren que una posible ampliación de la educación obligatoria exigiría transformaciones profundas en los modelos formativos. Las conclusiones apuntan a una oportunidad para repensar la arquitectura de la formación docente desde una lógica más inclusiva, contextualizada y coherente con los retos actuales. Experiencias como el Programa MIF, el modelo de institutos-escuela y el programa de residencia Sensei aportan referentes útiles para avanzar en esa dirección. Finalmente, se destaca la necesidad de políticas docentes que garanticen un acceso equitativo a la profesión docente, promuevan una formación conectada con la realidad de los centros educativos y reconozcan al profesorado como agente clave en el acompañamiento de trayectorias escolares diversas y continuas.

*Palabras clave:* formación del profesorado, formación inicial docente, acceso a la profesión, desarrollo profesional docente, educación obligatoria, legislación educativa.

## Introduction

The proposal to extend compulsory schooling to the age of 18, as put forward in the report of the State School Council (2023), has sparked a debate that the educational community needs to address, as it reopens a fundamental question: what is the purpose of basic education in Spain? This question directly challenges the various actors in the education field, beyond its potential regulatory implementation, since such a measure would entail a structural reform with direct implications for multiple dimensions of the education system, including school organisation, curriculum, academic guidance and, above all, teacher education and professional conditions. This article reviews some of the arguments in favour of this potential reform, particularly the need to reduce early school leaving and to guarantee a continuous, equitable and high-quality educational pathway up to the age of majority.

In particular, international reports highlight that proper planning and implementation of education and training policies within the formal education system are essential to addressing challenges such as youth unemployment, promoting economic development, and fostering social cohesion (OECD, 2015). These goals are in line with the 2030 Agenda and the Sustainable Development Goals, in particular Goal 4, which aims to ensure inclusive, equitable, and quality education (UNESCO, 2015). Moreover, various comparative reports (OECD, 2020; Eurydice, 2022) highlight that the extension of compulsory education is a growing trend in Europe and is considered by the countries that have adopted it as a strategy to reduce early school leaving and enhance educational equity.

In this sense, the nationwide debate is not limited to the mere extension of schooling time, but reflects a paradigm shift that calls for rethinking the objectives of this educational stage, the role that school should play, and the necessary preparation of teachers to support students in a stage characterised by a diversity of pathways, interests, and social contexts. This shift also compels a reconsideration of which training approaches enable teachers to carry out effective pedagogical interventions in these contexts. As Hattie (2003) argues, the key lies in identifying and strengthening those specific teaching practices that have proven to be effective in enhancing learning,

beyond general structural or curricular reforms. This, in turn, requires a major rethinking of models of initial teacher education and professional development.

In the context of this debate, the Catalan education system offers precedents and experiences that help anticipate reflections on the challenges that a potential extension of compulsory education would imply. In recent years, Catalonia has advanced in designing education policies aligned with international trends, focusing on fundamental axes to guarantee the improvement of equity and educational quality in the education system. Within this framework, the government's plan identifies five priority areas for action, the most important of which are the strengthening of the Catalan school model and the promotion of the teacher profession. Indeed, the Catalan Education Law (LEC, 2009) explicitly recognises the central role of teachers in improving education and establishes institutional commitments to guarantee measures for improving initial teacher education and professional development, as well as promoting teachers' collaboration and pedagogical innovation.

In this sense, the report "L'estat de l'educació a Catalunya" (Albaigés & Martínez, 2013) emphasizes that optimising education system outcomes is closely linked to the quality of the teaching workforce, a position consistent with the international consensus reflected in the UNESCO "Guide for the development of teaching policies" (2020). This consensus is further supported by international studies such as TALIS (OECD, 2019), which highlights the importance of improving teacher education and professional development as key levers for effective education reforms. These reports call for the implementation of comprehensive teacher policies aimed at strengthening teacher selection, initial teacher education, and professional development, to establish clear mechanisms to assess and improve teacher quality, and to implement concrete measures to enhance the social prestige of the profession, among others. This need is also reflected in various studies that identify structural weaknesses in initial teacher education and professional development, including weak links to professional practice, insufficient context-based preparation, and a lack of integration between theory and practice, factors that lead to a widespread perception among teachers that

they are insufficiently prepared for professional practice (Escudero, 2009; Muñiz-Rodríguez et al., 2016; Manso & Garrido-Martos, 2021).

Efforts to improve teacher education have taken the form of specific professional development and pedagogical innovation initiatives. One of the examples worth highlighting is the “Programme for Improvement and Innovation in Teacher Education” (MIF), which has had a significant impact on initial teacher education through measures such as the introduction of the Personal Aptitude Test in 2014, which aims to ensure that future teachers possess key competencies and an appropriate vocational profile (Martínez, 2020). In addition, the creation of the double degree in Early Childhood Education and Primary Education allows students to obtain two degrees, qualifying them to teach at both educational levels upon completion of their studies. The MIF has also promoted international mobility, educational research and strengthened collaboration between universities and educational centres, with a direct impact on improving the quality of teacher education (Ametller & Codina, 2017). Moreover, the MIF has also contributed to rethinking the structure of university education with the aim of preparing teachers to work across all educational stages. Although these actions have primarily focused on the initial stages of basic education, they represent valuable steps towards exploring how more integrated and coherent learning models could be adapted and integrated in a scenario of extended compulsory schooling.

On the other hand, it is important to highlight an aspect already identified as key by the MIF programme: the need to properly manage the transition between initial teacher education and teachers’ professional integration. In Catalonia, this need has been addressed through the Sensei Programme, the first pilot initial teacher residency programme developed by an educational administration at the national level. The programme provides intensive support and mentoring to novice teachers through a residency system in educational centres, thereby fostering the consolidation of essential professional competences during the first years of teaching (Departament d’Educació, 2023).

The Catalan government’s reforms also include the expansion of the network of all-through schools (*instituts-escola*, in Catalan), a model that

integrates primary and lower secondary education in a single educational project, ensuring continuity across both stages. Inspired by comprehensive education systems in other countries, such as Denmark, Finland and Portugal, this model has gained prominence in Catalonia in recent years and has posed significant challenges for teacher education, which remains segmented by subject areas and educational stages, as well as promoting reflections on pedagogical continuity, coordination between stages, and the limitations inherent on more cohesive school trajectories (Rivas et al., 2024). The consolidation of all-through schools has underscored the need to strengthen teacher education to respond to these new pedagogical and organisational demands, demonstrating that any restructuring towards integrated educational models requires substantial transformations in teacher education. In this sense, a potential extension of compulsory schooling should carefully consider the training challenges faced by both current and future teachers.

This article aims to analyse these challenges and to identify some of the key dimensions that need to be revised or strengthened in teacher education. This is done through a detailed analysis of the regulatory framework, territorial experiences such as the all-through schools or the MIF programme, and contributions from recent academic literature. This analysis is complemented by an interpretative methodological approach that enables the collection of perspectives and meanings contributed by the different actors within the educational community. Far from offering close answers, the article aims to contribute to the necessary debate on the possible extension of compulsory education and the central place of teachers in this process.

## **Method**

The article presents the results of a broader project focused on the analysis of education policies and their impact on equity, with a particular emphasis on teacher education. Within this framework, the Catalan case is examined to explore the challenges of teacher education and professional development in the context of the ongoing national debate on the potential extension of compulsory schooling. Given the nature of the phenomenon and the

need to understand the meanings attributed to it by the actors involved, an interpretive methodological approach was adopted to provide a contextualised understanding of the object of study.

## Data collection

The data collection combined documentary analysis and qualitative techniques. First, an exploratory documentary review was carried out (Latorre et al., 2003), focusing on regulatory frameworks, educational policies, and key reports related to the Catalan context. Documents analysed included the Catalan Education Law (LEC, 2009), international reports by the OECD (2015, 2018, 2020), Eurydice (2022) and UNESCO (2020), as well as studies on teacher education. In addition, three significant initiatives in Catalonia were reviewed: the Programme for Improvement and Innovation in Teacher Education (MIF), the all-through school model and the Sensei Programme, due to their value as integrated training proposals in the light of the possible extension of compulsory schooling.

Semi-structured interviews were then conducted with key stakeholders, following Brown and Danaher's (2019) recommendations, which stress the usefulness of this method for exploring participants' personal experiences and nuanced perceptions of teaching challenges. A semi-directed focus group was also conducted, adopting Rodas and Pacheco's (2020) approach, which highlights its potential to foster dialogue and mutual learning among participants, with the aim of encouraging collective reflection and contrasting viewpoints on the topic of study, as suggested by Patton (2015), who underlines the value of open-ended questions to stimulate in-depth discussion. The focus group was structured around three general questions, allowing participants to freely express ideas or reflections they considered relevant.

## Sample

With the aim of deepening the understanding of different perspectives on teacher education, participants representing diverse voices from the Catalan educational context were intentionally selected, ensuring a balance in gender, educational background, and professional trajectory.

For the semi-structured interviews with key actors, purposive sampling was used to select participants with experience in leadership positions or with significant involvement in pedagogical innovation processes. A total of three individual interviews were conducted: (E1) a teacher with more than fifteen years of teaching experience and over two years in leadership roles; (E2) a teacher with twenty-three years of teaching experience and six years in school management; and (E3) a representative of pedagogical renewal movements, with experience both in teaching and in leadership positions.

The focus group, on the other hand, was composed of ten participants who provided a plural perspective on teacher education. The sample included profiles linked to different roles related to initial teacher education and professional development: students, teacher educators, and in-service teachers. The specific composition of the participants was as follows: (P1) a teacher with 40 years of experience, former school principal, and head of education at a local council; (P2) a university professor with 30 years of academic teaching experience; (P3) a university lecturer with 8 years of academic teaching experience; (P4) a pedagogue with 30 years of experience and currently pursuing a PhD in Education; (P5) a pedagogue with 6 years of professional experience; (P6) an in-service primary school teacher with 4 years of experience; (P7) an in-service primary school teacher with 15 years of experience; (P8) a recently graduated early childhood education teacher, with one year of professional experience; (P9) a recently graduated primary school teacher, with one year of professional experience; and (P10) an in-service primary school teacher with 10 years of experience and currently pursuing a PhD in Education.

In all cases, informed consent was obtained from the participants, respecting the ethical principle of confidentiality as defined by Flick (2014), who emphasizes the protection of participants' identities and the secure

management of sensitive data.

## Procedure

The interviews and focus group were fully recorded and transcribed to ensure accuracy in the subsequent data analysis. A thematic content analysis was then conducted, following the constant comparison method described by Strauss and Corbin (2015). This approach, based on the systematic comparison of each unit of meaning with those previously analyzed, was essential for identifying similarities and differences, which made it possible to redefine, merge, or subdivide categories until achieving an emergent conceptual structure consistent with the data. To organise and systematise the analysis, the Atlas-ti software was used, which facilitated the coding and systematic comparison of the data. As a result, four key categories were identified: (a) ethical commitment to teacher education access; (b) modelling commitment in university teaching; (c) the practicum as a space for teacher development; and (d) a diverse profile within training teams.

## Results

In considering the challenges of initial teacher education and development in the context of a possible extension of compulsory schooling, four key interrelated categories emerged: (a) ethical commitment in access to teacher education in response to new educational challenges; (b) modelling commitment in university teaching as a way to meet emerging educational demands; (c) the practicum as an essential space for teachers' professional development in the context of increasingly complex educational realities; and (d) the importance of consolidating training teams with diverse profiles to effectively address the extension of compulsory schooling.

## Ethical commitment to access to teacher education

At a time when the possibility of extending compulsory schooling is being debated, it is essential to ask who will accompany these new educational trajectories. And what profile of teacher is needed to sustain change? How should they enter the profession and with what level of commitment?

In Spain, unlike in many other countries, access to pre-primary and primary teacher education does not require any specific ethical or vocational prerequisites. Although the Ministry of Education has proposed the introduction of an entrance exam for these studies (MEFP, 2022), its use has been limited to some autonomous communities, such as Catalonia, where it is necessary to pass the Personal Aptitude Tests. In the case of secondary education teachers, access after completing the master's degree in teacher education does not include any assessment of ethical commitment and pedagogical vocation, despite these being fundamental aspects in the scenario of extended compulsory schooling.

In relation to this evidence, Oliver-Trobat et al. (2021) point out that the current debate mainly focuses on their role in improving the quality of studies and on the appropriateness of such cognitive competence tests. However, there are various proposals to introduce an additional test to assess the ethical and moral dispositions of students seeking access to initial teacher education. This lack of ethical or attitudinal commitment has been the subject of debate in recent years. Several studies have advocated the need to include criteria that go beyond instrumental competences and allow the identification of profiles that are committed to the educational task in its social dimension (Bolívar and Pérez-García, 2022; Oser et al., 2021). Regarding the filter of access to the degree, one of the participants stated:

There is no filter, either at entry or during the course, to ensure that students have certain values and responsibilities towards society. There are people who have developed this ethical awareness, but they have acquired it in other educational spaces or experiences outside university education. [...] A moral and ethical filter is also necessary. (P4)

Models such as the Finnish one have moved in this direction, valuing

prior experiences such as volunteering or working with vulnerable groups. These pathways are regarded as indicators of professional commitment:

In Finland, prospective students are examined for their social background, whether they have done voluntary work, whether they have worked with children or with certain vulnerable groups. If you have not had this experience, it is understood that you are not ready to commit yourself. (P1)

However, there are also some warnings. Such criteria may favour candidates with greater social capital or more favourable socio-economic conditions. As with extracurricular activities, access to certain experiences and opportunities is not equal for all. Although *a priori* it may appear to be a positive element of selection, because of its important benefits, it can also become a new source of inequality when it intersects with other socio-economic elements. Furthermore, by trying to standardise the structure of engagement through specific actions, there is a risk that some people will start volunteering or doing leisure activities to pass the test, rather than doing them of their own free will. Some authors warn that such filters may exclude people with teaching potential, even if they have not yet fully developed this commitment (Bolívar & Pérez-García, 2022; Manso, 2021). This concern was echoed by one of the participants, who pointed out that requiring a ‘social curriculum’ could be discriminatory, as not all people have the same opportunities to volunteer: “Often, those who are able to volunteer have a high socio-economic profile [...]. I have many students who could not consider becoming educational leisure time (*esplai*) monitors because they had to help the family business” (P3).

In this vein, other voices argue that, rather than establishing prior filters, the formative role of initial teacher education should be strengthened as a means of fostering professional commitment. From this perspective, it is suggested that the assessment of such commitment should take place at the end of initial education, prior to entering the profession, rather than at the point of admission.

We cannot demand commitment to education before a career; it is during the training itself that we must create opportunities for the person to understand the importance of socio-educational action.

Vocation is a phantom that we must overcome: we are tired of hearing that people go into teaching because they like children, but that does not guarantee anything. On the other hand, there are very valid people who have not had the opportunity to fall in love with education. (P2)

This vision is also shared by school experiences that promote more inclusive educational models. A senior member of a secondary school highlights the importance of understanding the teacher's role as an ethical guide, going beyond the mere transmission of content: "The teacher who leaves the faculty thinks that he/she is going to teach science; well, no, he/she is going to educate people or accompany people" (E3).

However, there is no consensus on the timing, methods, or actors responsible for assessing this ethical commitment. This need raises more questions than certainties: when should commitment be assessed? How should it be assessed? Who is qualified to do so? As one participant stated: "It would be very difficult for me to decide whether someone is ethical enough to be a teacher or not. Who should decide?" (P6). Ethical assessment is further complicated by the diversity of perspectives and criteria. If defining standards is already difficult, delegating their assessment to a single person or instrument becomes even more problematic. The process should therefore be transparent and democratic, ensuring a plurality of voices.

Another key issue is the content to be assessed. Proposals such as interviews or the construction of a social curriculum have been considered; however, as previously noted, such measures risk exacerbating inequalities and making access to teacher education more elitist.

In short, in a context of educational expansion, rethinking access and teacher education is a key task, but also an opportunity. It is not only a question of responding to the structural challenges of the education system, nor of adapting the processes of access to teacher education, but also of integrating into this stage professionals capable of supporting it from a more solid ethical commitment, more coherent with the social and pedagogical demands of the current context.

## Modelling engagement in university teaching

Preparing teachers to support longer and more complex school trajectories is one of the main challenges currently facing the education system. This requires a review of the curriculum, not only in terms of what is taught, but also how it is taught. Pedagogical practices in initial education should not be limited to theoretical content but should include meaningful experiences that enable future teachers to face complex educational situations, develop sensitivity to them, and build a conscious commitment to the social function of education.

Some participants underlined the importance of strengthening content that fosters understanding of and connection with human diversity. The way in which educational relationships are approached, the topics addressed, and the extent to which reflection and dialogue are encouraged are key to preparing teachers capable of accompanying meaningful educational trajectories: “I think there is a lack of content such as emotional education or the relationship with the family. Working on this would contribute to a more inclusive school by making us more aware of different needs” (P5).

In this regard, several studies (Coleman-King et al., 2021; Contreras et al., 2016) highlight that lived stories and experiences, particularly during the practicum, provide valuable opportunities to address educational dilemmas with ethical and emotional implications. These practices not only facilitate the analyse of complex conflicts, but also the development of a pedagogical approach to everyday life, as required by those working in the later stages of schooling.

The time to think pedagogically about an educational situation is always with a lived situation. When I tutor internships, I always tell them to take all the stories they have not been able to solve to the other subjects. It is not necessary to always be connected to school, but to always think about school stories. (P2)

However, it is not enough to include content that exposes students to diverse and ethically complex socio-educational situations; it is equally important to address how the relational-ethical dimension is developed. In teacher education, the principle that method is part of content becomes

particularly relevant, as teachers learn to teach by observing their own educators: “You can’t teach what to do if you don’t do it” (E2).

This statement serves as a wake-up call for universities: promoting pedagogical principles in discourse is not sufficient, they must be embodied in educational practice. It is therefore essential to cultivate educational relationships during teacher education, not only by explaining its importance, but also by experiencing them through concrete and meaningful experiences.

I don’t think it is necessary to create a specific space to work on the ethical-moral dimension. I believe that it is possible to work within the training, from the different subjects, by creating spaces for dialogue and listening. Listening to and between the students. It is certainly important to accompany the students personally and this educational relationship can model this ethical-relational dimension. (P8).

In short, educating teachers for more extensive schooling requires rethinking university practices as spaces where the educational relationships and ethical commitment are built from the experience itself. But this education cannot depend on methodological or attitudinal changes alone; it requires a structural change to sustain it. In this sense, the MIF Programme proposes a new architecture for teacher education at all levels of education that includes more intensive practices, deeper pedagogical preparation and stronger links with schools (Martínez et al., 2016).

## **The practicum as a space for teacher development**

Having reflected on the ethical dimension in university teaching practices, it is also necessary to consider the role of the practicum in shaping teaching identity. Accompanying more complex school trajectories requires more than theoretical preparation, it demands first-hand experience of the real diversity of the education system.

As Colén (2017) and Tejada-Fernández et al. (2017) point out, internships represent a key moment for the ethical, pedagogical, and professional positioning of future teachers. However, this positioning does

not happen spontaneously; it largely depends on the school to which students are assigned and the type of educational reality they experience.

Each school and each situation are very different and changing. [...] The practicum is a very important moment that helps to create a certain co-responsibility between the different agents. Depending on what the student experiences during the practicum, he or she may end up more or less concerned with social inequalities. (P2)

For this reason, it is essential that students complete their internships in a variety of schools. Exposure to different social contexts, from culturally diverse realities to those characterised by high levels of vulnerability, allows the development of a critical, inclusive, and more committed perspective.

Education should force you out of your bubble, out of your reality. If you've always lived in "Nou Barris", you'll do your internship in your neighbourhood, and you won't see any other reality. It is necessary to look at different socio-educational realities, we cannot just go to one type of centre. And the subjects have to be taken out of the standard reality. (P4)

Despite this need, not all universities set clear criteria for the choice of centres. In many cases, students repeat contexts similar to their own, or choose because of proximity, missing the opportunity to broaden their professional perspective. The internship system should ensure contact with at least one more complex environment and establish minimum common criteria such as rotation through contrasting educational realities.

Beyond exposure to different school contexts, it is essential that the practicum allows for genuine immersion in the school's educational project and institutional functioning. As one secondary head teacher put it: "The Master's students come very theoretical, they value very much the fact of being in the school, in the staff room, in the classes, as if they were active: but they don't know what a school project is" (E1).

Rethinking the practicum means moving beyond a mere period of observation or isolated intervention, transforming it into a strategic and ethically committed formative experience that response to the current challenges faced by schools. This need is particularly relevant by those working in the final

stages of compulsory schooling. In this sense, the Sensei Programme has begun to explore the continuity of this logic through a professional induction phase that extends support into the first years of teaching.

## More diverse profiles in training teams

The profile of those who educate future teachers has a significant impact on the overall quality of teaching in the education system (Cochran-Smith et al., 2020; Roofe et al., 2023). However, this quality is often assessed primarily in terms of academic or research experience, without sufficient consideration of ethical commitment. It is not enough to have competent teacher educators; they must also be leaders in social and educational engagement. What is ultimately at stake is the type of professional that future teachers see as role models: how they conduct themselves in the classroom, how they address conflicts, and how they embody the core values of the teaching profession.

They must not only be practising teachers, but also good teachers in the ethical sense. Not all active teachers are suitable for teacher education. [...] The haste with which the university recruit teachers at the last-minute means that, although they are well-qualified, they are not sufficiently involved in the institution or in the education processes. (P9)

If teachers are expected to guide broader and more complex processes, universities cannot limit themselves to providing only technical skills or prescriptive didactic recipes. They must offer professional role models who demonstrate how to support students and how to manage diversity in different contexts. What is expected of future teachers must also be embodied by those who educate them. As one secondary school headmaster observed: “There is a need for a very clear specific education for teachers who are going to work in these schools. It is not so much a question of a particular profile as of a different attitude; it is about finding a teacher who wants to learn” (E3). In short, the aim is to be a reference point for commitment to the teaching function and for developing a critical understanding of today’s social challenges.

Within this framework, there are conflicting views on the diversity of

the profile of teacher educators. On the one hand, the plurality of backgrounds, cultures, genders, and approaches is positively valued, as this diversity enriches teacher education and broadens the perspectives from which schools are analysed.

I feel that diversity in terms of geography, gender, and other factors is necessary. Diversity, at least in terms of bibliographic references, opens up other worlds, other realities, and allows you to dialogue with other knowledge. What do we consider valid knowledge? What benchmarks are we providing? (P7)

From this point of view, diversity is not merely a symbolic gesture but a pedagogical resource that helps students to build their identity as teachers from multiple viewpoints.

Other voices, however, caution that diversity should not be translated into quotas or mandatory representation, but into a shared conceived as a shared responsibility among all teacher educators: to create critical spaces where these realities are openly debated: “The responsibility is shared and cannot be left only in the hands of people who belong to these collectives. It is the different subjects that must include the discussion of these concerns” (P4).

Finally, the challenge of extended schooling also requires a rethinking of how teacher educators are selected and prepared, favoring profiles capable of integrating ethical commitment, solid educational experience, and a critical understanding of the education system.

## **Conclusions**

The possibility of extending compulsory schooling to the age of 18 reopens a fundamental debate on the purpose of basic education and on the type of teachers needed to guide longer, more diverse, and more complex educational pathways. In this context, teacher education is presented as a key element of the education system, both in the initial teacher education and ongoing professional development. The findings of this study, based on the analysis of the Catalan case and the voices of different educational stakeholders, identify some fundamental challenges that must be addressed with the depth and

commitment that their complexity demands.

Across the four dimensions analysed, tensions and proposals converge towards the same conclusion: the need to rethink teacher education from a more engaged, contextualised, and ethical perspective. First, access to the profession remains a critical issue. Although Catalonia has introduced instruments such as the Personal Aptitude Test, a broader debate on the role of ethical commitment in access to teacher education and the teaching profession is still lacking. Such commitment cannot be reduced to a mere declaration of intent or an instrumentalised assessment; it must be conceived as a dimension to be built and cultivated throughout the entire process of teacher education. However, this debate must also consider the risks of inequality associated with certain access filters. Criteria such as the requirement of a track record of volunteering or prior experience, if not applied with caution, may privilege candidates with greater social capital, potentially creating new forms of exclusion in access to the profession.

Second, teacher educators have a key role in this process. The university cannot reduce its educational function to the transmission of content alone; it must also question how this content is taught, what types of experiences are offered to students, and what professional models are presented as references. Commitment to teaching, diversity, and social justice must be made tangible in the university's own pedagogical practices. Initial teacher education must offer significant experiences that enable future teachers to grasp the deeper meaning of the educational task and to make an ethical commitment to the realities of education.

The third key dimension is the practicum. The importance of linking theory and practice has long been emphasised, but this work shows that simply placing future teachers in classrooms is not enough. To respond to the demands of a broader and more inclusive schooling, it is a priority to ensure practice in real and diverse contexts that allow genuine immersion in the complexities of the education system. At the same time, this also requires clear criteria for the selection of training centres, as well as strengthening the links between university, schools, and the wider social environment. Practical experience should cease to be an isolated episode and become the backbone of teacher education. This is the only way to broaden the pedagogical and social

horizons of future teachers and to avoid practices that focus on homogeneous or unrepresentative scenarios. However, rethinking the practicum also means questioning its temporal limits. In this sense, initiatives such as the Sensei programme are moving towards a logic of professional induction that extends support beyond initial teacher education, facilitating a gradual incorporation with greater support at the beginning of the teaching profession.

With regard to the profile of training teams, the need is emphasised for professionals who not only have academic or research experience but also are genuinely committed to their educational work and the values it implies. Diversity of backgrounds, perspectives, and approaches is understood not as a symbolic attribute but as a pedagogical condition that enriches teacher education and broadens understandings of the teaching role. This challenge also calls for rethinking the very architecture of teacher education, moving towards a more integrated model with stronger links between theory and practice, and a closer connection with schools.

The Catalan experience provides concrete examples that help identify possible pathways towards a more coherent model of teacher education, linked to practice and responsive to the real needs of a more integrated education system. Initiatives such as the MIF Programme, the all-through schools or the Sensei programme do not solve all existing problems, but they offer valuable insights into possible ways forward at a critical moment of educational transformation.

The current revision of university curricula, following the approval of the LOSU (2023), represents an opportunity that should not be missed. This is the time to propose teacher education in which ethics, practice, and diversity play a central role. Far from being a mere curricular update, the challenge is to develop an educational proposal that provides future teachers, who will accompany this new educational stage, marked by the possible extension of compulsory schooling and by new training requirements, with conceptual frameworks, pedagogical tools and training experiences that reflect the complexity of current educational practice.

Despite the contributions of the study, some limitations must be acknowledged to contextualise its scope. First, its focus on the Autonomous Community of Catalonia provides a contextualised understanding of this specific educational reality but may limit the generalisation of the findings

to other regions of Spain. Future comparative research in other Autonomous Communities would allow contrast realities and enrich the analysis of teacher education policies in relation to the extension of compulsory schooling. Second, although the selection of participants was diverse in terms of professional profiles and levels of experience, it should be noted that some educational actors, such as students at advanced levels, were not directly represented. Widening the range of voices involved in future research would complement the perspectives gathered.

## Bibliographical references

Albaigés, B., & Martínez, M. (2013). *L'estat de l'educació a Catalunya. Anuari 2013*. Fundació Jaume Bofill. <https://fundaciobofill.cat/publicacions/lestat-de-leducacio-catalunya-anuari-2013>

Ametller, J., & Codina, F. (Eds.). (2017). *La mejora de la formación inicial de docentes: Reflexiones y propuestas*. Programa de Mejora e Innovación en la Formación Inicial de Maestros. Colección Documentos MIF. <http://www.educacionyfp.gob.es/yosoyprofe/dam/jcr:09bbccce-94c8-4bed-9c44-70740df54bf2/180629%20modeloformativoes.pdf>

Bolívar, A., & Pérez-García, P. (2022). El compromiso y la ética profesional en el acceso a la docencia. *Innovación educativa*, 32. <https://doi.org/10.15304/ie.32.8699>

Brown, A., & Danaher, P. A. (2019). CHE principles: Facilitating authentic and dialogical semi-structured interviews in educational research. *International journal of research & method in education*, 42(1), 76-90. <https://doi.org/10.1080/1743727X.2017.1379987>

Cochran-Smith, M., Grudnoff, L., Orland-Barak, L., & Smith, K. (2020). Educating Teacher Educators: International Perspectives. *The New Educator*, 16(1), 5-24. <https://doi.org/10.1080/1547688X.2019.1670309>

Coleman-King, C., Anderson, B. N., & Koerber, N. (2021). Black Women's Labor and White Ally Development in an Urban Teacher Education Program. *Frontiers Education*, 6. <https://doi.org/10.3389/feduc.2021.501960>

Colén, M. T. (Ed.) (2017). *Retos y certezas sobre la construcción del conocimiento práctico en la formación de maestros. Una visión caleidoscó*

pica. Octaedro.

Consejo Escolar del Estado. (2023). *Informe del Consejo Escolar del Estado 2023*. Ministerio de Educación, Formación Profesional y Deportes. <https://www.educacionfpymdeportes.gob.es/mc/cee/publicaciones/informes-del-sistema-educativo/informe-2023.html>

Contreras, J., Arbiol, C., Arnaus, R., Blanco, N., Gabbarini, P., López, A., Molina, M., Nuri, A., Orozco, S., & Ventura, M. (2016). *Tensiones fructíferas: explorando el saber pedagógico en la formación del profesorado*. Octaedro.

Departament d'Educació. (2023). *Programa Sensei*. <https://educacio.gencat.cat/ca/arees-actuacio/professors/formacio/programasensei/inici/>

Escudero, J. M. (2009). La formación del profesorado de Educación Secundaria: contenidos y aprendizajes docentes. *Revista de Educación*, 350, 79–103. <https://www.educacionyfp.gob.es/revista-de-educacion/numeros-revista-educacion/numeros-anteriores/2009/re350/re350-04.html>

Eurydice (2022). *Compulsory education in Europe 2022/23*. Publications Office of the European Union. <https://op.europa.eu/en/publication-detail/-/publication/256c8983-4aa6-11ed-92ed-01aa75ed71a1>

Flick, U. (2014). *An introduction to qualitative research*. Sage.

Hattie, J. (2003, October). *Teachers make a difference: What is the research evidence?* [Oral Communication]. Australian Council for Educational Research, Melbourne, Australia. [https://research.acer.edu.au/cgi/viewcontent.cgi?article=1003&context=research\\_conference\\_2003](https://research.acer.edu.au/cgi/viewcontent.cgi?article=1003&context=research_conference_2003)

Latorre, A., Del Rincón, D., & Arnal, J. (2003). *Bases metodológicas de la investigación educativa*. Experiencia.

Manso, J. (2021). El acompañamiento y la inserción profesional de los docentes noveles. Profesorado. *Revista de Currículum y Formación del Profesorado*, 25(2), 1-4. <https://doi.org/10.30827/profesorado.v25i2.18441>

Manso, J., & Garrido-Martos, R. (2021). Formación inicial y acceso a la profesión: qué demandan los docentes. *Revista de Educación*, 393, 293–319. <https://doi.org/10.4438/1988-592X-RE-2021-393-494>

Martínez, M. (2020). Sobre la transformación de la formación inicial y el acceso a la profesión docente. *Revista Científico Profesional de la Pedagogía y Psicopedagogía*, 5, 129-136. <http://revistacronica.es/index>.

php/revistacronica/article/view/103

Martínez, M., Prats, E., & Marín, A. (2016). La millora de la formació inicial de mestres: El Programa de Millora i Innovació en la Formació de Mestres, MIF. *Revista Catalana de Pedagogía*, 9, 24-42. <http://www.publicacions.iec.cat>

Ministerio de Educación y Formación Profesional (2022). *Documento para Debate. 24 propuestas de reforma para la mejora de la profesión docente*. Ministerio de Educación y Formación Profesional.

Muñiz-Rodríguez, L., Alonso Velázquez, P., Rodríguez Muñiz, L. J., & Valcke, M. (2016). ¿Hay un vacío en la formación inicial del profesorado de matemáticas de Secundaria en España respecto a otros países? *Revista de Educación*, 372, 111–140. <https://doi.org/10.4438/1988-592X-RE-2015-372-317>

OCDE (2015). *In it together: Why less inequality benefits all*. OECD Publishing. <https://doi.org/10.1787/9789264235120-en>

OCDE (2019). *TALIS 2018 Results (Volume I): Teachers and School Leaders as Lifelong Learners*. OECD Publishing. <https://doi.org/10.1787/1d0bc92a-en>

OCDE (2020). *Education at a Glance 2020: OECD Indicators*. OECD Publishing. <https://doi.org/10.1787/69096873-en>

Oliver-Trobart, M. F., Rosselló-Ramon, M. R., Comas-Forgas, R., Calvo-Sastre, A., & Sureda-Negre, J. (2021). Modelo para las pruebas de admisión a los estudios de maestro a partir de un proceso de diseño participativo. *Revista de Educación*, 393, 253-283.

Oser, F., Heinrichs, K., Bauer, J., & Lovat, T. (Eds.) (2021). *The International Handbook of Teacher Ethos. Strengthening Teachers, Supporting Learners*. Springer Nature. <https://doi.org/10.1007/978-3-030-73644-6>

Parlament de Catalunya. (2009). *Llei 12/2009, del 10 de juliol, d'educació*. Diari Oficial de la Generalitat de Catalunya. <https://portaljuridic.gencat.cat/eli/es-ct/l/2009/07/10/12>

Patton, M. Q. (2015). *Qualitative evaluation and research methods*. Sage.

Rivas Guzmán, K., Caldúch, I., y Prats Gil, E. (2024). Iniciativas de Innovación Educativa y Justicia Social en Cataluña. REICE. *Revista Iberoamericana Sobre Calidad, Eficacia Y Cambio En Educación*, 22(4), 53-66. <https://doi.org/10.15366/reice2024.22.4.003>

Rodas, F. D., & Pacheco, V. G. (2020). Grupos Focales: Marco de Referencia para su Implementación. *INNOVA Research Journal*, 5(3), 182-195. <https://doi.org/10.33890/innova.v5.n3.2020.1401>

Roofe, C., Maude, K., & Sunder, S. G. (2023). From classroom teacher to teacher educator: Critical insights and experiences of beginning teacher educators from Jamaica, England and United Arab Emirates. *Power and Education*, 15(1), 23–36. <https://doi.org/10.1177/17577438221112536>

Strauss, A., & Corbin, J. (2015). *Basics of qualitative research. Techniques and procedures for developing grounded theory* (4th Ed.). Sage.

Tejada-Fernández, J., Carvalho-Dias, M.L., & Ruiz-Bueno, C. (2017). El prácticum en la formación de maestros: percepciones de los protagonistas. *Magis. Revista Internacional de Investigación en Educación*, 19(9), 91-114.

UNESCO (2015). *Education 2030: Incheon Declaration and Framework for Action*. UNESCO.

UNESCO (2020). *Guía para el Desarrollo de Políticas Docentes*. UNESCO. <https://unesdoc.unesco.org/ark:/48223/pf0000374226>



# **Reading Culture in Compulsory Education: Between Institutional Transmission and Vital Meaning**

## **Cultura lectora en la escuela obligatoria: entre la transmisión institucional y la significación vital**

<https://doi.org/10.4438/1988-592X-RE-2025-411-724>

**Alex Egea Andrés**

<https://orcid.org/0000-0001-8869-5342>

*University of Barcelona*

**Adrià Paredes Santín**

<https://orcid.org/0000-0002-8096-3979>

*University of Barcelona*

### **Abstract**

This article presents a qualitative systematic review of the scientific literature to analyze the role of compulsory education in fostering a critical, equitable, and community-based reading culture. The study adopts an interpretive and comparative approach, structured through thematic analysis of 261 articles published between 2000 and 2025 in databases such as ERIC, Scopus, Web of Science, and Dialnet.

The findings reveal that reading culture is a complex, dynamic, and context-dependent phenomenon that cannot be reduced to a mere technical skill. Within this framework, the school emerges as an irreplaceable agent in ensuring universal access to diverse, meaningful, and empowering reading practices—especially when it embraces critical and context-aware

pedagogies.

The article also examines the complementary role of other social actors—families, libraries, and digital environments—and highlights cultural and institutional contrasts across territories. It concludes that promoting an inclusive reading culture requires a collective and systemic commitment that recognizes reading as a cultural right, a social practice, and a tool for democratic transformation.

**Keywords:** reading culture, pedagogical role of schools, educational equity, reading practices, reading agency.

### **Resumen**

Este artículo presenta una revisión sistemática cualitativa de la literatura científica para analizar el papel que desempeña la escuela obligatoria en la construcción de una cultura lectora crítica, equitativa y comunitaria. El estudio parte de un enfoque interpretativo y comparativo, y se estructura a partir del análisis temático de 261 artículos publicados entre los años 2000 y 2025 en bases de datos como ERIC, Scopus, Web of Science y Dialnet.

Los resultados evidencian que la cultura lectora es un fenómeno complejo, dinámico y contextualizado, que no puede reducirse a una mera habilidad técnica. En este marco, la escuela se configura como un agente insustituible para garantizar el acceso universal a prácticas lectoras diversas, significativas y emancipadoras, especialmente cuando articula pedagogías críticas y contextualizadas.

De este modo, se analiza el papel complementario de otros agentes sociales —familias, bibliotecas y entornos digitales— y se destacan los contrastes culturales e institucionales entre territorios. El artículo concluye que la promoción de una cultura lectora inclusiva requiere una apuesta colectiva y sistémica que reconozca la lectura como un derecho cultural, una práctica social y una herramienta de transformación democrática.

**Palabras clave:** cultura lectora, función pedagógica de la escuela, equidad educativa, prácticas lectoras, agencia lectora.

## **1. Introduction**

The transmission of reading culture has never truly been regarded as a responsibility to be shared among different social agents. On the contrary, throughout the history of modern education, this task has been attributed almost exclusively to the school, which has been considered the central institution in shaping students, both culturally and linguistically. This institutionalized

perspective granted the school an undeservedly leading role, to the detriment of other potential sources of transmission, such as families, libraries, or the media.

In recent decades, however, this unilateral view has been challenged. Within a more ecosystemic approach, greater emphasis has been placed on how reading culture emerges through multiple contextual interactions between formal and informal settings. Nevertheless, even within this broadened framework, the school's responsibility remains—and should remain—specific and non-transferable: to provide equal opportunities for access to written culture, to ensure systematic support in reading processes, and to contribute to the formation of a critical citizenry through reading.

Despite this plurality of actors, the school stands out as a privileged space from social, institutional, normative, and pedagogical perspectives. Within this framework, the article sets out from a central aim: to identify and delineate the distinctive value of schooling in shaping readers and granting access to written culture, with the capacity to comprehend, interpret, and transform the world.

Recent research questions the prevailing (Paredes, 2024) and reductionist conception of reading culture, one centered exclusively on the acquisition of technical skills. In contrast, an increasing number of studies emphasize that reading is a socially and culturally situated practice, one that encompasses values, attitudes, symbolic uses, and processes of identification and meaning-making (Morse, Ngwato & Huston, 2024; Simşek, 2021).

To address the proposed research question, this study is structured around four interrelated analytical axes. First, the concept of reading culture is examined from a critical and sociocultural perspective, with definitions that go beyond a functionalist approach and understand reading as a meaningful, collective, and contextual practice (Morse, Ngwato & Huston, 2024). Second, the specific role of the school is analyzed as an institution capable of providing structured and sustained reading pathways aimed at fostering critical thinking and educational inclusion (Karadag Yilmaz, Horzum & Koyuncu, 2024).

The third axis explores the contribution—often complementary but unequal—of other social agents such as families, libraries, or digital environments (Chaka & Govender, 2017). While these may facilitate access

to reading, they largely depend on the socioeconomic and cultural background of readers. Finally, the fourth axis adopts a comparative and contextualized perspective, analyzing the cultural and institutional contrasts identified in international literature. This last section reveals how political frameworks, curricular approaches, and community dynamics profoundly shape both reading practices and the ways reading is taught in different educational contexts (Rozaimie, 2024).

## **2. Approach and Methodology**

A thematic analysis was conducted, guided by four interrelated analytical variables: (1) the concept of reading culture, (2) the role of the school, (3) the role of other social agents, and (4) cultural and institutional contrasts.

To ensure transparency and methodological reliability, the review was structured following the qualitative adaptation of the PRISMA protocol (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) proposed by Page et al. (2021), tailored to the requirements of a critical, educational, and interpretive review.

### **2.1. Selection Criteria**

To guarantee thematic relevance, analytical coherence, and scientific quality in the documentary corpus included in this review, a set of eligibility criteria was established. Defining these criteria precisely was essential to ensure that the selected studies aligned closely with the research objectives and enabled a solid and meaningful comparative analysis (Kamalova & Koletvinova, 2016).

Specifically, the selection of publications was aimed at identifying research that critically addressed the function of the school as an active agent in the construction and transmission of reading culture, particularly in contexts where this role is confronted with or complemented by other social spaces of reading formation, such as families, libraries, or digital environments (Chaka & Govender, 2017).

First, only peer-reviewed publications were included, as a guarantee of methodological rigor and of the validity of theoretical and empirical contributions. This filter ensured that all analyzed sources met the academic standards required in a scientific review.

Second, the time frame was restricted to studies published between 2000 and 2025, in order to focus the review on current research contextualized within the social, cultural, and educational changes of the 21st century, particularly those linked to digitalization and transformations in school reading practices.

Third, only publications available in full text were considered, a requirement for conducting a critical reading and detailed thematic analysis of content. Any document without full access was discarded. Fourth, only texts written in Catalan, Spanish, or English were included, both to ensure comprehension and direct analysis of the documents and to integrate a diversity of perspectives from different cultural and educational contexts.

Fifth, the selection was restricted to studies focused on primary education (ISCED-1), as this is the stage where the foundations of the relationship between childhood, schooling, and reading culture are established, and where reading policies and practices with long-term impact are most clearly deployed. Sixth, the publications had to explicitly address the role of the school in the transmission of reading culture, providing comparisons or contrasts with other non-formal learning environments such as families, libraries, or digital platforms.

Finally, only studies that allowed for the analysis of pedagogical, cultural, and structural dimensions involved in the development of a school-based reading culture were selected. Priority was given to works incorporating robust conceptual frameworks, critical approaches, and qualitative analyses that supported the interpretation of educational and institutional processes related to reading.

This set of inclusion and exclusion criteria made it possible to build a coherent, well-grounded, and methodologically sound sample that meets the quality standards expected of a qualitative systematic review. Moreover, the combined application of thematic, temporal, linguistic, and epistemological filters helped delimit a balanced set of sources, integrating both empirically

grounded research and theoretical works with a strong interpretive component (Simsek, 2021).

## 2.2. Sources of Information and Search Strategy

The identification and selection of literature were carried out through a systematic search strategy, specifically designed to ensure the breadth, quality, and relevance of the studies included. This strategy was based on the consultation of four key international and national academic databases, all widely recognized for their scientific rigor and thematic coverage in the field of education and the social sciences: ERIC, Scopus, Web of Science, and Dialnet.

To optimize the retrieval of relevant studies, the search was designed to be structured and replicable, while adapting to the specific features and functionalities of each database. Combinations of keywords and Boolean operators (AND, OR) were used to generate sets of results that addressed both the research question and the study's analytical variables.

Descriptors were formulated in English, Catalan, and Spanish in order to capture the widest possible range of contextually diverse scientific production. Among the terms used were: “*school AND reading culture*”, “*school literacy practices*”, “*educational transmission AND reading*”, “*cultural literacy AND schools*”, as well as “*escola i cultura lectora*”, “*escuela y cultura lectora*”, “*pràctiques de cultura lectora*”, “*transmissió educativa i lectura*”, and “*alfabetització cultural i escola*”, among others.

## 2.3. Selection and Data Extraction Process

The selection of studies included in this review was organized into several successive phases, with the aim of rigorously applying the eligibility criteria and ensuring the quality, relevance, and coherence of the final corpus. This process combined bibliographic management techniques, documentary analysis, and critical reading, following the principles of the PRISMA protocol

(Page et al., 2021) while adapting them to a qualitative and interpretive approach.

- Identification of records: In the first phase, an exploratory search without filters was conducted across the four databases. This initial approach yielded a total of 61,831 preliminary records, which constituted the potentially relevant set for the study.
- Removal of duplicates: The results were imported into a reference management tool, where duplicate documents appearing in more than one database were eliminated.
- Initial screening: In this third phase, a preliminary review of the titles and abstracts of each record was conducted to determine their alignment with the inclusion criteria.
- Full-text reading: Studies that passed the previous stage were subjected to a complete and detailed reading to confirm their conceptual relevance, methodological rigor, and empirical or theoretical significance.
- Final selection: As a result of this systematic and progressive process, a final sample of 261 articles was identified as fully meeting the defined eligibility criteria.

To facilitate an overall understanding of the analyzed corpus and to ensure transparency in the review process, a classification table is presented below, summarizing the main characteristics of the 261 selected articles.

**Table 1.** Distribution of the study corpus by database, geographic scope, and social agents analyzed (Author's own elaboration).

Classification Criteria	Categorías	N
Source database	ERIC	74
	Scopus	65
	WoS	58
	Dialnet	64
Geographic scope of the study	Europe	103
	America	59
	Africa	24
	Asia	42
	Oceanía	33
Agents compared with the school	Family	91
	Libraries	56
	Digital environments	48
	More than one agent	66

This classification provides an overview of the sample and helps reinforce the transparency of the methodological procedure. It shows that the corpus is composed of a diverse, multidisciplinary, and international sample that reflects the plurality of approaches in the study of reading culture. The significant presence of qualitative and conceptual studies aligns with the interpretive orientation of the review, while the variety of geographic contexts and languages strengthens its comparative and intercultural dimension.

## 2.4. Thematic Analysis and Study Variables

Once the selection process was completed, a qualitative thematic analysis was carried out, aimed at identifying recurring patterns, conceptual tensions, and significant contributions within the corpus of 261 articles. This analysis was structured around five central variables, previously defined according to the objectives and research questions of this study. The four interrelated analytical dimensions made it possible to establish a transversal and critical reading of the body of literature reviewed: the concept of reading culture, the role of the school, the role of other social agents, and cultural and institutional

contrasts.

The analysis followed an inductive approach that considered recurrences, divergences, and emerging relationships across the different studies. This process enabled the generation of open and flexible thematic codes, while also facilitating an understanding of the institutional, pedagogical, and sociocultural dynamics that shape reading culture in school contexts.

### 3. Results

The findings of this qualitative review are organized around four central thematic axes, defined on the basis of the analytical variables established during the methodological phase. This structure is intended to present the corpus in a systematic way, facilitating critical and comparative interpretation. Each analytical axis reflects a fundamental dimension of the phenomenon under study—from the conceptual framework underpinning the term “reading culture,” to the school’s specific functions, the interaction with other social agents, and the differences detected across institutional and cultural contexts. Thus, the presentation of results goes beyond a mere description of studies to propose an integrative, problematizing reading—one capable of accounting for the complexity of the school’s role in transmitting reading culture in the contemporary world.

#### 3.1. Variable 1 – The Concept of Reading Culture

The axes analyzed in this review make it possible to address the multiple facets of the phenomenon under investigation. From the theoretical understanding of the concept of “reading culture” to the concrete practices schools employ to promote it, the discussion also encompasses the pedagogical, symbolic, and institutional role of formal education, its connection with other social actors, and the variations observed across cultural, political, or territorial contexts.

The adopted thematic organization has served not only to order and synthesize the knowledge extracted from the corpus, but also to offer a critical

reading that better illuminates the growing complexity of the school's role in building and transmitting a reading culture that is critical, equitable, and community-oriented. In this regard, various studies concur on the need to move beyond reductionist views of reading focused solely on technical skills, and instead advocate approaches that acknowledge its affective, participatory, and culturally situated dimensions (Türkel, Özdemir & Akbulut, 2019).

One of the most salient outcomes of this review is the consolidation of an expanded, complex vision of the concept of reading culture—one that departs from a merely technical or instrumental approach. Recent studies by Morse, Ngwato and Huston (2024), and Olasehinde et al. (2015) have helped establish a well-founded critique of reductionist conceptions of reading that equate it with mechanical decoding processes and a purely functional purpose within the school curriculum.

Reading is not just a skill; it is a way of being in the world—a way of inhabiting thought, connecting with collective memory, constructing identity, and articulating symbolic resistance. As authors such as Simşek (2021) have noted, reading can be understood as a philosophy of life: an ongoing, meaningful activity that accompanies people throughout their development, shaping how they understand reality, connect with others, and envision the future.

From this perspective, reading involves far more than accessing information: it is a way of making meaning, exploring the world, and naming lived experience. This implies recognizing that reading cannot be separated from the sociocultural context or the personal imaginaries that sustain it, and that reading culture is constructed day by day through meaningful relationships, shared experiences, and the possibility of reading oneself and others in texts.

Simşek (2021) and Staples (2013) both emphasize that for a reading culture to be truly meaningful, it must be deeply connected to readers' lived experience—their identity, language, origin, and social position. From this perspective, reading becomes a process of identity formation and cultural integration within concrete social contexts. In the same vein, Çigdemir (2024) highlights the inclusive potential of reading, especially in diverse educational settings, where it can function as a tool for recognition, empowerment, and

cultural representation.

In the Spanish context, Moreno Oliver (2018) underscores the fundamental role of the school as an institution that mediates cultural rights, particularly in promoting reading practices rooted in students' sociolinguistic and symbolic diversity. This richer, more contextualized understanding of reading makes it possible to question education policies focused exclusively on standardized indicators and homogenizing assessment models, which tend to displace the symbolic, subjective, and emancipatory dimensions of school-based reading (Rozaimie, 2024).

Within this framework, the notion of a critical reading culture gains traction, incorporating discourse analysis, active interpretive capacity, and reading as a tool for questioning and transforming the world. This orientation is reflected in contributions such as those of Türkel, Özdemir and Akbulut (2019), which show how critical reading—when articulated with participatory methodologies and culturally relevant texts—can become a space for personal growth and democratic participation. In this sense, the school stands out as a space of cultural mediation and democratization of reading, and as a key institution for ensuring equitable access to meaningful reading practices.

### **3.2. Variable 2 – The Role of the School**

The second axis centers on the role the school plays as a pedagogical, normative, and cultural space in building a reading culture that is critical, inclusive, and relevant. While reading practices can take root in multiple settings—such as the home, libraries, community organizations, or digital environments—the studies reviewed consistently highlight the school's unique status as an institution capable of providing structured and universal access to written culture (Karadag Yilmaz, Horzum & Koyuncu, 2024).

What distinguishes the school is its status as a compulsory, regulated educational space that reaches all children regardless of social background. This gives it decisive potential to guarantee equity and reduce cultural gaps, especially among children who grow up in environments with scarce reading resources or discontinuous educational trajectories. Unlike

other contexts, where access to reading largely depends on family capital or personal initiative, the school has the institutional mandate to ensure that learning to read—and reading with meaning—is a right, not a privilege.

For this function to be truly transformative, however, the school must go beyond technical instruction in reading. Staples (2013) and Olasehinde et al. (2015) argue that the school's reading mission must embrace a political and cultural dimension aimed at creating conditions for deep, critical, and situated literacy. This conception implies understanding the school as the place where one learns to read and to be a reader; where certain forms of reading are legitimized or marginalized; and where imaginaries about the meaning of reading are constructed.

The review also shows that the school can play a clearly democratizing role, helping to break the patterns of reproducing reading inequalities that arise in other spaces—such as the family or digital environments—often conditioned by socioeconomic origin. In this sense, the school becomes an institution that mediates cultural rights, capable of offering diverse reading models, fostering exchange among heterogeneous reading experiences, and creating environments where reading is not only learned but also valued and shared.

Nevertheless, this democratizing potential does not activate automatically. For the school to fully deploy its cultural and emancipatory role, an explicit and sustained institutional commitment is required. This entails embracing a comprehensive, critical reading model that goes beyond meeting minimum standards to promote reading autonomy, critical thinking, curiosity, and the capacity to engage with texts both emotionally and intellectually. Such a commitment calls for a profound review of school practices—from materials to the time and spaces devoted to reading, including teacher training in didactic approaches sensitive to students' cultural, linguistic, and cognitive diversity.

Finally, the literature reviewed affirms the school's dual role with respect to reading: on the one hand, to guarantee universal access to written culture; on the other, to acknowledge that the school is where reading culture is institutionalized. This means the school is responsible for establishing symbolic, normative, and curricular frameworks that determine what counts

as valid reading, which texts are worthy of study, and which reading practices are promoted or silenced. The school's strength, in this respect, lies both in its capacity to bring reading to the entire child and youth population and in its normative and socializing function, which helps shape collective imaginaries around reading.

This dual function—both democratizing and regulatory—makes the school a central agent in the production, reproduction, or transformation of cultural hierarchies. It can broaden students' reading horizons by embracing diverse voices, heterogeneous genres, and multiple identities; but it can also restrict them if based on rigid, canonical criteria disconnected from readers' lived contexts (Spiering, 2019; Daniels & Steres, 2011).

### **3.3. Variable 3 – The Role of Other Social Agents**

While the school holds a central place in reading formation, the specialized literature also highlights the role played by other social agents in this process. Although they lack the compulsory, systematic, and universal nature of the school context, spaces such as the home, libraries, or digital environments can significantly—and often complementarily— influence the acquisition of habits, values, and experiences related to reading (Smith, 2021).

The family environment, for instance, offers key symbolic and affective potential in the early stages of reading development. However, its impact is conditioned by social inequalities: the cultural, economic, and linguistic capital of each household largely determines the kinds of bonds established with reading. Libraries, by contrast, represent open and accessible spaces which, when articulated with community or educational projects, can become sites of encounter, inclusion, and cultural participation (Zepke, 2011). Even so, their effectiveness depends on factors such as territorial presence, the institutional support they receive, and the degree of connection with schools.

As for digital environments, these have transformed ways of reading and sharing meaning by introducing more visual, fragmented, and interactive reading practices. Although they offer new opportunities, they also pose challenges: unequal access to technology and limited pedagogical mediation

constrain their potential as vehicles for equity in reading learning (Saravia-Shore & Arvizu, 2017).

Within this landscape, the family remains the first point of contact with reading. As Neuman and Celano (2006) note, it is there that children have their first experiences with texts and where values, attitudes, and expectations are transmitted that will shape their reading trajectories. Practices such as shared reading, storytelling, having books at home, or recognizing reading as a valuable activity decisively foster interest and reading competence (Anderson, et al. 2011).

Even so, these opportunities are not equally distributed. The structural conditions families face create profound differences in the quality and frequency of interactions around reading (Zepke, 2011), revealing a twofold challenge: on the one hand, to recognize the value of family mediation at the start of reading pathways; on the other, to avoid reproducing narratives that normalize inequalities among households and place exclusive responsibility on families for situations stemming from unequal socioeconomic contexts (González, Moll & Amanti, 2005).

Alongside families' essential role, the reviewed literature presents libraries as fundamental spaces for guaranteeing free, public, and equitable access to reading. In contexts marked by educational inequality or material precariousness, these spaces offer a real alternative for accessing quality resources: books in multiple languages, materials adapted to different ages and levels, and environments that support both shared and individual reading. Beyond serving as textual repositories, libraries can become intergenerational meeting points that promote multilingualism and actively recognize cultural diversity (López Melero, 2012), while also acting as cultural institutions with a transformational mission (Cobos Flores, 2009).

However, their real capacity for impact depends on structural conditions that are not always guaranteed. Problems such as scarce funding, staff instability, weak integration with schools, or limited alignment with public policies hinder sustained development (López Yáñez & Sánchez Moreno, 2021). Without strong connections to schools or an institutional strategy that systematically promotes reading, libraries risk being relegated to a residual or merely symbolic role. The literature therefore stresses that their potential

as active agents of reading culture depends not only on infrastructure and programming, but also on their insertion into living networks of collaboration with schools, families, and local communities.

Digital environments, for their part, emerge as new arenas that broaden opportunities for participation in written culture (García-Rodríguez & Gómez-Díaz, 2016). Blogs, social networks, interactive e-books, forums, and mobile apps enable multimodal, hypertextual, and often collaborative forms of reading that are especially appealing to young people (Lankshear & Knobel, 2011). In contexts where access to print materials is limited or where minoritized languages exist, these environments can even provide alternative channels for reading and cultural expression (Pegrum, Oakley & Faulkner, 2013).

Yet the digitization of reading practices also introduces new tensions. As Carr (2010) warns, digital consumption does not always foster deep or critical reading; it may encourage fragmentary, distracted habits shaped by the logic of commercial algorithms. Added to this is unequal access to technology and digital literacy, which generates new forms of cultural exclusion (Selwyn, 2016; García-Peñalvo et al., 2020). For this reason, integrating the digital as a reading agent requires intentional, critical pedagogical mediation, as well as policies that guarantee the development of digital competencies across the population, especially among school-age children and youth.

### **3.4. Variable 4 – Cultural and Institutional Contrasts**

The review's findings show that the promotion of reading culture is profoundly shaped by the political, curricular, linguistic, and cultural frameworks that structure each education system. This structural influence translates into a wide variety of approaches and strategies, strongly rooted in the realities of each territory. Far from any pretense of homogeneity, the literature makes clear that reading policies cannot be understood outside their concrete contexts (Viafara González & Aleida Ariza, 2015; Cekiso, 2024).

This plurality allows us to identify a broad spectrum of educational practices and institutional interventions, molded by local histories,

sociocultural dynamics, and diverse conceptions of what it means to read and what place reading occupies in collective life. Thus, reading culture can be understood both as a tool for basic literacy and as a space for critical thinking, democratic participation, and the construction of community bonds. This dual condition—technical and political—reveals the complex, multivocal character of reading, which can only fully develop if the education system recognizes the diversity of trajectories, languages, and ways of reading that coexist in each social reality. As Morse, Ngwato and Huston (2024) emphasize, reading is a situated practice, laden with cultural and emotional meaning, that articulates identities and generates shared sense.

It is therefore essential to analyze reading policies from a territorial perspective. The review makes visible both regional trends and significant contrasts between countries, showing how different conceptions of reading translate into highly disparate institutional strategies. Education systems, far from operating as neutral entities, act as shapers of specific reading ecosystems defined by their pedagogical priorities, regulatory frameworks, and modes of engagement with the social agents involved.

At the continental scale, this diversity becomes especially visible. In Latin America, for example, many reading-promotion initiatives display a strong community-based, critical orientation. Often driven by popular libraries, social movements, or rural projects, these practices understand reading as a cultural right and a tool for social transformation. In this scenario, the school becomes a key actor in reversing historical inequalities and democratizing access to the written word (Viafara González, 2015). However, the continuity of these initiatives frequently depends on unstable resources and fragile institutional support, which jeopardizes their sustainability (González, 2021).

In the African continent—particularly in countries such as South Africa or Nigeria—reading takes on a dimension of linguistic justice. Education policies seek to integrate Indigenous languages as legitimate vehicles for learning and expression in a context marked by colonial legacies and sociolinguistic fragmentation. These efforts, however, are constrained by a lack of materials, insufficient infrastructure, and weak teacher training (Cekiso, 2024; Chukwuemeka, 2025). In the face of such constraints, community initiatives and reading activism gain importance as ways to uphold

the right to read under conditions of significant adversity (Rozaimie, 2024).

Across Asia, several countries have adopted extensive reading models, especially in foreign-language teaching. Thailand, Japan, and South Korea, for instance, have developed extensive reading proposals aimed at fostering reading autonomy and communicative competence (Thongsan & Waring; Pegrum et al., 2013). Yet these approaches are often disconnected from the official curriculum and lack the critical mediation needed to promote deep, contextualized, and meaningful reading. Moreover, inequalities in access to digital devices and the technology divide limit the transformative reach of such practices (Simsek, 2021).

The European context likewise shows clear internal differences. Nordic countries such as Finland and Sweden have consolidated robust public policies aimed at ensuring universal access to reading, integrating school libraries, specialized teacher training, and sustained resources over time (Mølstad & Karseth, 2016). By contrast, in the Mediterranean region there is a tension between innovative pedagogical proposals and a dominant trend to reduce reading to a set of measurable competencies, often tied to standardized tests.

In North America—particularly in the United States and Canada—two opposing logics coexist. On one hand, official education policies prioritize academic performance, standardized evaluation, and intensive reading intervention programs. On the other, there are critical pedagogical proposals—often driven by racialized communities or minority groups—that defend reading as a practice of empowerment, identity construction, and cultural resistance (Staples, 2013). This tension reveals that reading culture cannot be separated from the ideological and social disputes that traverse each education system.

## **4. Discussion**

The findings of this review clearly highlight the unique role that schools play in fostering a reading culture. Their systematic presence within the education system, along with their normative and institutional function, gives them an ability to intervene that few other social actors can match. Whereas families, libraries, or digital spaces often operate unevenly and are shaped by socioeconomic factors, schools provide a structured and universal environment through which access to reading can be guaranteed, sustained practices can be supported, and shared frameworks of cultural meaning can be generated (Karadag Yilmaz et al., 2024).

This potential, however, is not activated by default, nor simply by incorporating reading into the curriculum. As the studies reviewed demonstrate, the impact of school-based reading practices largely depends on the pedagogical approach underpinning them. Schools that connect reading to everyday life, work with culturally relevant texts, and promote critical reflection achieve higher levels of student engagement and foster processes of reader identification and meaning-making (Türkel et al., 2019; Staples, 2013; Simşek, 2023).

The compensatory role of schools becomes even more visible in contexts of deep structural inequality, where other resources—such as public libraries or family support—are scarce or absent. In these scenarios, schools not only provide access to written culture but also legitimize different ways of reading and open the doors to the symbolic universe of texts. For this to happen, however, education systems must commit to an inclusive and plural vision—one that recognizes students' linguistic, cultural, and affective diversity and understands reading not as a functional skill but as a common good (Sánchez Ortiz, 2018).

The review also reveals that links between schools and other social agents—families, libraries, and digital environments—are fundamental for enriching reading experiences. These spaces contribute knowledge, languages, and perspectives which, if articulated coherently and collaboratively, can strengthen the educational work carried out in classrooms (Chaka & Govender, 2017; Shine Edizer & Akçay-Duff, 2019). Yet this networked work does not

occur spontaneously: it requires schools to take an active role in building partnerships and creating shared reading environments.

International examples show that the most effective policies are those that combine a clear orientation with scope for local adaptation, sustained investment in resources, and robust teacher training in critical, intercultural, and emotional reading pedagogy (Mølstad & Karseth, 2016; Viafara González, 2015). Within this framework, school-based reading can become a lever for educational justice and social transformation if it is grounded in a broad and situated conception of what it means to read.

This pedagogical horizon, however, demands a profound rethinking of teacher training practices. Many teachers lack the tools to act as cultural mediators or reading role models—not due to disinterest, but because of gaps in their initial training (Elche & Yubero, 2018; Elche et al., 2019). The responsibility lies not only with schools but also with higher education institutions, which for years have relegated the reading dimension to a secondary place in teacher education (Paredes et al., 2024). This omission seriously limits schools' ability to promote a critical, transformative reading culture that is meaningfully engaged with its environment.

Rethinking reading from this perspective also entails re-examining school policies. Overcoming technocratic approaches and performance standards as the sole measure of educational success is essential. As Olasehinde et al. (2015) argue, moving toward a pedagogy of reading centered on critical thinking, cultural diversity, and the dialogue of knowledges requires spaces for experimentation, listening, and multiple forms of expression. Only in this way can the school consolidate itself as a democratic and emancipatory space, capable of articulating an inclusive, meaningful, and shared reading culture.

## 5. Conclusions

The results of this qualitative systematic review show that reading culture cannot be reduced to a technical skill or to a set of school procedures aimed exclusively at decoding. On the contrary, it emerges as a complex phenomenon, deeply rooted in educational, cultural, and social dimensions, shaped through the constant interaction between individuals, institutions, and the imaginaries that structure their environments.

The analysis of the corpus points toward a growing consensus in the specialized literature: it is necessary to reconceptualize reading culture as a central dimension of human development, closely linked to identity construction, civic participation, and the pursuit of social justice. Authors such as Simşek (2021), Staples (2013), and Morse, Ngwato & Huston (2024) agree that reading goes beyond mastering a code: it is about inhabiting symbolic worlds, making meaning, and taking part in interpretive communities.

From this perspective, reading culture must be understood as a shared social construction, shaped by the historical, institutional, and pedagogical conditions of each territory. Adopting this lens also entails questioning the traditional conceptions of reading that have long dominated school discourse. In a context saturated with images, screens, and digital languages, it becomes urgent to broaden what we mean by reading, recognizing forms of meaning-making that go beyond the linear written text. Documentaries, video games, series, social media, or interactive visual art are reshaping the ways in which people—especially the young—engage with written and symbolic culture.

This transformation should not be seen as a threat but as an opportunity to build a more plural, multimodal, and situated reading culture. Recognizing that an image or a scene can be the object of critical reading with the same depth as a printed text allows for the democratization of access to knowledge and for connection with students' real cultural universes. Rethinking school practices, public policies, and pedagogical approaches therefore implies not only guaranteeing the right to read, but also updating its formats, languages, and mediations. It is within this conceptual openness that an educational project capable of strengthening the meaning, relevance, and critical function of reading in contemporary societies can be articulated.

In this broadened framework, the school emerges as an irreplaceable actor in promoting a critical, inclusive, and socially transformative reading culture. Its compulsory nature, universal reach, and institutional legitimacy make it a privileged space for ensuring equitable access to texts and for generating conditions of shared symbolic participation. Beyond teaching how to read, the school establishes frameworks of meaning, legitimizes certain reading practices, and ultimately defines what it means to read well, meaningfully, or deeply.

This normative dimension can become a powerful tool for access to multiple forms of knowledge—provided it is grounded in a plural, critical, and culturally situated pedagogy. In this way, the school positions itself as a key space for reversing inequalities, making marginalized reader voices visible, and opening pathways for symbolic appropriation of the world. Promoting a reading culture from within the school, in this sense, also means fostering inclusion—understood as fair and real access to the cultural codes that structure democratic life.

The review also highlights the indispensable—though complementary—role of other social actors such as families, libraries, and digital environments. Although these spaces do not carry the same level of institutionalization as schools, their contribution to reading trajectories is fundamental, as they bring in affective, community-based, and technological dimensions that are often less present in the school sphere. In light of this, there is an urgent need for governments to implement policies that foster articulation between schools and surrounding educational agents, in order to build more integrated, inclusive, and sustainable reading ecosystems.

Families, for example, represent children's first point of contact with reading. They are spaces where habits, attitudes, and emotional bonds toward texts are formed. The presence of books at home, shared reading practices, and the affective recognition of reading as a meaningful activity are all factors that directly influence the development of a strong reader identity (Sénéchal & LeFevre, 2002; Anderson et al., 2012). Nevertheless, this potential is deeply conditioned by households' economic, cultural, and linguistic capital, which can reproduce structural inequalities if there are no educational policies capable of compensating for and redistributing opportunities.

Libraries—whether school-based, public, or community-run—also play a decisive role. Beyond holding books, they are spaces for cultural encounter, the promotion of linguistic diversity, and free access to a wide range of textual resources. To the extent that they connect with educational and community projects, they can become hubs of symbolic transformation and active participation (Cobos Flores, 2009). Their effectiveness, however, depends on public investment, territorial presence, and links with schools.

Digital environments, for their part, are an increasingly influential arena in the construction of new reading practices. Blogs, interactive platforms, narrative video games, or social networks foster collaborative, fragmented, and visual readings that can stimulate critical and creative skills when accompanied by appropriate pedagogical mediation (García-Rodríguez & Gómez-Díaz, 2016). At the same time, these spaces also introduce risks: fragmented attention, unequal access, and a lack of media literacy can widen existing cultural gaps (Selwyn, 2016; Carr, 2010).

Within this diverse ecosystem, schools remain the only space with real capacity to articulate efforts, generate shared meaning, and guarantee a common foundation of access to reading. But this role cannot—and should not—be exercised in isolation. Active collaboration with families, libraries, and communities is key to building stronger, more rooted reading projects. As long as this work is carried out from a critical, relational, and situated perspective, schools can fulfill their role as agents of transformation and symbolic equity.

In sum, building a critical, equitable, and community-based reading culture requires sustained collective commitment. Educational institutions, policymakers, teachers, and society as a whole must recognize that reading—as a right, as a pleasure, and as a form of resistance—must be a real possibility for everyone, regardless of social background, mother tongue, or economic circumstances.

It is worth noting, however, an important limitation: this review focused exclusively on publications accessible online. This may have excluded relevant contributions—particularly books, non-digitized documents, or ongoing research—thus partially restricting the scope of the analysis. This limitation invites future work to expand the evidence base, incorporating new

sources and methodologies to deepen our understanding of a phenomenon as decisive as reading culture.

## 6. References

Anderson, A., Anderson, J., Lynch, J., Shapiro, J., & Eun Kim, J. (2011). Extra-textual talk in shared book reading: a focus on questioning. *Early Child Development and Care*, 182(9), 1139–1154. <https://doi.org/10.1080/03004430.2011.602189>

C. Thongsan, N., & Waring, R. (2024). Challenges in Implementing Extensive Reading in Thailand. *rEFLections*, 31(2), 457–477. <https://doi.org/10.61508/refl.v31i2.274278>

Carr, N. (2010). *The shallows: What the internet is doing to our brains*. W. W. Norton & Company.

Cekiso, M. (2024). Students' Reading Self-Concepts at an Institution of Higher Learning in South Africa. *Reading & Writing: Journal of the Literacy Association of South Africa*, 15(1). <https://doi.org/10.4102/rw.v15i1.509>

Chaka, C., & Govender, S. (2017). Students' perceptions and readiness towards mobile learning in colleges of education: A Nigerian perspective. *South African Journal of Education*, 37(1). <https://doi.org/10.15700/saje.v37n1a1282>

Chukwuemeka, E. J. (2025). Smart education: Opportunities, challenges and future of traditional education. *International Journal of Smart Technology and Learning*, 4(3), 191–202. <https://doi.org/10.1504/IJSIMARTTL.2025.146286>

Çiğdemir, S. (2024). Parental Readiness Scale for Early Literacy Teaching in Primary School: A Validity and Reliability Study. *International Online Journal of Primary Education*, 13(2), 122–134. <https://doi.org/10.55020/iojpe.1407132>

Cobos Flores, A. (2009). El papel de la biblioteca en torno a la sociedad del conocimiento. *Biblioteca Universitaria*, 12(2), 132–139. <https://bibliotecauniversitaria.dgb.unam.mx/rbu/article/view/491>

Daniels, E., & Steres, M. (2011). Examining the effects of a school-wide reading culture on student achievement in middle school. *RMLE Online: Research in Middle Level Education*, 35(2), 1–13. <https://eric.ed.gov/?id=EJ951779>

Elche, M. & Sánchez-García, S., & Yubero, S. (2019). Lectura, ocio y ren-

dimiento académico en estudiantes universitarios del área socioeducativa. *Educación XXI*, 22(1), 215–237. <https://doi.org/10.5944/edu-XXI.21548>

Elche, M. & Yubero, S. (2018). La compleja relación de los docentes con la lectura: El comportamiento lector del profesorado de educación infantil y primaria en formación. *Bordón*, 71(1), 31–45. <https://doi.org/10.13042/Bordon.2019.66083>

García-Peñalvo, F. J., Corell, A., Abella-García, V., & Grande, M. (2020). La evaluación online en la educación superior en tiempos de la COVID-19. *Education in the Knowledge Society (EKS)*, 21, 26. <https://doi.org/10.14201/eks.23086>

García-Rodríguez, A., & Gómez-Díaz, R. (2016). *Lectura Digital Infantil. Dispositivos, Aplicaciones y Contenidos*. Editorial UOC.

González, N., Moll, L. C., & Amanti, C. (Eds.). (2005). *Funds of knowledge: Theorizing practices in households, communities, and classrooms*. Lawrence Erlbaum Associates Publishers.

Karadag Yilmaz, T., Horzum, M. B., & Koyuncu, M. A. (2024). An examination of the relationship between reading culture and mathematical literacy self-efficacy among pre-service teachers. *International Journal of Progressive Education*, 20(4), 1–30.

Lankshear, C., & Knobel, M. (2011). *New literacies: Everyday practices and social learning* (3rd ed.). Open University Press.

López Melero, M. (2012). La escuela inclusiva: una oportunidad para humanizarnos. *Revista Interuniversitaria de Formación del Profesorado*, 26(2), 131–160. <https://www.redalyc.org/pdf/274/27426890007.pdf>

López Yáñez, J., & Sánchez Moreno, M. (2021). Red, Comunidad, Organización. La Escuela como Ecosistema de la Innovación Educativa. *REICE: Revista Iberoamericana sobre Calidad, Eficacia y Cambio en Educación*, 19(4), 31–54. <https://doi.org/10.15366/reice2021.19.4.002>

Mølstad, C. E., & Karseth, B. (2016). National Curricula in Norway and Finland: The Role of Learning Outcomes. *European Educational Research Journal*, 15(3), 329–344. <https://eric.ed.gov/?id=EJ1101078>

Moreno Oliver, F.X. (2018). *Mediació escolar*. Publicacions Universitat Autònoma de Barcelona.

Morse, K., Ngwato, T. P., & Huston, K. (2024). Reading Cultures - Towards a Clearer, More Inclusive Description. *Reading & Writing: Journal of*

the Literacy Association of South Africa, 15(1), Article 447.

Neuman, S. B., & Celano, D. (2006). The knowledge gap: Implications of leveling the playing field for low-income and middle-income children. *Reading Research Quarterly, 41*(2), 176–201. <https://doi.org/10.1598/RRQ.41.2.2>

Olasehinde, M. O., Akanmode, O. A., Alaiyemola, A. T., & Babatunde, O. T. (2015). Promoting the Reading Culture Towards Human Capital and Global Development. *English Language Teaching, 8*(6), 194–200. <https://doi.org/10.5539/elt.v8n6p194>

Page, M. J., McKenzie, J. E., Bossuyt, P. M., Boutron, I., Hoffmann, T. C., Mulrow, C. D., ... & Moher, D. (2021). The PRISMA 2020 statement: An updated guideline for reporting systematic reviews. *BMJ, 372*, n71. <https://doi.org/10.1136/bmj.n71>

Paredes, A. (2024). *De la escuela a la formación del profesorado, indagacions narrativas* [Doctoral thesis, Universitat de Barcelona]. Dipòsit Digital de la Universitat de Barcelona. <https://hdl.handle.net/2445/212441>

Paredes, A., Alonso, T., Álvarez, G., & Prats, E. (2024). La ficción literaria en la construcción de la identidad docente. *Educação e Pesquisa: Revista da Faculdade de Educação da Universidade de São Paulo, 50*(1). <https://doi.org/10.1590/S1678-4634202450278084>

Pegrum, M., Oakley, G., & Faulkner, R. (2013). Schools going mobile: A study of the adoption of mobile handheld technologies in Western Australian independent schools. *Australasian Journal of Educational Technology, 29*(1), 66–81. <https://ajet.org.au/index.php/AJET/article/view/1009>

Rozaimie, A. (2024). The Dynamic of Demographic Characters on the Reading Seed Program of Pustaka Negeri Sarawak. *Southeast Asia Early Childhood Journal, 13*(1), 34–69. <https://doi.org/10.37134/saecj.vol13.1.3.2024>

Saravia-Shore, M., & Arvizu, S. F. (Eds.). (2017). *Cross-cultural literacy: Ethnographies of communication in multiethnic classrooms*. Routledge.

Selwyn, N. (2016). *Education and technology: Key issues and debates* (2nd ed.). Bloomsbury Academic.

Shine Edizer, S., & Akçay-Duff, B. (2019). How an Intentionally Inviting Play Library Benefits Young Children and the Community. *Journal*

of *Invitational Theory and Practice*, 25, 14–24. <https://eric.ed.gov/?id=EJ1251795>

Simşek, E. (2021). Literary Curiosity Scale for Secondary Education Students: A Scale Development Study. *International Journal of Psychology and Educational Studies*, 8(3), 209–221. <https://eric.ed.gov/?id=EJ1308326>

Smith, K. (2021). The Playful Writing Project: exploring the synergy between young children's play and writing with Reception class teachers. *Literacy*, 55, 149–158. <https://doi.org/10.1111/lit.12256>

Spiering, C. (2019). Engaging Adolescent Literacies with the Standards. *Knowledge Quest*, 47(5), 44–49. [https://scholarcommons.sc.edu/libs-ci\\_facpub/266/](https://scholarcommons.sc.edu/libs-ci_facpub/266/)

Staples, J. M. (2013). Reading Popular Culture Narratives of Disease with Pre-Service Teachers. *Teacher Education Quarterly*, 40(4), 27–40. <https://eric.ed.gov/?id=EJ1072157>

Türkel, Y. D., Özdemir, A., & Akbulut, G. (2019). Critical literacy practices in primary education: A Turkish perspective. *Education and Science*, 44(198), 213–234. <https://doi.org/10.59613/global.v2i7.221>

Viafara González, J., & Aleida Ariza, J. (2015). From Awareness to Cultural Agency: EFL Colombian Student Teachers' Travelling Abroad Experiences (De la concientización a la agencia cultural: las experiencias en el extranjero de futuros profesores de inglés). *PROFILE: Issues in Teachers' Professional Development*, 17(1), 123–141. <https://revistas.unal.edu.co/index.php/profile/article/view/39499/49763>

Zepke, N. (2011). Engaging students: A complex business. *International Journal of Teaching and Learning in Higher Education*, 23(2), 122–129. <https://doi.org/10.5204/intjfyhe.v4i2.183>



# Scope of Compulsory Schooling in Buenos Aires City (Argentina, 1880-1916)

## Alcances de la obligatoriedad escolar en la ciudad de Buenos Aires (Argentina, 1880-1916)

<https://doi.org/10.4438/1988-592X-RE-2025-411-725>

**Cecilia del Barro**

<https://orcid.org/0009-0008-6892-5671>

*Instituto Rosario de Investigaciones en Ciencias de la Educación - IRICE  
(CONICET-UNR)*

### Resumen

Una parte de la producción historiográfica ha tendido a dar por supuesto un desarrollo de la enseñanza primaria resuelto y homogéneo en la ciudad de Buenos Aires, por entonces capital de la Argentina, hacia finales del siglo XIX y principios del siglo XX. Esta presunción ha dejado en un segundo plano el análisis del proceso de la universalización de la educación común que, de acuerdo a las fuentes consultadas, fue problemático. Al respecto, este artículo se propone contribuir a una reconstrucción de dicho proceso, con la hipótesis de que el mismo no fue uniforme debido, en parte, a su vertiginoso desarrollo urbano expandido con la llegada continua y masiva de inmigrantes, así como a la ocupación de mano de obra infantil que impidió a niños y niñas en edad escolar a cumplir con su obligatoriedad de manera total o parcial. A tales efectos, se indaga en torno a la idea de obligatoriedad escolar en Argentina en dicho lapso temporal, en lo que se refiere a su adopción como principio y como mecanismo de expansión del subsistema de educación primaria. Recurrimos a la combinación metodológica para complementar la reconstrucción estadística con los discursos emitidos por autoridades escolares con distintos niveles de responsabilidad.

*Palabras claves:* obligatoriedad escolar - educación común - enseñanza primaria - políticas educativas – historia de la educación

## **Abstract**

A part of the historiographical production has tended to assume a resolved and homogeneous development of primary education in the city of Buenos Aires, then the federal capital of Argentina, by the late 19th and early 20th centuries. This presumption has relegated to the background an analysis of the process of universalizing primary education which, according to the sources consulted, proved to be problematic. In this regard, the article aims to contribute to a reconstruction of that process, hypothesizing that it was not uniform due, in part, to the city's rapid urban expansion fueled by the continuous and massive arrival of immigrants, as well as the prevalence of child labor, which prevented school-aged boys and girls from fully or partially complying with mandatory education. To this end, the study explores the notion of compulsory schooling in Argentina during this period, both as a principle and as a mechanism for expanding the primary education subsystem. A mixed-methods approach is employed to complement statistical reconstruction with discourses from school authorities at various levels of responsibility.

*Key words:* compulsory schooling - common education - primary education - educational policies - history of education.

## **Introduction: Compulsory Schooling as Object of Study**

At the end of the 19th century, the city of Buenos Aires was undergoing a process of accelerated transformation as a result of having been declared the federal capital of Argentina. At the same time, common education was seen as a fundamental factor for social development, as well as a means for supporting a set of goals related to literacy, child care and the formation of national sentiment in a nation state in the making. In line with this, laws were passed that established a system of public instruction whose principle and vehicle for expansion was compulsory schooling. However, this process faced significant challenges.

This article<sup>1</sup> aims to contribute to a reconstruction of the process of expansion of primary education in Argentina's federal capital between

---

1 An advance of this work was presented at the XIX Jornadas Interescuelas/Departamentos de Historia (2024), at the round table "Historia de la educación argentina (siglos XIX y XX): Estado, instituciones y docentes" (History of Argentine education (XIX and XX centuries): State, institutions and teachers). This article takes up and expands on that paper, enriched thanks to the comments and exchanges of both the coordinators of the round table and the colleagues present.

1880 and 1916, given the complexity of the context in which it unfolded and the fact that this topic has not yet been explored in depth. We begin with the hypothesis that this process was not uniform, as it appears to have been conditioned by several social and urban factors that complicated the effective implementation of compulsory schooling. For this purpose, we used official sources and documents that identify a set of elements influencing the efforts of school authorities and the national treasury to establish compulsory schooling as both a principle and mechanism for the universalization of common education. The research, grounded on a methodology that combines statistical reconstruction with the analysis of official discourses, allows us an examination of the way in which school authorities interpreted and addressed these challenges, in a context where the educational system interacted with a city undergoing constant growth. The documentary corpus consists of the journal *El Monitor de la Educación Común (EMEC)*,<sup>2</sup> the annual reports of the Consejo Nacional de Educación (National Council of Education, CNE) to the Ministerio de Justicia, Culto e Instrucción Pública<sup>3</sup> (Ministry of Justice, Worship and Public Instruction) and the session journals of the Chamber of Deputies and the Senate of the Argentine Nation.

This paper is structured in three sections. First, we will review both national and international studies on compulsory schooling, which provide a framework for the development of the text. Second, we will examine the normative background that established compulsory schooling in Argentina and regulated primary education. Finally, we will analyze the impact of these provisions within the context of the city of Buenos Aires, assessing the achievements and limits of the school mandate.

According to Gimeno Sacristán (2005), in modern societies, universal schooling acquired an obvious and natural appearance, which endowed compulsory schooling and the democratization of access to education with the status of the spiritual and material progress of society. This partially explains why the notion of the universality of common education became a principle

<sup>2</sup> *El Monitor de la Educación Común* (hereinafter EMEC) was the magazine of the Consejo Nacional de Educación (National Education Council). It disseminated the measures and regulations in force for education in Argentina, as well as pedagogical novelties and didactic resources.

<sup>3</sup> Since 1898, this department has been called the Ministerio de Justicia e Instrucción Pública (Ministry of Justice and Public Instruction).

enshrined in Latin American laws after the second half of the 19th century, which entailed a guarantor State and obligated citizens. As a constitutional principle, Viñao Frago (2001) points out the ambiguity created by compulsory schooling concerning the generalization of its application.

Some researchers have examined its implementation in the Argentine provinces at the end of the 19th and the beginning of the 20th century. Ferrero's (2007) work includes a detailed analysis of the articles published in the *Revista de Educación*,<sup>4</sup> in which he examines the influence of compulsory schooling, institutional differentiation and educational reform on the consolidation of the educational system in the province of Buenos Aires. Zapiola (2009) also conducts a rigorous study on the implementation of compulsory schooling in the same province, questioning the true extent of educational policies. His work acknowledges that compulsory schooling was not a fully effective measure, as it was limited by various reasons, among which the State's limited capacity to supervise and control attendance, the lack of resources and the absence of an adequate school infrastructure stand out. Petitti's (2022) work, which focuses on the province of Entre Ríos, investigates the implementation and effects of the compulsory education law between 1886 and 1958. He examines the scope and limitations of compulsory schooling linked to the lack of resources, resistance from some sectors to schooling, and the gap between the letter of the law and its application.

Regarding the universal nature of common education in the city of Buenos Aires, Ciafardo (1992) highlighted the differences between poor children, middle-class children and elite children. The latter had distinct social circuits compared to the other two groups. Children of the middle sectors were the primary recipients of the public education system, while children from the more impoverished sectors had a very low schooling rates and those who did attend school generally only completed the first grades, due in part to child labor. Although the industrial development of the city at the time did not require extensive child labor, it was common to see children engaged in street trades such as newspaper vendors, shoeshine boys, messengers, and others. (Suriano, 1990). These children navigated the streets, parks and promenades

<sup>4</sup> Official newspaper of the Dirección General de Escuelas (General Directorate of Schools) of the province of Buenos Aires published between 1858 and 1992.

of a city undergoing rapid expansion. Political and municipal authorities sought to reorganize the public space, transforming the city in architectural terms and reconfiguring social relations (Rama, 1984; Gorelik, 1998). However, the rapid development of the urban area had to contend with the continuous and massive arrival of immigrants, demographic growth—which led to tenements and boarding houses—the instability of the populations that migrated from one neighborhood to another, and the rapid expansion of the municipality's boundaries.

The issue of the universalization of education was revisited in Argentina with the enactment of Law No. 26,206 on National Education (2006), which extended compulsory education to include secondary education (Cappellacci and Miranda, 2007; Terigi, 2008; Martignoni, 2012; Miranda, 2013; Terigi et al., 2013). Attention has been given to the representations that different institutional actors have regarding the universalization of school education (Montesinos et al., 2009; Giovine and Martignoni, 2011) and efforts have been made to reconstruct the historical dimensions of the meanings of compulsory literacy (Moratti, 2000).

Other studies help position compulsory schooling as a transnational issue. Mollis' (1993) work presents a comparative analysis of the formation of the nation-states of Japan and Argentina toward the end of the 19th century. Both countries developed modern educational systems based on common, free and compulsory education; thus, primary education functioned as a mechanism for socialization, cultural homogenization and the formation of citizenship. Another noteworthy contribution is Guereña's (2019) study on Spain, in which he examines the school discourses that portrayed childhood as the appropriate stage for schooling, alongside narratives that normalized child labor. According to the author, during that period, the voices of parents and guardians often pointed to the need to employ their children, making child labor one of the main obstacles to schooling.

A prolific body of literature produced in Brazil addresses the topic from various perspectives. From a standpoint closely tied to the right to education, Horta (1998) highlights the paradoxical situation of this right, which is both a right and an obligation. For this reason, he examines both dimensions together, exploring primary education in Brazil's subnational

states, and revealing the multiple social and material challenges involved in upholding compulsory schooling—and, consequently, the right to education. Gondra (2010), for his part, explores the expansion of compulsory schooling and acknowledges the multifaceted network formed by various institutions and school trajectories aimed at supporting the democratic expansion of primary education. In this regard, the author concludes that compulsory schooling is a measure that operates in conjunction with a broader set of formal and non-formal educational mechanisms. Meanwhile, Brito and Vinagre (2018) examine the issue of compulsory schooling through discourses published in two newspapers, where diverse—and even opposing—representations are expressed: from an aspirational dimension based on how compulsory schooling was framed in European legislations, to the material and social difficulties encountered in the effort to impose schooling on children in Brazil.

From the above, it can be inferred that, from an early stage, compulsory schooling exposed a plurality of issues related to its implementation as a regulatory mechanism and to its practical realization.

## **From the Circulation of an Idea to Its Adaptation**

The goal of educating the child population has been already recognized in the early political constitutions of Latin American States. In the case of Argentina, the political constitution of the State was formalized in the Constitution of 1853, which declared a set of rights, duties and guarantees, providing a framework for national organization. Among these founding principles is the right to teach and learn, within the framework of republican and federal ideas, which would later be ratified and gradually implemented through the enactment of various laws.

From 1880 to 1884, primary education in the Federal Capital was governed by Law No. 988 (1875)<sup>5</sup> of the province of Buenos Aires until the National Congress provided the administration with a legal framework for the entire federal territory. This law established the obligation of common

<sup>5</sup> The norm has its own antecedents in provincial legislation: the primary education law of Corrientes (1853), the Constitution of Tucumán (1856) and the common education law of Catamarca (1871). See Barba, F. E. (1968). The common education law of Buenos Aires of 1875. *Trabajos y comunicaciones*, 18, 53-66.

education and outlined its implications through the fifteen articles that form the first chapter of the legislation.<sup>6</sup> It limited compulsory schooling to eight years for boys and six years for girls, with a *minimum* level of “instruction” regarding the content. The law set forth duties related to enrollment, attendance and academic performance which could be fulfilled through public, private or home education modalities. Additionally, it mandated the adoption of a district structure under the jurisdiction of peace courts.<sup>7</sup> The law’s implementation occurred during the transfer of provincial institutions to the central government, following the capitalization of the city in 1880, based on an agreement between the Ministerio del Interior de la Nación (National Ministry of the Interior) and the government of the province of Buenos Aires.

In 1882, the city of Buenos Aires hosted the Congreso Pedagógico Internacional (International Pedagogical Congress), where fundamental ideas on primary education were exchanged and the foundation for a nationwide common education legislation in Argentina was laid. The transcriptions of the presentations and debates that followed offer valuable insight to the circulation of ideas surrounding compulsory schooling. References to the educational legislation of “civilized countries” or “modern societies”, which had instituted compulsory schooling, not only were a source of admiration, but also shaped the aspirations of the emerging Latin American nations.

Throughout the debates that took place, almost entirely published in *EMEC*, some dissonant and even opposing voices to compulsory schooling emerged. The feasibility of compulsory education was one of the most debated topics, particularly in light of issues such as population mobility and the State’s capacity to finance the establishment and construction of schools. As Paul Groussac remarked: “Theories are beautiful but reality is bitter! We do not have the means to pass compulsory education laws” (Groussac, 1882, p. 204).<sup>8</sup> Despite these opposing or more moderate positions, the majority of the interventions in favor of compulsory schooling viewed it as a measure of good governance, believing that it promoted universal instruction—a

6 Law 988 Chapter I “De la obligación de la educación primaria” (“On the Obligation of Primary Education”).

7 Law 988 Chapter IV “De los consejos escolares de Distrito” (“On the District School Boards”).

8 Paul Groussac, a French-born historian and writer, served as the director of Argentina’s National Library and was a congressman. He notably advocated for secular education during the Congreso Pedagógico Internacional of 1882.

responsibility of the State if it intended to alleviate the ills associated with ignorance. According to the congress participants, these arguments were rooted in the need to improve individual and societal conditions, as well as to prepare children and young people to understand and fulfill their civic duties. Consequently, one of the resolutions of the congress recommended that all Latin American nations adopt compulsory and free schooling through a national education law. In the first section titled “Sobre difusión de la enseñanza primaria” (“On the expansion of primary education”), the following points were declared:

A) Education in public schools shall be entirely free of charge. B) The law should establish in principle a minimum of compulsory instruction for children aged six to fourteen. C) This principle may only be strictly enforced in areas where there are public schools (...) D) The law must grant parents or guardians the authority to provide the minimum compulsory instruction for their children or wards either in public schools, in private schools, or at home. E) Noncompliance with the law by parents or guardians, in regard to the minimum required instruction for their children or wards, must be subject to punishment. (CNE, EMEC, 1884, p. 615).

The implementation of the principle of compulsory schooling within the federal jurisdictions of Argentina—the city of Buenos Aires and the National Territories—was solidified with the enactment of Law No. 1420 on common education in 1884. The parliamentary procedure and debates surrounding the law saw little opposition regarding the compulsory status of schooling. In a narrow sense, this imposition mandated enrollment, verified through a *tuition*,<sup>9</sup> and attendance as a means of ensuring a minimum of instruction for all children aged six to fourteen. Following this law, the distribution of schools was based on population density, with one *school district*<sup>10</sup> being

<sup>9</sup> In line with the provisions of Law 1,420 (Chapter II, Articles 15-18) and the General Regulations for Public Schools in the Capital and National Territories of 1889 (Title V, Chapter II), the school tuition was an annual certificate issued by the school boards to certify the enrollment of school-age children in each district. Additionally, its payment—set at one peso in national currency per child per year—constituted part of the common treasury of the schools.

<sup>10</sup> Article 5 of Law 1,420 establishes that compulsory schooling requires the existence of free public schools accessible to school-age children. To this end, each neighborhood with 1,000 to 1,500 inhabitants in cities, and each colony or national territory with 300 to 500 inhabitants, shall constitute a School District. Each district is entitled to at least one public school where primary education, as established by this law, shall be provided in its entirety.

established for every one thousand to one thousand five hundred inhabitants, thereby guaranteeing access to a public school. Furthermore, the regulation outlined control mechanisms through *school boards*,<sup>11</sup> and the registers of school principals, along with penalties and fines for parents or guardians who failed to comply with the law. This represented the State's commitment to ensuring both access to and the provision of free education, facilitating children's entry into and retention in school. It also acknowledged that it would be unreasonable to demand compliance from families or guardians if a school was not within the prescribed proximity.

## **The Implementation of Compulsory Schooling**

### **The Creation of Schools**

By 1881, the school censuses conducted by the *comisiones escolares* (school commissions) revealed a significant number of illiterates, alongside low enrollment and attendance rates, in the city of Buenos Aires. Reports from the section *vocales-inspectores* (board member-inspectors) explained to Domingo F. Sarmiento,<sup>12</sup> *Superintendente del Consejo General de Educación* (Superintendent of the General Council of Education), several key challenges to the enforcement of compulsory schooling: the insufficient number of schools, the limited capacity of existing ones, overcrowding and inadequate hygiene standards. These issues had to be addressed legitimately to compel children to comply with school attendance. As stated in the report: "It is not possible, in the present schools, to enforce this law; they are few, and located

11 As established by Law 1.420 (Chapter IV. Articles 38, 39, 40, 41 and 43) and the General Regulations for Public Schools in the Capital and National Territories of 1889, school councils were composed by five parents appointed by the CNE for each school district. Designated as the Comisión Inspector (Inspecting Commission), they extended the functions of the Inspección General (General Inspection) to each neighborhood, overseeing the hygiene, discipline and moral standards of the schools under their jurisdiction. Additionally, they promoted the creation of cooperative societies, encouraged school attendance among children in the classrooms, and managed the enrollment records.

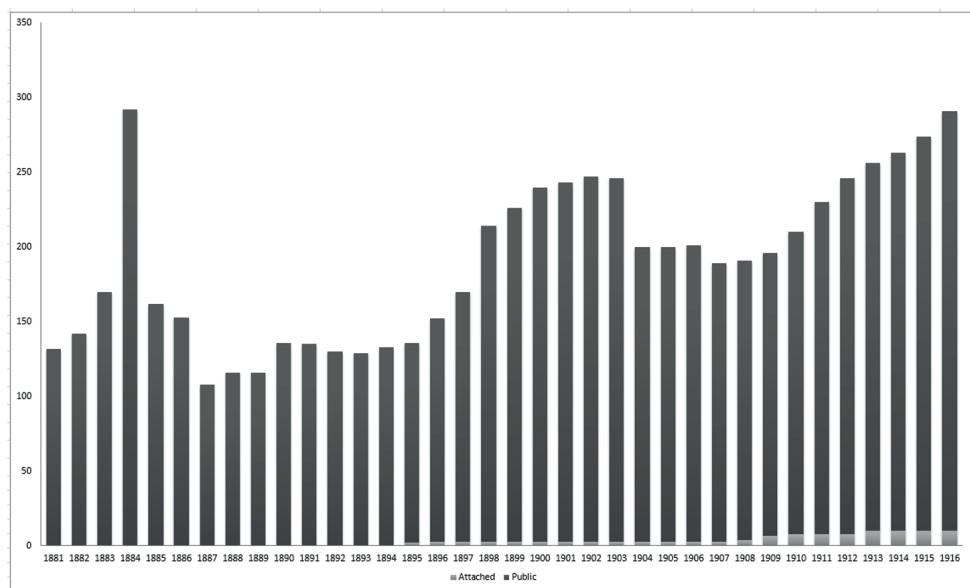
12 The terms used reflect the enforcements of Law 988 in the Province of Buenos Aires. The *comisiones o consejos escolares* (school commissions or councils) were collegiate bodies responsible for administering educational services within a school district.

in insufficient and unhygienic premises" (de la Barra, 1881, p. 181).

This diagnosis prompted the government to make a significant investment in the rapid establishment of schools across various districts, resulting in the creation of twenty new institutions in 1882. Subsequently, in 1884, fourteen school buildings designed according to the "palace-school" model were inaugurated. These buildings embodied the grandeur of the national state and served as symbolic representations of the so-called "melting pot of races." In this context, da Silva (2022) notes that, during the 1880s in the city of Buenos Aires, two primary concerns shaped school construction: the need to accommodate increasing student enrollment and the desire to adhere to specific stylistic, pedagogical and hygienic standards. The Plan de Edificación Escolar de 1899 (School Building Plan) and the Escuelas del Centenario de 1909 (Centennial Schools)—both ambitious projects undertaken by the National Education Council (CNE)—were conceived within this framework, aiming to address illiteracy through the expansion and modernization of educational infrastructure. As illustrated in Figure I, these investments had a considerable impact on the number of public elementary schools in the city.

With the opening of approximately forty buildings in 1886, the president of the CNE, Benjamín Zorrilla, declared the "school problem" in the capital of the Republic to be solved, stating "...having already sufficient premises in more than half of the school districts of the Capital, next year we will implement in them the school legislation that obliges parents to send their children to school" (CNE, 1887, p. 124). According to official reports, the new buildings were designed to accommodate between two and eight schools, each with their corresponding teaching staff. As a result of the consolidation of forty-five schools, the total number of institutions was reduced by approximately two thirds, thereby improving both enrollment and attendance figures.

**CHART I.** Public schools in the city of Buenos Aires.



Source: Prepared by the author based on data included in the CNE *Annual Reports*.<sup>13</sup>

Although these expenditures had a significant impact on the number of public elementary schools, allowing the gradual reconsolidation of institutions and the expansion of their capacity to accommodate more students, this was reflected in the statistics as a progressive decline in the total number of schools and an occasional slowdown in enrollment and attendance rates. This latter trend occurred, in part, because smaller-capacity schools had been more evenly distributed throughout the territory, whereas the larger-capacity schools were strategically located in more developed areas of the municipality. Additionally, the investments allocated to school construction plans limited the resources available for establishing new schools that were legally mandated. As a result, the demand for additional schools persisted among the local school boards, which, as they reported, lacked the authority to enforce fines and penalties, given that “The law of compulsory education

13 In Argentina, “Escuelas Normales”—institutions for teacher training—had attached primary schools to provide student teachers with the opportunity to complete their practical training.

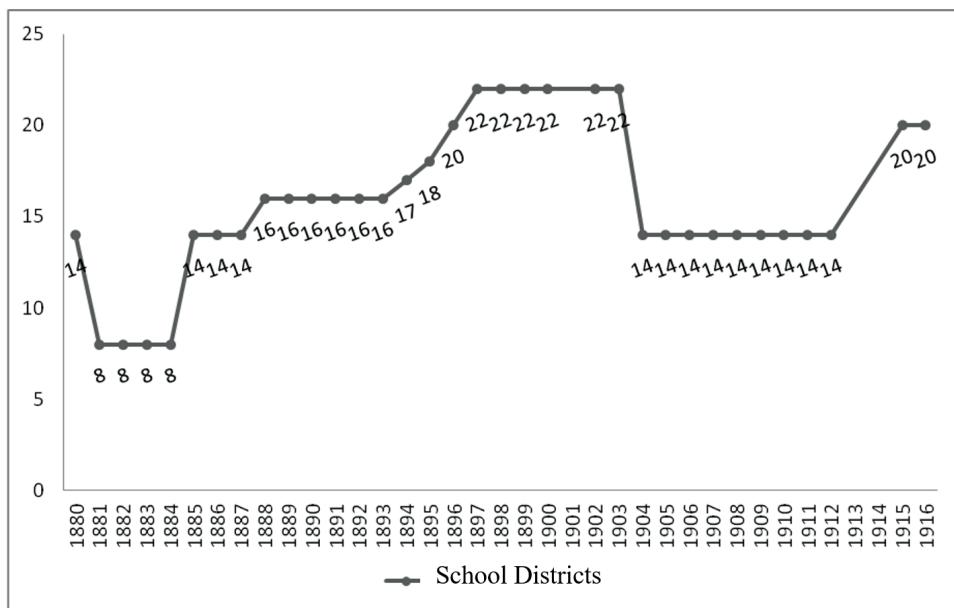
is a dead letter as long as schools and the financial resources to operate them are lacking" (Altgelt, 1885, p. 494).

The inspection reports, for their part, showed concern over the marked disparity between the number of school-age children and those actually attending school. According to the technical inspection, "This difference is most alarming in the more remote parishes and, consequently, where the proletarian segment of the population is larger" (Guerrico, 1887, p. 286). Moreover, the city's rapid and exponential growth was characterized by population instability, neighborhood transformations, and commercial fluctuations due to "the growing appreciation of property, which causes it to change hands frequently, resulting in constant population movement and frequent migrations from one neighborhood to another" (CNE, 1888, p. 79). These dynamics hindered the CNE's efforts to effectively address the challenges posed by compulsory education. For example, the incorporation of the neighborhoods of Flores and Belgrano in 1887 extended the city's boundaries, expanding the scope of official action:

...despite its constant attention to its duties, the Council finds itself hindered in its efforts by unforeseen events, leaving it without school buildings due to insufficient resources in certain areas of recent and rapid population growth; at other times, rendering, albeit partially, some buildings constructed for primary education unusable. (CNE, 1888, pp. 81-82)

Indeed, the city grew at an accelerated pace, following an urbanization model influenced by European ideas aimed at transforming it into a modern city, accompanied by population instability between neighborhoods. As this transformation took place, the municipality established new administrative structures that proved difficult to integrate and harmonize with the school system, the variations of which are presented in Figure II.

## CHART II. School Districts in the city of Buenos Aires.



Source: Prepared by the author based on data included in the CNE *Annual Reports*.

The most severe adjustment occurred during the 1897-1900 period, which led to an inequitable administrative distribution among the school boards. In 1904, the CNE decided to reduce the number of school districts for the following reasons:

On the other hand, the unjustifiable disparities in the number of schools under the jurisdiction of each school board should no longer persist. In some districts, there are only two, three or four schools, while in others there are as many as seventeen. This imbalance results in excessive expenditures that can and should be eliminated to increase the number of technical inspectors and school doctors. The goal is for each district to have at least one of each official, offering undeniable pedagogical and hygienic benefits. (CNE, EMEC, 1905, p. CL).

Subsequently, in 1915, the CNE increased the school districts because "...due to the extent and number of schools, the current school districts in this

Capital—Nos. 5, 6, 10, 12, 13 and 14—require subdivision for their better administration and to facilitate the fulfillment of their duties” (Arata, 1915, pp. 8-9). These pressures resulted in a heterogeneous composition of the school districts, as some had jurisdiction over two or more neighborhoods with sparse population but larger territorial areas, while others administered schools in one neighborhood or fewer.

Thus, in the Federal Capital, disparate realities coexisted among school districts, as reflected in the differential distribution of enrollment and attendance rates. In some districts, the enrollment rate was low and attendance irregular; the authorities identified several possible causes, including the distances between schools, the state of the roads, the unsanitary conditions of housing and the spread of diseases within local school clusters, families’ reluctance to have their children educated by the State, and the need for children to work from an early age. Meanwhile, in districts with higher population density and more advanced urban development due to their proximity to the city center, it was the school directors, district inspectors and technical inspectors themselves who called for immediate solutions, as the capacity of the schools was overwhelmed by the number of boys and girls seeking to enroll.

## **Adjustment of Measures: Reforms and Reductions**

The expertise, study and debate of the illiteracy problem, as well as the irregular rates of enrollment and retention, converged in the drafting and approval of a new regulation for the public schools of the Federal Capital.<sup>14</sup> Through this regulation, an attempt was made to introduce the necessary reforms to address an increasingly complex social situation, particularly the restructuring of school schedules. Starting in 1900, the alternating schedule was implemented, reducing children’s school attendance to two and a half hours, allowing for one session in the morning and another in the afternoon in the same premises, with the same teaching staff receiving a 20% salary

14 Reglamento para las escuelas comunes de la capital federal y territorios nacionales (Regulations for Public Schools in the Federal Capital and National Territories). En CNE, EMEC (1900), N° 324, Sección Oficial: Reglamento para las Escuelas Comunes de la Capital y Territorios Nacionales, marzo de 1900, p. 170-186).

increase. Despite strong pedagogical criticism and resistance from families, the implementation was selective, with only certain schools adopting the change, prioritizing those with the highest demand. Additionally,

As elementary and secondary schools now include early grades, the board may authorize technical inspectors to reduce the number of schools in certain categories, while increasing the number of schools in others based on the number and grade of their students. If it were possible for only 5th and 6th grade students to attend the upper schools, 3rd and 4th grade students to attend elementary schools, and 1st and 2nd grade students to attend infant schools, the Federal Capital would only require 8 schools of the first category to meet the current and future needs of the population, along with 36 elementary schools and 200 infant schools. (CNE, *EMEC*, 1900, pp. 113-114).

A year later, that reform led to the modification of the programs for schools under the jurisdiction of the CNE,<sup>15</sup> which adjusted the curricular extension to fit the new schedules, in light of the “incessant growth of the school population, disproportionate to revenues; which led to the simplification of the common programs, in order to equitably distribute, the benefit of primary instruction” (CNE, 1902, pp. 49-50). In other words, the alternate schedule increased the availability of seats in schools for 1st and 2nd grades, while the curriculum adjustments reduced and prioritized content. These measures were communicated and implemented in coordination with the district school boards, which reported on seat availability by section and identified schools that could be merged, relocated or converted into infant schools. The logistics of this redistribution and these changes were neither simple nor free of controversy. In some cases, local residents expressed concern over the relocation or virtual disappearance of nearby schools, voicing their objections to the CNE on the grounds that “...such a measure does not seem to be based on a clear intent to rationally distribute the various public schools” and that “consequently, they will prefer to sacrifice their instruction to their safety” (CNE, *EMEC*, 1903, p. 186).

Around 1903, a citizens’ commission was formed that disseminated propaganda regarding the negative consequences of implementing the

15 Programas y horarios para las escuelas comunes de la capital federal (Programs and Schedules for Public Schools in the Federal Capital). En CNE, *EMEC* (1901), N° 344, Sección Oficial: Programas y horarios para las escuelas comunes de la capital federal, octubre de 1901 p. 202-213.

alternate schedule. The group even submitted a signed petition to the Chamber of Deputies, aiming to raise awareness of “the inconveniences and harms that the alternate schedule causes to the home, children, the poor class and the teachers” (Argentina, Congreso de la Nación, 1903, p. 629). Despite this resistance, the expansion of the original capacity of state schools and the conversion of numerous elementary and high schools to nursery schools boosted enrollment and attendance figures and public schools already saw an increase of 10,000 newly enrolled students in 1902.

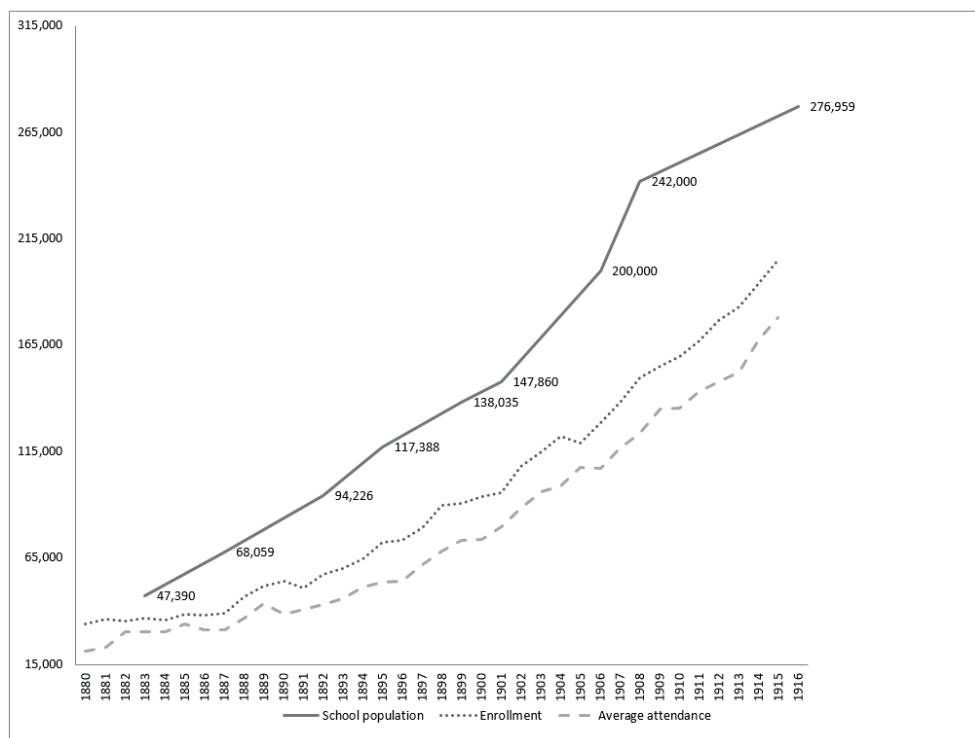
Both the technical inspection of the Federal Capital and an *ad hoc* commission issued unfavorable reports regarding the alternate schedule, recommending its replacement with the double-shift system, which would not begin until 1907. This system involved doubling the number of schools offering all six grades, thereby increasing the number of institutions able to accommodate one group of students in the morning and another in the afternoon, under a single administration but with distinct teaching staff. The Comisión de Horarios (Timetable Commission)—composed of specialists—and the Inspección Técnica (Technical Inspection)—convened to provide their opinion—also agreed on another recommendation: the advisability of postponing school entry by one year. However, the attempt to reduce compulsory schooling ultimately failed, as it did not receive the support of the educational authorities.

At the same time, pedagogical and general conferences that brought together inspectors, directors and teachers analyzed the causes of non-attendance, while school councils conducted a census of parents in order to explore alternate methods of persuading them to comply with the legal mandate of compulsory schooling. Among the reasons cited by families were the following:

- a) Lack of money to purchase clothing, footwear and school supplies;
- b) insufficient time to get the children ready and send them to school; c) the need for older children to contribute to the household income through work, or to stay home and care for younger siblings while the parents work outside the house; d) a shortage of seats in public schools, according to newspaper reports; e) retention in factories where children were forced to work beyond the legal time (10 to 11 hours); f) illness. (Caffarena, 1916, p. 79).

In the same way that child labor and adverse evaluations of state education contributed to the decline in attendance recorded in the attendance sheets from the 4th or 5th grade onward, the poor condition of streets and school access routes—as well as the prevalence of infectious diseases—also impeded regular school attendance. As shown in Table 3, both enrollment and attendance progressively increased over the period, maintaining a prudent and relatively proportional gap between the two indicators.<sup>16</sup>

### CHART III. School Population, Enrollment and Attendance in the City of Buenos Aires.



Source: Prepared by the author based on data included in the CNE *Annual Reports*..

16 The school population is defined as boys and girls aged 6 to 14. Enrollment and average attendance figures are derived from data from public, private, and annexed schools.

In the early years of the 20th century, efforts to improve the image and surroundings of schools were undertaken in coordination with the municipality, which contributed to maintaining the good condition of the streets leading to the school buildings. For its part, the CNE systematized the work recommended and mandated by the Cuerpo Médico Escolar (CME, School Medical Corps), which had established compulsory vaccination and revaccination of students since the late 19th century. This practice, framed within the social control policies implemented by the national State through the use of the school infrastructure (Lionetti, 2009), offered a certain guarantee of health and hygiene for children, families and neighborhoods. The conditions of confinement and daily overcrowding not only posed a risk for the spread of disease and epidemics but also undermined the image of the school.

In 1906, the CNE established the Oficina de Obligación Escolar y Multas (Compulsory Schooling and Fines Office) to enforce the provisions set forth in Law No. 1420. Through its action, increasingly precise diagnoses were made regarding the causes that prevented children from attending school. Among the most frequently cited was “the extreme poverty or lack of resources among families with numerous children”, a factor which “together with illness, stands out among the reasons invoked and verified in applications for exemption from fines” (CNE 1913, p. 485-486). The director of the Office, Eduardo Guien, proposed a shift to this issue, suggesting that.

If practice has shown that what prevents a multitude of children from attending school is the poverty that afflicts their parents, it becomes evident that the solution does not lie in the imposition of fines, but, rather, in other means that could be described as charitable and protective of childhood. Each passing year confirms the view that compliance with compulsory school should be achieved through persuasion, along with material aid provided by the State (tuition, supplies, free books), and by private societies cooperating that support schools or protect children—such as La Copa de Leche (The Milk Cup program), shoes and clothes—; and only when this set of measures has failed or been exhausted should coercive measures be resorted to, and only when circumstances warrant it (CNE, 1913, p. 486).

Thus, school boards conducted campaigns and tours in their districts to engage with families, posted signs informing them about the compulsory

schooling requirement and the availability of nearby schools, and facilitated the issuance of free tuition and the provision of school supplies and clothing for children in need. Similarly, with the enactment of Law No. 5291 on Trabajo de Mujeres y Menores (Women's and Minors' Work) in 1907, school authorities were provided with new regulations and provisions. It should be noted that child labor had been a longstanding issue since the late 19th century, but it had not been widely questioned; on the contrary, "lazy" or "abandoned" children were encouraged to work, as their attendance at workshops was seen as a safeguard against idleness and begging. As Scheinkman (2022) has demonstrated, child labor was widespread and promoted by employers and working-class families who relied on their children's economic contribution to supplement household income. However, this legislation did not include domestic service, which became a significant demand for children employed as servants or maids (Allemandi, 2015). The delays in decision making, and the execution of measures that included severe prohibitions suggest a lack of conditions to ensure school enrollment of children who had left factories or other occupations.<sup>17</sup>

Relying on new regulatory frameworks and reinterpreting the legislation in light of experience, the CNE decided in 1910 to reduce the minimum compulsory instruction to the contents of the curriculum up to the 3rd grade: reading and writing, language, basic notions of national history and geography, and civic education. However, the decline in enrollment and attendance continued to be significant as the grade levels increased. By the end of the examined period in this article, improvements had been made, diagnoses had become more accurate and more resources were allocated for the universalization of common education in a city whose growth and social complexity persisted.

---

<sup>17</sup> There were efforts to enroll children under the age of 14 in night schools, along with a 1902 bill introduced by Congressmen Cané and Avellaneda advocating for the regulation of child labor and the implementation of compulsory schooling.

## Conclusions

The emphasis on compulsory schooling as both a guiding principle and an instrument for the expansion of the primary education system positioned Buenos Aires among the cities with the highest literacy indicators, driven by improvements in enrollment and attendance—although, as we have seen, its implementation faced significant challenges.

One of the greatest obstacles to schooling in the Federal Capital at the end of the 19th century was fulfilling the correlating duty of compulsory education: ensuring that schools were within reach of all children. In line with the population-based criterion set by Law No. 1420, the CNE prioritized the creation and construction of schools in the context of national state-building and the urban boom of the capital city. Yet, this policy alone was insufficient to guarantee school attendance. Limited public resources restricted budget allocations, and the dynamic growth of Buenos Aires—with its highly mobile population—affected the number and distribution of school districts, posing challenges to effective school administration. Future studies might further investigate the unequal distribution of enrollment and attendance by analyzing school districts as units of observation.

Both certain achievements and persistent obstacles prompted the study, planning, and implementation of reforms aimed at both reinforcing the mechanisms of compulsory schooling and at softening its demands. It is worth noting the early 20th-century understanding of the issue, which allowed for approaches to enforcement to shift away from coercion and punishment toward persuasion and social assistance as strategies to improve compliance. The reduction of the *minimum* compulsory instruction to the curriculum of 3rd grade acknowledged the limits of state intervention—unable to counter the prevalence of child labor.

The qualitative and quantitative improvements in the conditions for schooling throughout the period were remarkable. However, the numerical growth of the child population and the instability of its inhabitants prevented the increase in enrollment and attendance from resulting in a decrease in the number of children excluded from primary school.

## Bibliographic references

Altgelt, A. (1885), “Consejo Escolar de Belgrano”, CNE, *El Monitor de la Educación Común (EMEC)*, No. 76, February/1885, pp. 493-499.

Arata, P. N. (1915), Official Section: “Creation of school districts”, CNE, *EMEC*, No. 505, 31/01/1915, pp. 8-10.

Argentina, Congreso de la Nación, Chamber of Deputies, *Diario de Sesiones*, Volume I, Ordinary Sessions, Session No. 19, August 1903.

Allemandi, C. (2015). Niños sirvientes y “criados”: el trabajo infantil en el servicio doméstico (ciudad de Buenos Aires, fines del siglo XIX-principios del XX). *Cuadernos del IDES*, 30, 11-38.

Barba, F. E. (1968). *La ley de educación común de Buenos Aires de 1875. Trabajos y Comunicaciones*, 18, 53-66.

Brito, G. M., and Vinagre, S. (2018). Discussões sobre a implantação da obrigatoriedade da educação escolar na Bahia nos jornais *O Correio da Bahia* e *O Monitor* de 1876 a 1881. *Revista Brasileira de História da Educação*, 18.

Caffarena, A. R (1916), Official Section: “Investigación sobre la población analfabeta en el Consejo Escolar 20.”, CNE, EMEC, No. 521, May 31, 1916, pp. 65-82.

Cappellacci, I. and Miranda, A. (2007). *La obligatoriedad de la educación secundaria en Argentina: Deudas pendientes y nuevos desafíos*. Buenos Aires: DINIECE - Ministerio de Educación, Ciencia y Tecnología de la Nación.

Ciafardo, E. O. (1992). *Los niños en la ciudad de Buenos Aires (1890–1910)*. CEAL.

CNE (1887), *La educación en la capital y territorios, Educación Común en la Capital, Provincias, Colonias y Territorios Nacionales - Año 1886*, Informe presentado al Ministerio de Instrucción Pública por el Dr. Benjamín Zorrilla presidente del CNE, Tomo I, Parte II, pp. CXXI-CXXVII.

CNE (1888), *La educación en la capital y territorios, Educación Común en la Capital, Provincias, Colonias y Territorios Nacionales - Año 1887*, Informe presentado al Ministerio de Instrucción Pública por el Dr. Benjamín Zorrilla presidente del CNE, Parte II, pp. LXXIX - CX.

CNE (1902), *Educación Común en la Capital, Provincias y Territorios Na-*

cionales - Año 1901, Informe presentado al Ministerio de Instrucción Pública por el Dr. José María Gutiérrez presidente del CNE, pp. 49-53.

CNE (1913), Oficina de Obligación Escolar y Multas, *La educación Común en la República Argentina - Años 1909-1910*, Informe presentado al Ministerio de Instrucción Pública por el Dr. José María Ramos Mejía presidente del CNE, pp.485-508.

CNE, *EMEC* (1884), No. 59, “Declarations of the Pedagogical Congress”, May 1884, pp. 615-618.

CNE, *EMEC* (1900), No. 323, Editor’s note: “New regulations”, February 1900, pp. 113-115.

CNE, *EMEC* (1903), No. 363, Official Section: “Petition of neighbors”, May/1903 pp. 186-187.

CNE, *EMEC* (1905), No. 390, Official Section: sessions of the CNE year 1904, July 1905, pp. CL-CLII.

da Silva, M. L. (2022). Official initiatives for the building of primary schools in the city of Buenos Aires during the nineteenth century. *Espacio, Tiempo y Educación*, 9(1), pp. 150-167. doi: <http://dx.doi.org/10.14516/ete.389>

de la Barra, F. (1881), Informe de los Vocales Inspectores: “Informe de las parroquias Catedral Norte y San Miguel”, CNE, Estado de la Educación Común en la Capital y la Aplicación en las Provincias de la ley de subvenciones seguido de documentos y circulares - Año 1881, pp. 179-182.

Ferrero, F. (2007). Obligatoriedad escolar, diferenciación institucional y reforma educativa en los orígenes del sistema educativo de la provincia de Buenos Aires. Una revisión de la Revista de Educación (1881-1910). *Anuario de Historia de la Educación*, (8).

Giovine, R. and Martignoni, L. (2011). La escuela media bajo el mandato de la obligatoriedad. *Cuadernos CEDES*, 31(84), 175-194. <https://doi.org/10.1590/S0101-73302011000200002>

Gondra, J. G. (2010). ¿Gobierno de los otros? Expansión del tiempo escolar y obligatoriedad de la enseñanza en Brasil. *Revista Educación y Pedagogía*, (58), 37-49.

Gorelik, A. (1998). *La grilla y el parque: espacio público y cultura urbana en Buenos Aires, 1887-1936*. Universidad Nacional de Quilmes.

Groussac, P. (1882), “Congreso Pedagógico”, CNE, *El Monitor de la Educa-*

ción Común (EMEC), N° 7, abril/1882, pp. 203-222.

Guereña, J. L. (2019). Obligatoriedad escolar, trabajo infantil y gratuidad de la escuela en la España contemporánea (segunda mitad del siglo XIX-principios del siglo XX). *Plurais-Revista Multidisciplinar*, 4(1), 13-44.

Guerrico, F.D. (1887), Inspección Técnica: “Informe del inspector técnico Sr. Guerrico”, CNE, *Educación Común en la Capital, Provincias, Colonias y Territorios Nacionales* - Año 1886, Tomo I, Parte II, pp. CCLXXVI- CCLXXXVIII.

Horta, J. S. B. (1998). Direito à educação e obrigatoriedade escolar. *Cadernos de Pesquisa*, (104), 5-34.

Lionetti, L. (2009). Políticas sociales del Estado y la sociedad civil sobre el cuerpo de la niñez pobre en la Argentina (1900-1940). Anuario del Centro de Estudios Históricos “Prof. Carlos S. A. Segreti”, 9(9), 97-116.

Martignoni, L. (2012). La obligatoriedad de la escuela secundaria: La tensión inclusión- exclusión en las políticas, las instituciones y las experiencias de los actores escolares. *Espacios en blanco. Serie indagaciones*, 22(1), 7-15.

Miranda, E. (2013). De la selección a la universalización: Los desafíos de la obligatoriedad de la educación secundaria. *Espacios en blanco. Serie indagaciones*, 23(1), 0-0. <https://doi.org/10.4000/espacios.1573>

Mollis, M. (1993). Estado y obligatoriedad escolar: una mirada histórica sobre Argentina y Japón. *Estudios de Asia y África*, 321-353.

Montesinos, M. P., Pascual, L. and Sinisi, L. (2009). *Sentidos en torno a la obligatoriedad de la educación secundaria*. Buenos Aires: DINIECE - Ministerio de Educación, Ciencia y Tecnología de la Nación.

Moratti, M. do R. L. (2000). *Os sentidos da alfabetização: São Paulo 1876/1994*. Brasilia: Editorial UNESP.

Petitti, E. M. (2022). Alcances y límites de la obligatoriedad escolar en Argentina (provincia de Entre Ríos, 1886-1958). *Prohistoria. Historia, políticas de la historia*, (38), 1-30.

Rama, A. (1984), *La ciudad letrada*. Arca.

Sacristán, J. G. (2005). *La educación obligatoria: su sentido educativo y social*. Madrid: Ediciones Morata.

Scheinkman, L. (2022). Proyectos de regulación del trabajo infantil en Argen-

tina: definiciones jurídico-laborales de la infancia, del Código Civil de Vélez Sarsfield a la Ley 5.291 de trabajo femenino e infantil (1869-1907). *Revista Historia y Justicia*, 19.

Suriano, J. (1990). Proyectos de regulación del trabajo infantil en Argentina: definiciones jurídico-laborales de la infancia, del Código Civil de Vélez Sarsfield a la Ley 5.291 de trabajo femenino e infantil (1869-1907). *Revista Historia y Justicia*, 19.

Terigi, F. (2008). Los cambios en el formato de la escuela secundaria argentina: por qué son necesarios, por qué son tan difíciles. *Propuesta educativa*, (29), 63-71.

Terigi, F., Brissoli, B., Scavino, C., Morrone, A., and Toscano, A. G. (2013). La educación secundaria obligatoria en la Argentina: entre la expansión del modelo tradicional y las alternativas de baja escala. *Revista del IICE*, (33), 27-46.

Viñao, A. (2001). El debate sobre la ESO. *Cuadernos de pedagogía*, (306), 80-86.

Zapiola, M. C. (2009). Los límites de la obligatoriedad escolar en Buenos Aires, 1884-1915. *Cadernos de Pesquisa*, 39, 69-91.

**Address information:** Cecilia del Barro. Instituto Rosario de Investigaciones en Ciencias de la Educación. E-mail: [delbarro@irice-conicet.gov.ar](mailto:delbarro@irice-conicet.gov.ar)

# **The debate on compulsory education: between politics and pedagogy**

## **El debate sobre la obligatoriedad en educación: entre política y pedagogía**

<https://doi.org/10.4438/1988-592X-RE-2025-411-726>

**Enric Prats**

<https://orcid.org/0000-0002-6967-1924>

*University of Barcelona*

**Tania Alonso-Sainz**

<https://orcid.org/0000-0002-2069-9432>

*Complutense University of Madrid*

### **Abstract**

Compulsory education is unquestionably an achievement of advanced societies. In Spain, debates around extending it have not had the required pedagogical depth. Far from there being disagreement between political forces, everything would suggest a certain reluctance to extend it before the age of six and after the age of sixteen, the ages established in the legislation in force since 1990. Moreover, in line with neighbouring countries, which have started to implement this extension, no rigorous process of review has been undertaken in Spain due to political polarisation, which has made it impossible to find the appropriate strategy for this matter in terms of pacts. This article is theoretical in nature. It first reviews some ethical and legal considerations concerning the state's responsibility regarding compulsory schooling, then goes on to propose moving the debate towards the pedagogical terrain, for which some functions in this regard are suggested and some final proposals are made.

Keywords: schooling, compulsory education, ideology, politics, democracy, polarisation, pacts.

## **Resumen**

La educación obligatoria es, sin duda, un logro de las sociedades avanzadas. En España, los debates en torno a su ampliación no han contado con la profundidad pedagógica necesaria. Lejos de existir un desacuerdo claro entre las fuerzas políticas, todo apunta a una cierta reticencia a extenderla antes de los seis años y después de los dieciséis, edades establecidas en la legislación vigente desde 1990. Además, y en consonancia con los países vecinos que han comenzado a aplicar esta ampliación, en España no se ha llevado a cabo un proceso riguroso de revisión debido a la polarización política, que ha imposibilitado encontrar una estrategia adecuada en materia de acuerdos. Este artículo es de naturaleza teórica. En primer lugar, revisa algunas consideraciones éticas y jurídicas sobre la responsabilidad del Estado respecto a la escolarización obligatoria, para posteriormente proponer trasladar el debate al terreno pedagógico. Para ello, se sugieren algunas funciones en este ámbito y se presentan propuestas finales.

Palabras clave: escolarización, educación obligatoria, ideología, política, democracia, polarización, pactos.

## **Introduction**

Compulsory education is unquestionably an achievement of advanced societies (Rebollo Espinosa, 2009). Over the last two centuries, and especially in the 20th century, the century of compulsory education (Garrouste, 2010), it has expanded constantly and now lasts for ten years, from the ages of six to sixteen, in the majority of the countries neighbouring Spain, with examples that go beyond this age range, such as Portugal and the Netherlands among others.

The social need for compulsory education has been beyond any ethical doubt, from the moment when the democratic exercise of citizenship, satisfactory integration into the labour market, and even the complete development of every person came to be defined by an optimal level of education. It is these three areas – democratic coexistence, professional development, and personal development – that justify the collective and individual demand to go beyond a “natural” education, one that would be provided by the family environment, even if most societies have “naturalised” compulsory education as part of their identity because it is normalised

(Gimeno Sacristán, 2005).

Furthermore, protection of children and adolescents is a central argument for early universal and compulsory schooling (Comunidad de Madrid, 2023) and supports the idea that it should be extended to the age of majority. So, for example, the low level of school performance in secondary education is linked to late access to formal education, and loyalty to school and the consequent reduction in early school leaving, are linked to extending compulsory education to eighteen years of age (Consejo Escolar del Estado, 2015), a powerful argument that some authors also endorse (López Rupérez & García García, 2023). In both cases, extending education before the age of four and above sixteen is presented as a solution to a variety of situations, and more years of compulsory education has even been linked to improved health and reduced mortality (Albouy & Lequien, 2009; Avendano, 2020).

However, this ideal period of compulsory education is linked to social fluctuations and cultural dynamics regarding how the ages of minority and majority are defined. In this sense, the sociological, psychological, or moral limits of what it is believed that the age of majority should be have an effect on this debate. For example, it is worth recalling the minimum age of criminal liability in Spain, which depending on the offence is fourteen years of age, the same age to obtain the national identity card or to stop visiting the paediatrician; sixteen to obtain a driving licence; the obligation, for minors of any age, to report income from artistic, sporting, or entertainment activities (*tiktokers*, *influencers*) to the tax authorities; seventeen to enter a religious congregation, according to canon law; or Catholic marriage, which is different for boys (sixteen years) and girls (fourteen years). All of these steps are presented as ages when people reach a certain level of reason to make decisions. To add more confusion to the debate, if adulthood is understood as a particular level of cognitive maturity, specialists are not in agreement on its boundary.

The condition of compulsory education in turn, requires public authorities to ensure the quality of this activity and its exercise, and that they will establish the requirements that govern education in its school format, both in content and in the material conditions of its realisation, and in the preparation of the professionals who dedicate themselves to it. Meanwhile, the apparent mistrust in the state and public institutions, and the widespread loss

of prestige of the political class generates a loss of interest in basic education and a lack of understanding of why it is necessary to keep adolescents in closed systems without optional pathways until later ages, something that undermines the principles of a comprehensive education.

In summary, the factors at play in the debate around the ideal or necessary age for the start and end of compulsory education, as well as the degree of formal institutionalisation that this entails, expand depending on the perspective adopted. In other words, the concept of “compulsory education” encapsulates a multifaceted reality, and clarifying it requires a perspective, like the one adopted in this article, that must be reflective, theoretical in nature, and propositional and that can contribute to the theoretical and conceptual expansion of what this educational obligation should entail. This article, then, avoids defending a single position, as it limits itself to setting out the paradoxes of compulsory education as elements to take into account when making decisions regarding a potential change of the ages that this implies. The proposal here starts from a pedagogical vision of this matter, which seeks to be political but not partisan, and thus keeps education away from vested interests.

This article’s thesis is that compulsory education has an uncontroversial function that addresses the state regarding its responsibility as arbiter of public goods; goods, in the form of rights, that serve as a springboard for exercising other rights and for fulfilling obligations, and, at the same time, for developing full citizenship.

The article starts with a summary overview of the question of the state’s ethical and political responsibility regarding education, and it recalls how ideology functions as a legitimising tool and, ultimately, as an artefact that provides security to its proponents. It then considers the political strategies that underlie the possibilities of reaching agreements in education, assuming that denying the presence of the ideological in education in pursuit of poorly understood neutrality has more risks than opportunities. The third part of this article tests a pedagogical framework of functions that underpin the extension of compulsory education, and it provides a brief analysis of the history of mandatory education in Spain in view of the functions proposed. The article closes with some pedagogical conclusions relating to the debate about the

need or advisability of extending compulsory education beyond its current limits, following in the footsteps of some nearby countries.

## 1. The current debate: the legal and ethical tension regarding compulsory schooling

Despite the widespread agreement about the duty or obligation to achieve a certain level of education, the link between compulsory education and the roles of the state and families has not been fully clarified in legal terms. The history of the philosophy of education includes accounts that warn about favouring either of the two approaches: the classical Spartan model, in which families ceded all power to the state from an early age, and Rousseau's model, where the state, on behalf of society, does not have compelling reasons for putting its energies into the education of children.

In the debate around the concept of “compulsory education”, Gaviria warns of a deep-rooted issue that derives from terminological confusion that has conceptual effects, which appears in the *Universal Declaration of Human Rights* itself, and which is reflected in numerous constitutional texts, such as Spain's constitution of 1978 (Gaviria, 2022). The English version of the text of article 26.1 of the *Declaration* uses the terms ‘education’ and ‘schooling’ synonymously, taking it as understood that education is both a right and an obligation; in contrast, the Spanish version establishes the condition of right that “education” must have for all people and restricts this obligation to “instrucción elemental y fundamental” (elementary and fundamental schooling [author's own translation]). This is also the case in the French version, which distinguishes between “éducation” as a right and “enseignement élémentaire” as an obligation.

Beyond linguistic considerations, it is worth observing that these languages and pedagogical cultures make a clear distinction between a broad idea of education, following article 26.2 of the *Declaration*, as an aspiration to a full development of the human personality, and a rather more limited meaning for the real practice of the educational act that became almost universally institutionalised in schools from the 19th century, as Gaviria

notes. In other words, education and instruction or schooling would be “two overlapping bodies”, a false synonymy that causes all types of confusion and tensions, as not all education takes place in an educational institution and, according to this author, not everything that is done in a school can be considered to be educational (Gaviria, 2022, p. 655), even though schooling has established itself as the principal provider of elementary schooling or elementary education, depending on the language.

As this is a dispute between rights and obligations, between the child’s right to receive a quality education and the obligation of the public powers to provide this service, non-trivial observations are included here about the subject of this right, whether this is the minor or the family, and about the body responsible for this obligation, whether considering society as a whole or the administrative bodies of different levels that exist in the institutional map of modern states: from the central government to autonomous communities or federal bodies, reaching regions and provincial councils, county councils and local councils. The range of stakeholders is wide given that, and it could not be otherwise, ideological considerations are at play and partisan positions are polarised in this debate, dressed up with the most varied ethical-moral and legal arguments. All of that too often tends to neglect the strict questions of a pedagogical nature, which we return to below.

At the heart of the debate, then, there is a suspicion of the legitimacy of these public powers to exercise the role of guarantor of the right to education, beyond providing and facilitating the human and material resources necessary for it to be carried out. There is mistrust of the state and, by extension, of the professionals in charge of education. What is argued from the side of the public authorities is that the right of the minor cannot be undermined by a restrictive education, whether at home or through an online digital connection with schools from other countries, as often happens in homeschooling, as numerous legal judgments in this regard demonstrate. What is under discussion is, in fact, the very *raison d'être* of the public authorities, and, by extension, of the state.

This is not the place for a debate around the legality or pedagogical advisability of homeschooling, a question that does not have a single solution with regard to its implementation, nor uniform legislation internationally.

Nonetheless, the arguments of its advocates and detractors are relevant to the debate about compulsory education. The legal framework varies from one country to another: from the most orthodox liberalism, as in the USA or Australia, which accepts it without hesitation, to the most radical state communitarianism, with the example of the prohibition in Germany, passing through ambiguities or vagaries that lead to contradictory rulings, even in the same country, as in Spain.

When it is assumed that the greater good must be guaranteed by the state, and so the state imputes to itself an ethical-political responsibility for this right, and when something with little room for discussion is shared, such as the need for all citizens to achieve a minimum level of education, what remains for public debate is the catalogue of rights that fit into this section of the greater good and the pedagogical implementation of how this elementary instruction or compulsory schooling must be provided in organisational, curricular, and teaching terms.

Therefore, it is important to define the semantic fields that correspond to terms such as minimum or basic education, and their relationship with compulsory education, as well as other more specific ones, such as comprehensive education and common curriculum, or basic or elementary schooling, and on another level, to differentiate the roles and functions of the teaching staff according to the educational stage in which they work.

In Spain, basic education, in the words of the current legislation, seeks to “guarantee continuity, coordination, and cohesion between the two stages that comprise it and it must be emphasised that its purpose is to universalise the knowledge and the competences that enable all students to learn to learn throughout their lives and facilitate their full participation in society and in employment.” (LOMLOE, preamble). These stages that comprise it, as is known, include primary education and basic or lower-secondary education; this latter form differs from the upper-secondary stage, which corresponds to the Spanish baccalaureate (*bachillerato*), and the training cycles, which are post-compulsory, and, as such, a stage or level beyond what would be basic education. These two stages, primary and basic secondary, also comprise the compulsory period. We have here an example of overlap between basic and compulsory education, something that does not occur in other education

systems. The reason for aligning them is not technical or pedagogical in nature, but rather a matter of political opportunity and economic capacity or will; hence, the end of this compulsory education was established in the LOGSE (General Organic Law on the Education System, 1990) at the same age as access to the labour market. Similarly, it was a dual political and economic rationale that accompanied the decision to start compulsory education at six years of age and not before. That is to say, there are no pedagogical arguments of any type that underpin the decision to limit compulsory education from six to sixteen years of age, and psycho-pedagogical, neurological and, above all, social reasons for moving the boundaries of compulsory education below the age of six years and above sixteen could perhaps be listed.

In this regard, it also seems sensible to affirm that access to a higher level of education, whether to achieve the technical skills needed for advanced professional training or to pursue university studies in any branch, first requires basic general knowledge to be demonstrated as a condition for access, in order to ensure optimal performance at these higher levels. This is the argument for filtering entry to these studies, as well as for balancing supply and demand.

## **2. Political strategies: consensus and pacts in education**

Education is political and it is loaded with ideology, and for this reason it becomes attractive for partisan domination and hegemony. The debate about compulsory schooling is not in any way removed from ideological positions: virtually nothing is in education (Hernández García 2010). Ideology underlies all pedagogical theory and yet it continues to be a taboo that is hard to manage, of a higher degree in the school framework. This taboo can be associated with the veto that many professionals spontaneously impose on themselves, and which many families come to demand, on addressing topics that are socially controversial in class, in subjects, or even at school events. Of course, all of this fundamentally refers to discrepancies of a religious and partisan nature, although it is also often extended to other considerations that go beyond this field, such as those relating to anything that affects people's identities, whether

for reasons of sex, race, culture or geographical origin, and also questions relating to unresolved collective aspirations, such as those of a territorial or nationalistic character, and including those relating to the climate emergency and social demands that do not form part of the global consensus, such as abortion, the legalisation of marijuana or the use of animals in scientific research.

Ideology distances itself from the school when it takes on partisan elements. Given that ideology is no more than the body of ideas that underpin the apparatus of values, principles, and beliefs that are used to justify the behaviours of individuals and human groups, Gramsci had the idea of displacing the concept of ideology to that of hegemony (Eagleton 2006: 208), assuming with it its use in a position of political dominance of one group over another with all of the measures available. Of course, there are all types of ideas, not all of them justifiable from the point of view of democratic coexistence in the framework of human rights, but this does not absolve teachers. Instead, it ethically binds them more to find space for them in school through critical debates, with the due limitations of a sensible pedagogy, such as students' cognitive age, their degree of moral autonomy, the coherence with the educational programme and other factors previously noted by Trilla (Trilla i Bernet, 1992).

The deep sense of the fullness of human development, something that the state and families aspire to, at least on paper, and which affects subjects who are below legal age but are no less entitled to their rights, includes all of this ideological artefact that we have presented. The contrary, as Gramsci wrote, only favours the appearance of monsters (Gramsci, 1999). As Trilla indicates, neutrality in education does not exist, as any teaching activity is fraught with values, principles, and beliefs, which legitimate its conduct and provide it with pedagogical authority (Trilla i Bernet, 1992). Of course, excesses in the use of this authority, owing to an ill-conceived idea of power and its abuse in an authoritarian form, lead to situations where the wrong and least bad solution is for teachers to be inhibited or even prohibited from actively or passively expressing their ideologies in class and at school.

Nonetheless, compulsory education has not been the motive of partisan debate in Spanish politics. In his description of politics and education in the

last two centuries in Spain, Puelles leaves to one side compulsory education as a matter of contention, a principle that has been assumed by governments of different stripes (Puelles Benítez, 1991). The sequence is as follows: 1812 and 1931, the constitutions, liberal and republican respectively, made primary school compulsory and, in the case of the republican one, of six years of duration; 1970, with the last Francoist law, which increases the compulsory period to eight years, now as basic education, although it established a prolongation of two more years with first-level professional training for those who did not study for the Spanish baccalaureate; 1990, a socialist law that increases it to ten years and includes a first section of secondary education, which at the same time increased comprehensiveness through a common curriculum and a single qualification.

Over the last two centuries, compulsory schooling has achieved implicit consensus across almost all of the political spectrum regarding its value in terms of social and economic progress, and at the same time, and perhaps for this very reason, it has attracted the particular interests of each political grouping which each has sought to capitalise on for its own benefit. In practice, as Garrouste has shown, the population's period of formal education is usually considerably above the compulsory period. So, for Spain, this gives an average of eight more years of education than that established, including, of course, pre-primary and tertiary education (Garrouste, 2010: 102). Nonetheless, the current proposals for extension, before the age of six and after sixteen, do not inspire the same consensus. Leaving aside for now the economic cost of this for the public purse, the difficulty of extending compulsory education beyond its current limits in Spain can only be understood as a consequence of the political polarisation of the last decades, derived from political strategies where the supreme collective good is often not the primary concern.

If compulsory schooling requires consensus to sustain itself, it is logical that the question of pacts in education will immediately appear. The desire for an educational pact in Spain has been constant since the transition to democracy (Novella & Cloquell, 2022; Viñao, 2020). Nonetheless, a lasting and effective agreement has proven to be elusive. This highlights the inherent complexity of building consensus in a field as ideologically loaded and with

as many stakeholders and interests in play as education (Sanz Ponce et al., 2020). Analysing different ways in which educational pacts can be conceived helps us better understand how to address the challenges of partiality and the normative nature of education, as well as its institutional form, the education system.

According to Sartori (1987), pacts can be classified as: a) *procedural*, when they revolve around the rules of the game, protocols for communication, or formulas for avoiding conflicts, misunderstandings, or tensions; b) *basic*, if they refer to the minimum level of common values or principles to share; and c) *of government*, if they include specific measures and policies, in this case educational ones, to be carried out by the public authorities. However, as Puelles wrote, “consensus does not imply the absence of conflict, ideology, or differing policies” (Puelles Benítez, 2007: 28), but quite the opposite, given that in a pact, the possibilities of imposing the measures that suit each party are reduced. From here, we can distinguish four ways of conceiving pacts in education, each with its potential and its limits: as ideological synthesis; as renunciation or bargaining down; a minimal agreement or one of mediocrity; and as a sum of sensitivities.

The paradigmatic example of a pact understood as the synthesis of ideologies is the Spanish Constitution of 1978, which was able to integrate the principles of liberty and equality into the field of teaching. This model sees the pact as a space where different ideologies converge on a shared educational project, although recent history has shown that this synthesis is rarely maintained over time. Political alternation has produced a succession of education laws in which each party has tried to impose its own ideological vision. The result has been regulatory instability that feeds the perception that education is used as an ideological and partisan weapon.

Seeing the pact as a game or as trading, or even as an exchange of favours, always involves renouncing central principles of the respective positions. The pact is understood as a process of negotiations where each party gives way in certain aspects to achieve an overall agreement. The very preparation of the Constitution involved renunciations by the different political forces. Nonetheless, the lack of fulfilment of certain agreements, as was shown in the Moncloa Pacts concerning education, underlines the

fragility of this model if there is no real will to carry out what was agreed. In fact, Fernández Enguita (2019) argues that the idea of a pact based on shared principles should be abandoned, and suggests “disaggregating” the pact into more specific agreements on each of the fault lines that run through education. This perspective recognises that a large single pact might be chimerical owing to the accumulation of “red lines”, and suggests advancing through specific compromises, even if this means each party must renounce ideal objectives. The key is to find a “point of equilibrium” between concessions and benefits, losses and gains, where the different ways of seeing education can coexist.

The third version presents the pact of minimums as an agreement in mediocrity, which avoids the most conflictive and controversial topics, resulting in an insipid text without any real transformational capacity. Making pacts only on “what unites us” and leaving out matters such as state-subsidised private schools, religion, or languages, to cite the classic points of conflict, can avoid disagreement at the negotiating table, but it maintains the underlying problems and frustrates the expectations of those who seek a rational discussion about them. This is the case that Puelles describes about the topic of religion in the republican constitution, which blew up its application in real terms (Puelles, 1991: 333). This question would, in some way, come to say that there are questions that are outside rational logic, and so cannot even be debated. Pacts of minimums might have an appearance of consensus, but by being so minimal they divide the educational community, causing it to lose confidence in democratic discussion around certain topics. Similarly, reducing the pact to a collection of good intentions without the necessary implementation to have binding force could lead to interminable debates about superficial details without achieving a meaningful impact. And this is in the best of cases. In the worst of cases, the debate is closed and autonomy is used to serve particular interests.

Finally, the pact as a sum of sensibilities raises the possibility of a type of agreement that could, for example, focus on constructing a dynamic curriculum that incorporates diverse sensibilities, including ones that come from the heritage of the knowledge accumulated by tradition, which Chesterton called “the democracy of the dead” (Chesterton, 1998). This type of pact entails a debate centred more on pedagogy and knowledge than on

policy and bureaucracy. This would involve an agreement not so much about a fixed ideology, but rather a continuous process of selection and adaptation of educational content, recognising the school as a space to “make knowledge common, ensuring that everyone learns it” (Thoilliez, 2019; Masschelein & Simons, 2014); that is to say, that everyone takes ownership of cultural goods as much and as well as possible. The idea of a “dynamic curriculum” could relate to the need to avoid rigid impositions by political parties (Viñao, 2020) and to consider the school’s “form” beyond its mere “function”. Ultimately, a more ambitious pact must be imagined: not as a closed agreement about ideologies, but rather as an open process of construction of a dynamic curriculum. Inspired by Chesterton’s “democracy of the dead”, this model recognises that inherited knowledge forms part of the common good and must be placed within the reach of all, without becoming frozen but instead constantly being revised. This pact would shift the focus from partisan policy to pedagogy, not so much asking which ideology will dominate the school, but rather what knowledge must be common and how to update it in each period. More than a definitive pact, it would be a democratic method for continuous critical revision, in which citizens, through schools, reclaim shared knowledge.

In the debate about extending compulsory education, therefore, the partisan politics of pacts may adopt any of the strategies proposed, even though they are not all without an ideological bedrock. The agreement to start compulsory education at the age of three and to end it at eighteen would place Spain among the leading countries in its region in this field and would make it possible to reinvigorate the social recognition and prestige of school education. Whether with a minimal agreement, that makes it possible to increase this compulsory education progressively over a given period of years, whether as a trading pact that favours achieving it in exchange for other measures, including as a synthesis of distant positions that distrust the power of the state, or as dynamic negotiation, which takes positions as agreements are reached, the extension of compulsory education will take shape for exogenous reasons, driven by recommendations from international bodies or by economic and labour dynamics.

### 3. The pedagogical dimension of compulsory education: four basic functions

As explained above, formulating compulsory schooling solely as a legal measure, in the sense of considering it to be an imposition supported by the state, is to reduce it to its most exogenous dimension. In reality, compulsory education is a complex phenomenon in which political, social, pedagogical, cultural, and even philosophical reasons are intertwined. What does it mean to assemble children and young people for a long period of their lives in a socially legitimised institution, for several hours of the day and on a compulsory basis? What do we expect will happen in that space and time that cannot happen in another way?

Answering these questions obliges us to question compulsory education not as a simple mandate, but as a precondition for modern education itself. This section aims to carry the debate about the extension of compulsory education into the field of pedagogy. To do so, it proposes four functions that complement one another and contribute to considering compulsory education in this field: consensual, enabling, propaedeutic, and guarantor. None of them is enough on its own, but taken together they offer us a clearer map of the role of compulsory education.

The first function of compulsory education is consensual in nature. Compulsory schooling symbolises a fundamental social agreement about what content, experiences, and learning must be shared by all citizens beyond differences of class, religion, or ideology, but also on this side of any ideology, given that this minimal but meaningful consensus is rooted in the *Universal Declaration of Human Rights* (1948), which affirms that “everyone has the right to education” and that this must be “free, at least in the elementary and fundamental stages”, which legitimises its condition as a pedagogical foundation in advance. This consensus has, at least, three consequences: *integrating*, given that it guarantees that all children will access a shared body of knowledge and skills; *democratic*, as it recognises that there can be no citizenship without a basic level of shared instruction; and *pluralistic*, which operates as a common and shared space over an extended period where different world views face each other and negotiate, but without any of

them monopolising education. Of course, this consensus is never neutral or definitive. What is understood as “basic” changes over time and depends on the cultural and ideological sensibilities of each epoch. Compulsory education, in this sense, does not cease to be a field of tensions: it fixes a common minimum, but also opens the door to disputes about what to include in it. Therefore, it cannot be left on the margin of these considerations that, considering this first consensual function that is set out here, in the case of extension of the compulsory education, the level of curriculum comprehensiveness that must be maintained for it to remain “basic” or “common” should be debated, as must the need for materialisation, depending on the age and its later personal projection in academic or work-related terms, of differentiated pathways. This last observation would break with the idea that “basic” and “compulsory” must be understood with identical meanings.

The second function is enabling. Compulsory schooling not only transmits present knowledge, but it also prepares minors for the exercise of future rights. Following the stimulating formulation of Gaviria (2022), we could describe education as a “right to anticipatory autonomy”: a current right that enables the child to be in future an autonomous person, with the capacity to decide, participate, and contribute to society. That said, this function generates a clear tension: on the one hand, we recognise the right of the minor; on the other, we oblige minors to exercise this right, but they cannot choose not to do so. Compulsory education is not a matter of choice.

The classical argument in defence of this tension is that education is not just any right, but that it is one that makes other rights possible: the right to participate politically, to access decent employment, to express oneself freely etc. But, as Gaviria (2022) also notes, this reasoning can instrumentalise education, reducing it to a means to achieve social goals. From this perspective, education would lose its “intrinsic value” (Gaviria, p. 671) and would become a simple requirement to attain other goods. The enabling function, then, must be nuanced: compulsory education cannot be understood solely as a way of “preparing for”, but as a way of recognising the child’s right in the present as a subject in formation but already the bearer of dignity and autonomy.

The third function is propaedeutic, a term that alludes to the preparatory

and anticipatory character of compulsory schooling. Compulsory education guarantees a common space and time, within which educational processes become possible: the curriculum, academic learning, the experiences of socialisation, intergenerational encounters, the transmission of culture. Without this minimum structure of compulsory education, it would be impossible to guarantee that all students have access to these opportunities. We can think of it as a necessary prelude. It is not an end in itself, but without it, the educational process could not take place. Compulsory schooling creates the conditions for an encounter between the student, the teacher, and knowledge. Nonetheless, as we have seen in previous sections, no medium is neutral. The measure of compulsory education itself already contains an axiological intention: it not only ensures material conditions, but it also expresses a backing for a model of citizens and society, citizens who must learn the freedom to be free (Arendt, 2018), and who have a moral duty to be intelligent (Luri, 2018), something that provides arguments for advocates of extending compulsory education, although this extension in time does not in itself ensure an expansion of the learning that can be achieved. Therefore, the propaedeutic function is always charged with an ethical and political meaning, as well as a specific anthropological posture that says that it is better to be educated than not to be.

Finally, compulsory education has a function as guarantor, in that it obliges the public authorities to ensure effectively the right to education. This function has a long historical tradition, and it reminds and calls upon the public authorities so that they ensure fulfilment of a duty: the responsibility to guarantee the right to education in modern times (from the *Universal Declaration of Human Rights* of 1948 and the *Spanish Constitution* of 1978) and the institutionalisation of education since long before, at least since the constitution of 1812 if we position ourselves in the contemporary period, linked to the genesis of education systems, as Gabriela Ossenbach recalls (2002).

Although one part of the discussion about freedom in education has concentrated on topics such as the legitimacy of compulsory schooling or of political indoctrination through the school, the most persistent conflicts in the 19th century related to the rights

of the Church and the religious orders to provide education (freedom to establish educational institutions) and the claims of the Church to ensure religious orthodoxy in public schools (academic freedom), above all in countries with no drastic separation between Church and State (p. 33)

Reviewing the case of Spain, the materialisation of these four functions mentioned can be seen. Compulsory education in Spain has its origins in the Cádiz Courts, influenced by the Enlightenment and the French Revolution, where articles 366 and 367 refer to the “obligation to establish schools of first letters in all of the towns and villages of the monarchy”. That is to say, there is a guarantor constitutional mandate that involves universalising primary education and extending it to all of the population without distinction. So we see the hope or trust deposited in public education as an instrument of renewal and reform of a collective character and of human regeneration at an individual level, through its effective exercise, above all literacy. It would not be until the Ley Moyano (Moyano Law) of 1857 that the compulsory nature of primary education was established for the first time for all Spaniards aged from six to nine years. The Constitution of the Spanish Republic of 1931 established in article 48 that “primary education shall be free of charge and compulsory”, in a framework of secularism and of ideals based on human solidarity. Francoism, with the Ley de Enseñanza Primaria (Primary Teaching Law) of 1945, sets out in Chapter III of Part One that it is compulsory and free, and does not modify the separation of sexes. The aims of primary teaching were fundamentally training in religious education, in the national spirit, and in the national language. This chapter of the genesis of National Catholicism has left in contemporary Spain’s historical memory a recollection of compulsory education, and of the state’s role in it, as a political weapon for ideological interference in the worst sense of the word: as a setting for mass indoctrination of the nation by means of education laws, the curriculum and the permitted and distributed school textbooks. The memory of this instrumentalisation still weighs heavy, given that compulsory education is identified with this risk of political indoctrination. But it would be unjust to reduce it to this: the guarantor function is, above all, a permanent reminder that the right to education is not just an ideal, but a concrete responsibility of

the state.

Nonetheless, this risk, combined with the current discredit of democratic institutions in general, and of the school in particular, is not fertile ground for thinking about compulsory education without it being seen as a weapon for interference by partisan interests in children and young people as citizens.

Therefore, renewal is crucial, in other words, to make the original meaning of the school present again (Thoilliez, 2019), not so much as that institutionalised social tool of the 19th century, which served to construct nation states, but as the school of Ancient Greece, something that reminds us of the traditional and classical sense of converting knowledge and skills into common goods of free and equal citizenship. Only under this outlook can we have a pedagogical, and not just political, economic, or bureaucratic, debate about compulsory education. In this regard, Masschelein and Simons (2014, p. 12) said:

Many of the allegations against the school are motivated by a very ancient fear (and even hatred) of one of its most radical characteristics, but one that essentially defines it: that the school offers “free time”, that transforms knowledge and skills into “common goods”, and so has the potential to provide everyone, regardless of their background, their aptitude or their natural talent, with the time and space to abandon their familiar surroundings, to rise above themselves and to renew the world (to change it in an unpredictable way).

Compulsory education, as a legislative measure for a democratic political principle, will then have to keep in mind three principles of the school as an institution that materialises the emancipatory and liberating ideal of knowledge for all in democracy (Biesta, 2020): (1) *socialisation*, understood as the possibility that the subjects will learn to recognise themselves and live in democracy, participating in its institutions and mechanisms with a well-formed personality; (2) *subjectivation*, which permits the personal journey of appropriation of the knowledge and skills that unleash the full development of each human personality; and (3) *capacity development*, which forms and guides the training for the realisation of service to society through work. These

three principles, along with the four functions noted, sketch a pedagogical and ideological scenario at the same time as strengthening compulsory education and, if possible, its extension from early childhood up to the age of majority.

In any case, whatever the end point of compulsory schooling may be, its extension does not necessarily imply increasing the comprehensiveness of the stage to [sic.]

## **Conclusions: education is political (not partisan)**

From the arguments presented throughout the text, five conclusions are formulated to return the debate on compulsory education to pedagogy:

1. Compulsory education is the basic tool to ensure equal opportunities in democracy and to maintain the school's nature as a vital institution for democratic life. The only thing in which the education system cannot be plural is in what permits it to exist. Just as Charles Taylor (1991) explains that the only thing that is not acceptable in a democracy is what attacks democracy, the only thing that is not permissible in the school is what endangers the nature of the school; and what is not acceptable in the pact of the education system is that which endangers the school as a privileged artefact of democracy.
2. Although compulsory education is a necessary condition, it is not sufficient to guarantee fully the principles of socialisation, subjectivation, and capacity development of the modern school. The Consejo Económico y Social noted this in its 2023 report, linking the high incidence of educational failure with the persistence of difficulties accessing the non-compulsory stage of the first cycle of early childhood education.
3. The fear of ideological interference in education is linked to the Constitution's mandate to promote the full development of personality; with human plenitude being a matter where consensus is difficult. Not withdrawing ourselves from the debate, detecting the less obvious and concealed ideologies, and maintaining the critical posture of what distances us and what brings us close to the full development of

human personality can, on the one hand, be antidotes to the hollowing out of dense language in education and, on the other, to the loss of the dedication to the pedagogical ideas that best serve the common good (and human being).

4. The persistent absence of genuinely stable educational pacts reveals that education is, above all, a moral, pedagogical, and political problem, rather than solely one of management or administrative efficacy. Education embodies values, principles, and objectives on the model of society and citizenry that is desired to be shaped, which entails decisions of an ethical character regarding equality, justice, and rights. In a context of polarisation and tension, this desire becomes truly unattainable, but this does not weaken it as a pedagogical challenge for democratic societies.
5. The State must broker those elements that guarantee the universal function of the school, and it is essential that the public authorities have the engagement of the educational community in compulsory education. Without this conviction by the public authorities and without a pedagogical debate in alignment, compulsory education is reduced to a subsidiary instrumental function of other rights and so loses its force as a basic right, distancing it from any possibility of reaffirming its social prestige.

Ultimately, the debates around compulsory education will return to pedagogy if participation in a binding and non-ceremonial way is permitted by stakeholders involved in the growth of children and young people of the age of compulsory schooling, who experience in their everyday lives that this question runs through profound moral, ethical, and pedagogical questions.

## References

Arendt, H. (2018). *La libertad de ser libres*. Taurus

Bernabé, D. (2018). La trampa de la diversidad. Akal.

Biesta, G. (2020). Risking Ourselves in Education: Qualification, Socialization, and Subjectification Revisited. *Educational Theory*, 70, 1, 89-104 <https://doi.org/10.1111/edth.12411>

Chesterton, G. K. (1998). *Ortodoxia*. Porrúa.

Comunidad de Madrid (2023) *Ley 4/2023, de 22 de marzo, de Derechos, Garantías y Protección Integral de la Infancia y la Adolescencia de la Comunidad de Madrid*, BOCM, 73, de 27/03/2023.

Consejo Económico y Social. (2023). *Memoria sobre la situación socioeconómica y laboral de España 2023*. Madrid: Consejo Económico y Social de España.

Consejo Escolar del Estado (2015). *Informe 2015 sobre el estado del sistema educativo*. Ministerio de Educación, Cultura y Deporte.

Eagleton, T. (2006). *La estética como ideología* (R. del Castillo & G. Cano, Trad.). Trotta.

Fernández Enguita, M. (2019). Del pacto quimérico a compromisos razonables. *ICE, Revista De Economía*, (910). <https://doi.org/10.32796/ice.2019.910.6921>

Frigo, A. V. (2020). El pacto educativo desde la Constitución de 1978: una historia interminable. *Crónica. Revista de Pedagogía y Psicopedagogía*, 5, 27-39.

Garrouste, C. (2010). *100 Years of Educational Reforms in Europe: A contextual database*. European Commission; Joint Research; Centre Institute for the Protection and Security of the Citizen. <https://mpra.ub.uni-muenchen.de/31853/>

Gaviria, J.-L. (2022). Education: A Compulsory Right? A Fundamental Tension within a Fundamental Right. *British Journal of Educational Studies*, 70(6), 653-675. <https://doi.org/10.1080/00071005.2021.2024136>

Gimeno Sacristán, J. (2005). *La educación obligatoria: Su sentido educativo y social*. Morata.

Gramsci, A. (1999). *Cuadernos de la cárcel* (A. M. Palos, Trad.). BUAP.

Hernández García, J. 2010. Ideología, educación y políticas educativas. *Revista Española de Pedagogía* 245:133-50.

López Rupérez, F., & García García, I. (2023). *El abandono educativo temprano en España y la extensión de la enseñanza obligatoria hasta los 18 años. Argumentos y evidencias para una propuesta de intervención*. Funcas.

Lorente, M. (2018). Historia de los pactos educativos en España. *Cuadernos de Pedagogía*, 488, 55-60.

Luri, G. (2018). *El deber moral de ser inteligente: Conferencias y artículos*

*sobre la educación y la vida.* Plataforma Editorial.

Masschelein, J., & Simons, M. (2014). *Defensa de la escuela. Una cuestión pública.* Miño y Dávila

Novella García, C., & Cloquell Lozano, A. (2022). Falta de consenso e instabilidad educativa en España. *Revista Complutense de Educación*, 33(3), 521-529. <https://dx.doi.org/10.5209/rced.74525>

Ossenbach, G. (2002). Génesis de los sistemas educativos nacionales en el mundo occidental. En Alejandro Tiana Ferrer, Gabriela Ossenbach Sauter y Florentino Sanz Fernández (Coords.). *Historia de la Educación (Edad Contemporánea)*. UNED.

Puelles Benítez, M. de. (1991). *Educación e ideología en la España contemporánea.* Labor.

Puelles Benítez, M. de. (2007). ¿Pacto de estado?: La educación entre el consenso y el disenso. *Revista de Educacion*, 344, 23-40.

Rebollo Espinosa, M. J. (2009). Reflexiones en torno a la obligatoriedad de la enseñanza. *Cuestiones Pedagógicas. Revista de Ciencias de la Educación*, 17. <https://revistascientificas.us.es/index.php/Cuestiones-Pedagogicas/article/view/10087>

Sanz Ponce, R., González Bertolín, A., & López Lujan, E. (2020). Docentes y pacto educativo: Una cuestión urgente. *Contextos Educativos: Revista de Educación*, 26, 105-120. <https://doi.org/10.18172/con.4399>

Sartori, G. (1987). *Teoría de la democracia. I. El debate contemporáneo.* Alianza.

Taylor, Ch. *La ética de la autenticidad.* Paidós

Thoilliez, B. (2019). Vindicación de la escuela como espacio para el desarrollo de experiencias democráticas: aproximación conceptual a las prácticas morales de reconocimiento y respeto. *Educación XXI*, 22, (1), 295-314. 10.5944/educXXI.21657

Trilla y Bernet, J. (1992). *El profesor y los valores controvertidos: Neutralidad y beligerancia en la educación.* Paidós.

Viñao, A. (2020). El pacto educativo desde la Constitución de 1978: una historia interminable. *Crónica de la Pedagogía y Psicopedagogía*, N.º 5, 75-97.



## Research section



# **Evaluating the response quality of LLM-driven university guidance applications**

## **Evaluación de la calidad de modelos de IA generativa como aplicaciones de orientación universitaria**

<https://doi.org/10.4438/1988-592X-RE-2025-411-729>

**Estela Mayor-Alonso**

<https://orcid.org/0000-0001-8226-3880>

*University of León*

**Javier Vidal**

<https://orcid.org/0000-0003-1060-6957>

*University of León*

**Agustín Rodríguez-Esteban**

<https://orcid.org/0000-0002-7409-5976>

*University of León*

### **Abstract**

Recent technological advances are creating new educational challenges. The rise of Artificial Intelligence allows new useful tools for education to be implemented. For university guidance services, this includes applications such as Copilot and ChatGPT, based on multimodal language models. The aim of this study is to analyse the quality and reliability of the answers that Copilot and ChatGPT gave to questions posed by students in informal networks. The method was based on a qualitative, analytical validation approach to assess the accuracy of the answers. An observation tool was applied in Copilot and ChatGPT-4 for fifteen public universities. It consisted of 48 items, divided into four thematic blocks: access,

management, difficulty of courses, and employability. The responses in three of the thematic blocs, the exception being management, were deemed 100% suitable. Two items in the management block were found to be insufficiently suitable. Both were presented to the new multimodal language model, ChatGPT-4o, which gave improved answers. Subsequently, the answers provided by ChatGPT-4o and the information found on the websites were described. This highlighted confusion regarding information about the price of transferring credit on the websites and the difficulty finding academic credit limits when studying more than one course at the same time. The study concludes that Copilot and ChatGPT have potential as university guidance services. Their effectiveness will depend on the quality and accessibility of information on university websites. Universities must organise and update the information on their websites to improve the effectiveness of AI-based applications.

*Keywords:* artificial intelligence, guidance, recognition of studies, education technology, university

### Resumen

Los recientes avances tecnológicos están creando nuevos desafíos educativos. El auge de la Inteligencia Artificial está posibilitando la implementación de nuevas herramientas útiles para la educación. En el caso de los servicios de orientación universitaria se destacan aplicaciones como Copilot o ChatGPT, basadas en modelos de lenguaje multimodal. El objetivo de este estudio es analizar la calidad y la fiabilidad de las respuestas que proporcionan Copilot y ChatGPT a preguntas planteadas por estudiantado en redes informales. El método se basó en un enfoque cualitativo y de validación analítica que evalúase la precisión de las respuestas. Se aplicó en Copilot y ChatGPT-4 una herramienta de observación conformada por 48 ítems, divididos en cuatro bloques temáticos: acceso, gestión, dificultad de estudios y empleabilidad, para quince universidades públicas. Se determinó un grado de ajuste suficiente del 100% para todos los bloques temáticos, excepto en gestión. En él, se encontraron dos ítems con un grado de ajuste insuficiente. Ambos fueron implementados en el nuevo modelo de lenguaje multimodal ChatGPT-4o y se detectó una mejora en el grado de ajuste. Posteriormente, se describieron las respuestas proporcionadas por ChatGPT-4o y la información encontrada en las páginas web, destacando la confusión respecto a la información del precio del crédito en las páginas web y la dificultad para encontrar el límite máximo de créditos a cursar simultaneando estudios. Se concluye que Copilot y ChatGPT tienen potencial como servicios de orientación universitaria. La eficacia de estos asistentes de IA dependerá de la calidad y accesibilidad de la información en las páginas web universitarias. Es fundamental que las universidades organicen y actualicen la información de sus páginas para mejorar la efectividad de aplicaciones basadas en IA.

*Palabras clave:* inteligencia artificial, orientación, reconocimiento de estudios, tecnología de la educación, universidad

## Introduction

Technological changes in recent years have created new educational challenges. University education, an environment characterised by volatility, uncertainty, complexity and ambiguity (VUCA), is one of the most influential stages in students' professional development (Falcón-Linares & Arraiz-Pérez, 2017). The support and guidance services that universities offer—understood as the set of assistance and support strategies designed to guide students in their education processes and in their personal, professional and academic development (Sánchez Cabezas et al., 2018; Vieira et al., 2006)—must adapt in order to respond effectively to this changing environment.

Since 2010, guidance has been recognised as a fundamental right of university students and should be delivered through both individual and group approaches (González-Castellano et al., 2023; Royal Decree 1791/2010; Viñuela & Vidal, 2023). This right ensures that students receive the necessary support to address the academic and personal challenges they face throughout their time at university. Currently, this right continues to be acknowledged, and a more inclusive (Law 3/2022 on University Coexistence), more participatory environment is being promoted, where students actively collaborate in university activities and decisions (Organic Law 2/2023 on the University System).

Álvarez-Pérez et al. (2020) argued that the guidance process should begin in secondary and upper secondary education and continue at university. This guidance during the transition to university should be a collaboration between the various institutions. In order to promote effective guidance and counselling in the initial stages of students' time at university (Organic Law 2/2023 on the University System), issues such as volatility and uncertainty must be addressed. This is why both students and institutions need to be aware of the latest technological advances and be prepared to adapt to rapid and continuing changes in the educational environment (Chvanova et al., 2016; Cueva Gaibor, 2020).

In recent years, technological innovations have been one of the main drivers of change in society, so it would be interesting to integrate them into guidance, tutoring and support services (Flores-Vivar & García-Peña, 2018).

2023). Digitising these services may make it easier for students to access support and improve how tailored it is, allowing for faster, more efficient intervention in certain situations.

In this regard, the emergence and rapid spread of artificial intelligence has had a significant impact on society, extending its influence to the field of teaching and learning (Bearman, 2022). However, despite the opportunities these innovations present, ethical issues must be addressed, especially in relation to data protection. This underlines the need to adopt strategies that promote the responsible use of artificial intelligence (Flores-Vivar & García-Peña, 2023; UNESCO, 2021). In view of this situation, it is important to pay careful attention to the development of new regulations such as the European Union Artificial Intelligence Act (Regulation [EU] 2024/1689, 2024).

Artificial intelligence (AI) is the branch of computer science dedicated to the creation of intelligent systems capable of performing tasks automatically, simulating human behaviour (García-Peña et al., 2024). It is characterised by tasks such as learning, reasoning, problem-solving, natural language comprehension, and decision-making support (Herrera-Ortíz et al., 2024). AI is divided into several disciplines, including machine learning, deep learning, and natural language processing (NLP) (Bearman & Ajjawi, 2023; Incio Flores et al., 2021; Vera-Rubio et al., 2023). Chatbots are particularly significant within NLP. They are services that simulate conversations with human users (Rodríguez Almazán et al., 2023). These conversations or interactions can be carried out with a pre-trained chatbot offering pre-programmed responses, or with AI based chatbots capable of understanding the message conveyed by a user and generating new responses (Guerrero-Bocanegra, 2022; Mayor-Alonso et al., 2024). Generative AI-powered chatbots can be adapted to a wide variety of contexts and needs, from customer service to education, offering personalised assistance and improving service efficiency.

In education, chatbots can be used in two main ways: as learning tools (Essel et al., 2022; Medrano et al., 2018) or as guidance tools (Artiles-Rodríguez et al., 2021). This paper aims to analyse the quality and reliability of two assistants based on large language models (LLMs), namely Copilot and ChatGPT-4, with the purpose of implementing these applications in

universities as a professional and academic support and guidance service. Although pages or services such as Watson Assistant and Decision Tree have been used previously for creating chatbots (Hiremath et al., 2018; Ogosi Auqui, 2021), this study will focus on Copilot and ChatGPT-4. Copilot is a generative AI virtual assistant developed by Microsoft (2023). It enables users to hold conversations or even generate images through DALL-3 model. In addition, Copilot is linked to OpenAI's generative language model, GPT-4, which has improved the chatbot's logical reasoning and conversational quality. Similarly, ChatGPT-4 is a generative AI virtual assistant and represents the penultimate multimodal language model released by OpenAI. The study will also consider the most recent model available at the time of the study, ChatGPT-4o, which introduced new features over GPT-4, such as enhanced text, audio and image comprehension, as well as faster response times.

In view of technological advances and the importance of knowing how to adapt guidance services, the following research question is posed: Could these language models specialise in university student guidance? In order to answer this question, the study aims to analyse the quality and reliability of the responses produced by Copilot and the ChatGPT-4 models. Quality and reliability, as detailed in the methodology, are understood in terms of how complete and accurate (or how suitable) the AI models' responses are. Within this context, the specific objectives are: (1) to analyse the suitability of the answers given by Copilot and ChatGPT to questions students posed in forums, and (2) to describe the content of the responses produced by ChatGPT-4o in relation to the information on university websites.

## Method

The research method was qualitative and based on analytical validation (McMillan and Schumacher, 2005). The aim was to determine what responses generative AI provided and how well it agreed with the information on university websites. In other words, the aim was not to generalise results or make statistical inferences, but rather to assess content accuracy.

To that end, the analysis was based on an adaptation of the tool

developed by Mayor-Alonso et al. (2024) and its subsequent application in Copilot and ChatGPT-4. This study analysed the suitability of the answers produced by Copilot and ChatGPT-4 in 2024. Items with insufficiently suitable responses were selected and re-submitted to the more recent multimodal language model, ChatGPT-4o. Those newer responses were then compared with the information on the websites belonging to Spain's public universities.

## **Participants**

The analysis used a sample of 15 public universities who offered a chatbot service on their websites that had previously been selected for a study by Mayor-Alonso et al. (2024) to analyse the suitability of their responses. Although that analysis was not directly relevant to the main objective of the present study, the sample was maintained in order to preserve its homogeneity and to be able to compare the effectiveness of the chatbots.

## **Instrument**

The tool created by Mayor-Alonso et al. (2024) was adapted for data collection. The original tool consisted of 63 items divided into two tables: one related to the general procedural aspects of a chatbot (9 items) and another with the main questions to ask (54 items), extracted from an online forum (<https://yaq.es/>) where students ask questions about university. This dataset was obtained through web scraping as part of the 2021 Knowledge Generation Project on the use of AI in analysis of informal social networks for guidance in higher education, funded by the Ministry of Science and Innovation (PID2021-125405NB-I00).

The present study only used the items from the second table, as the focus was solely on the content of the answers. This information is presented in Annex I, Table IV, where for each thematic block the left-hand column lists the items, and the right-hand column describes the requirements for a complete answer.

In this adapted tool, the number of items was reduced to 48. Six items were discarded because they were too open-ended and could lead to multiple interpretations by generative AI models and researchers. This decision improved the validity of the instrument by eliminating items that could lead to subjective responses, rather than the informative and accurate information that chatbots are intended to provide.

The adapted tool maintains the original's thematic structure: access, management, difficulty of courses, and employability. Item selection and grouping into four thematic blocks was done inductively. This way of organising the tool also follows a chronological flow, reflecting the different phases of students' academic pathways: from access to university (before), through management, experience, and the difficulty of certain courses (during), to perceptions of employability (after).

The 48 items were posed to each of the 15 universities across two generative AI models, producing a total of 1,440 responses. Following the approach in Mayor-Alonso et al. (2024), response quality was graded on a dichotomous scale, in relation to the tool's descriptors: suitable (scored as 1 when a question is answered correctly), and unsuitable (scored as 0 when an answer is incorrect, either because it does not fit the descriptor, because quantitative information is not accurate, or when no answer is given).

## Procedure

Two generative AI models were used: a) Microsoft Copilot, which enables conversations based on a predetermined context; and b) OpenAI's ChatGPT, which allows the creation of customised GPTs—generative AI models designed to generate text through deep learning.

To implement the tool in Copilot, a conversation was initiated for each university with the following message:

*“Act as a guidance counsellor of University U to support students who are about to enter the university as well as those undertaking undergraduate, master's and PhD studies. To fulfil this role, search for all University U links you consider relevant in order to*

*respond to all questions.”*

To implement the tool in ChatGPT, a database was generated with a minimum of 7 and a maximum of 10 public, accessible links from each university website, containing information related to the items extracted from the following sections: prospective students, access, pre-enrolment and registration, academic offer, undergraduate programmes, master's degrees, PhD studies, scholarships and financial aid. Prompts were generated for the configuration and contextualisation of the GPTs. One GPT was created for each of the 15 universities, following these steps: (1) explore GPT, (2) create GPT, (3) configure the name, description and instructions, and (4) share privately. Once they had been created, they were given the following instruction:

*“Act as a guidance counsellor of University U, addressing prospective students as well as those currently pursuing undergraduate, master's and PhD studies. To fulfil this role, use the university web links specified below. These are related to the following topics: access, pre-enrolment and registration, scholarships and academic programmes.*

*You must answer all the questions posed by each student as if you were a guidance counsellor. All answers must be related to University U, ensuring that the information is relevant and specific to this institution. In cases where detailed answer cannot be provided, you should clearly inform the student and recommend seeking additional information through the university's official channels.”*

After obtaining the 1,440 responses, and in order to ensure the validity and reliability of the results, two researchers independently evaluated their suitability. The evaluation considered the descriptors for each of the items in Table IV in Annex I. Full agreement between the researchers (100%) was reached for ChatGPT-4, while in Copilot there was an initial discrepancy in 22 responses, yielding a Cohen's Kappa coefficient of 0.842, considered to indicate almost perfect agreement (Cohen, 1968). The discrepancies were reviewed, which led to the conclusion that they stemmed from differing interpretations of the descriptors. After clarifying this issue, full agreement

(100%) was achieved in Copilot, allowing the analysis to proceed.

Considering that 100% of the responses in three of the four thematic blocks from both generative AI models were suitable, it was decided to examine why the same percentage was not achieved in the management thematic block.

After reviewing each of the responses in this block, two were identified as unsuitable:

- Item 25. What is the price for recognising credits from one degree programme to another?
- Item 26. If I am studying two degrees at the same time, how many credits can I take per year?

Because these are two complex questions requiring a specific quantitative response, and in light of the release of the new multimodal language model ChatGPT-4o on 13 May 2024, it was decided to examine how ChatGPT-4o would respond to them.

To obtain the 30 responses, and to streamline the research process, a Google Sheet integrated with ChatGPT was used, linking it to the new model. This tool, provided by the artificial intelligence company *Solver Intelligent Analytics*, enabled automatic generation of 30 answers to the two items in the ChatGPT-4o model directly from a spreadsheet. The process used *Google Apps Scripts* to make requests to the ChatGPT API and receive responses in real time.

The prompt used on this occasion was as follows:

*“I want you to act as a guidance counsellor to support students who are about to enter university, as well as those undertaking undergraduate, master’s and PhD studies. To fulfil this role, search for all the links and documents from University U that you consider relevant in order to answer the following questions: 1. What is the price for recognising credits from one degree programme to another? 2. If I am studying two degrees at the same time, how many credits can I take per year? I want an explicit answer that clearly states the price for recognising credits from one university degree to another and specifies how many credits I can take per year when pursuing two degrees simultaneously.”*

Once the responses were obtained, the suitability of each one was

determined, and a statistical analysis was carried out using the chi-squared test to establish whether the differences between Copilot, ChatGPT-4 and ChatGPT-4o were significant. In addition, the information provided by ChatGPT-4o was compared against the information on the university websites.

A manual search on each university website was conducted using the following key terms: “credit recognition” and “public prices” for item 25, and “simultaneous studies” and “regulations on enrolment continuity” for item 26. In almost all cases, no more than five steps were needed to access the information, and the information was found not only in PDF documents about public prices and regulations related to enrolment continuity, but also on the university websites themselves.

This procedure ensured a rigorous, systematic evaluation of the application’s responses, providing a comprehensive analysis of their accuracy and reliability in the context of public universities in Spain.

## **Results**

The results are presented in three parts. First, indicating the suitability of the responses provided by Copilot and ChatGPT-4, highlighting the thematic blocks with suitable responses. Second, comparing the unsuitable responses to items 25 and 26 in the management block between Copilot, ChatGPT-4 and ChatGPT-4o. Finally, the analysis of the content in ChatGPT-4o’s answers to these two items is presented, alongside the information available on university websites. This structure allows for a detailed understanding of the results at each stage of the analysis.

### **Suitability of the responses produced by Copilot and ChatGPT-4**

Table I shows the percentage of suitable answers in each of the thematic blocks. In three blocks, 100% of answers were suitable, indicating that Copilot and ChatGPT-4 answered all questions correctly.

**TABLE I.** Suitability of the responses produced by Copilot and ChatGPT-4 for each thematic block

Thematic blocks	Suitability of responses (%)	
	Copilot	ChatGPT-4
Access	100	100
Management	95	90
Course Difficulty	100	100
Employability	100	100
Total	98	97

Source: authors' own work

Examples of answers for each thematic block are given below. The responses presented for some items were chosen for their capacity to clearly show the type of information provided by the generative AI model. For reasons of space, some answers have been shortened, with ellipses (...) indicating omissions.

In the Access block, item 4 asks for information about the recommended baccalaureate for studying biochemistry or chemistry. Copilot and ChatGPT-4 took on a guiding role, offering advice on which type of baccalaureate would be most suitable. The responses not only indicated which baccalaureate would be most appropriate, but also explained the purpose of each option:

*To study biochemistry or chemistry at U1, you would need a science baccalaureate. The university offers two specific pathways within the Science Baccalaureate: The Health Sciences Baccalaureate will allow students who take it to acquire basic knowledge and skills to pursue higher education focused on the health field. (...) The Scientific and Technical Baccalaureate is more related to computer science, engineering, and new technologies" (Copilot-U1).*

*"To study biochemistry or chemistry at U12 or another university in Spain, it would be best to take a Science Baccalaureate, specifically the Health Sciences Baccalaureate or the Scientific-Technological Baccalaureate (...) " (ChatGPT-4U12)*

In the Management block, item 23 asks whether a high grade point

average is needed in order to transfer from one university to another. The responses from Copilot and ChatGPT-4 provided guidance on the importance of achieving a good average grade, while clarifying that this is not the only determining factor that enables the transfer of an academic record.

*“The transfer process may vary depending on the university and the degree program. In general, to request a transfer of records, it is necessary to have passed a minimum number of credits at your home university and to meet the admission requirements of the destination university. Regarding the grade point average, some universities take into account the average grade of the academic record for the transfer process. However, the weight of the average grade in the transfer process may vary depending on the university and the degree program”* (CopilotU4).

*“The requirement of having a high grade point average for transferring an academic record from one university to another varies depending on several factors, including the policy of the destination university and the demand for the programme of study you want to transfer to (...). Some universities may require a minimum grade point average, particularly for programmes with high demand or limited places (...)"* (ChatGPT-4U2)

In the Study Difficulty block, item 33 asks for information about the difficulty of a degree in Computer Science. In the Copilot example, the responses were based on information presented in online surveys, and, like ChatGPT-4, provided guidance to consider:

*“The difficulty of studying computer science can vary depending on the university and the country where you study. According to a survey of university students in Spain, computer engineering could be considered one of the most difficult degrees, given that it involves acquiring mathematical and computational knowledge. However, it is one of the most practical degrees available today, which makes learning easier. On the other hand, according to another source, a computer science or computer engineering degree is not difficult, it simply requires effort and consistency. If a student attends classes, pays attention (...)"* (CopilotU5)

*“The perception of the difficulty of studying computer science at UII can vary widely depending on different individual and academic factors. Below are some aspects that may influence how the difficulty of this degree is perceived: 1. Interest and enthusiasm for technology and computer science (...) 2. Skills in mathematics and logic (...) 3. Commitment and dedication to study (...)”* (ChatGPT-4U11)

In the Employability block, item 45 asks for information about career opportunities for a degree in Early Childhood Education. The examples from Copilot and ChatGPT-4 show that the responses indicated a wide range of professional pathways.

“Early childhood education graduates from U8 can choose from a wide variety of career opportunities. Some of the options include working as an early childhood educator in the first cycle of early childhood education, in nursery schools and public schools, in institutions with children (0-6 years old), in specific programs with children aged 0 to 6 who are at social risk, in childcare projects, in play centres, in family support projects, in environmental education in early childhood, in extracurricular and leisure activities, in school support, in children’s libraries, among others (CopilotU8).

“The Early Childhood Education degree prepares graduates for a variety of roles focused on the care and education of young children. Typical career opportunities include: 1. Teaching in early childhood education (...) 2. Special education (...), 3. Coordination and management of early childhood education centres (...)” (ChatGPT-4U14)

## **Comparison of suitability of responses from Copilot, ChatGPT-4 and ChatGPT-4o**

As Table I shows, the only thematic block that did not achieve 100% suitability was management. The difficulty lay in items 25 and 26. Table II presents the percentages of suitable responses to these two items from Copilot, ChatGPT-4

and ChatGPT-4o. Although the differences were not statistically significant ( $p>0.05$  in all cases), analysis of the absolute values does indicate a change that should be described.

**TABLE II.** Suitability of responses from Copilot, ChatGPT-4, and ChatGPT-4o

Suitability (%)	Copilot		ChatGPT-4		ChatGPT-4o	
	It25	It26	It25	It26	It25	It26
<b>Insufficient</b>	27	33	93	27	7	0
<b>Sufficient</b>	73	67	7	73	93	100

Source: authors' own work

Copilot gave a high percentage of suitable answers to items 25 (73%) and 26 (67%). For the latter, ChatGPT-4 also produced suitable answers 73% of the time. In contrast, it only produced suitable answers to item 25 in 7% of cases, because, as the example shows, the responses were incorrect, they did not explicitly mention a price, or they failed to match the descriptor.

*“The price for the recognition of credits from one degree to another in Spanish universities, including U10, may vary depending on several factors, such as the Autonomous Community and the specific policy of the university (...)”* (ChatGPT-4U10)

The responses from the subsequent model, ChatGPT-4o, were almost 100% suitable for item 25, and for item 26. In other words, all the responses provided quantitative, detailed data addressing the question.

A comparison of the information provided by the application and the information on university websites is presented below:

## Item 25

Item 25 asks about the cost of credit recognition when changing from one degree programme to another, so the expected response should focus on providing an estimate of the associated costs. Comparing ChatGPT-4o'

answers with information found on university websites indicates that the information is presented in two ways: expressed in euros or in percentage terms.

None of the five university applications that reported the credit price in euros provided a correct answer (U1, U2, U3, U8, U15). This is because the price indicated refers to the credit cost of a course in first enrolment, rather than the credit recognition. For example, for U2, ChatGPT-4o stated:

*“(...) For the 2022-2023 academic year, the price for credit recognition in undergraduate studies is approximately €12.62 per credit (...)”* (U2)

On the university website, the public prices document specifies 30% of the amount established in Annex 1 (the annex lists the credit prices according to the number of enrolments), that is, 30% of €12.62 per credit. Therefore, if a subject has 6 credits and 30% must be applied to each of these credits, the cost for the recognition of the subject would be €22.74.

The ten universities (U4, U5, U7, U9, U10, U12, U13, U14) that responded with the percentage to be applied to each credit for recognition indicated that it should be 25%.

*“- \*\*Undergraduate degree\*\*: The price per recognised credit is 25% of the price of the credit for first-time enrolment. For example, if the price of the credit for first-time enrolment is €25, the cost per recognised credit would be €6.25.*

*- \*\*Master's degree\*\*: The price per recognised credit is 25% of the price of the credit for first enrolment. For example, if the price of the credit for first enrolment is €45, the cost per recognised credit would be €11.25.”* (U10)

Of these, only two (U6, U11) did not provide correct information. According to the public price established in the document, these two universities apply 30% rather than 25%.

## Item 26

Item 26 asks how many credits can be taken per year when studying two

degrees simultaneously. The expected answer should focus on specifying the limits of credits permitted in concurrent studies. According to the university websites, the maximum number of credits for simultaneous studies is 90 credits.

Responses from the fifteen university applications indicated a maximum of 90 credits. However, three of them provided ranges. U1 provided a range of 90 to 120 credits, and U3 and U9 provided ranges of 78 to 90 credits, even distinguishing between simultaneous undergraduate and master's degrees.

*“(...) in most Spanish universities, including U1, the limit is usually around 90-120 credits per academic year; although this may depend on the student's ability and the university's approval”* (U1)

*“(...) Undergraduate students\*\*: They can enrol in a maximum of 90 credits per academic year. Master's students\*\*: They can enrol in a maximum of 75 credits per academic year”* (U9).

Three of the fifteen university applications (U2, U7, U9) mentioned a maximum of 90 credits, but this information could not be verified as it was not found on their respective websites.

This credit restriction, as mentioned in most responses and in the example (U15), aims to prevent students from facing an excessive academic workload.

*“(...) It is important to note that this limitation is designed to ensure that students can manage their workload and maintain good academic performance”* (U15).

## Conclusions

This study analysed the suitability of responses provided by Copilot and ChatGPT-4 to student questions related to university guidance. Questions that produced unsuitable answers were then given to the new multimodal ChatGPT-4o and the responses were compared. The focus of the analysis was on the answers to items related to the price per credit recognition and to doing

simultaneous courses, which were in the management thematic block. The information provided by ChatGPT-4o was compared with the information on the websites of the fifteen universities, and an attempt was made to explore the possible reasons why the application failed to retrieve the information in some universities.

To address the first objective, the suitability of the responses provided by Copilot and ChatGPT-4 was analysed, indicating 100% suitable answers in three of the four thematic blocks. This suggested that the main focus of the study should be on the items with unsuitable answers, namely the two items that required quantitative information.

Subsequently, the study assessed whether ChatGPT-4o gave more suitable answers, which it did for both items, particularly in contrast to the less suitable answers from Copilot and ChatGPT-4 for both item 25 and 26. Despite that, a chi-square test showed that the difference was not statistically significant.

Regarding the second objective, content analysis was performed to describe the information in the responses in comparison to the information on the universities' websites. Consideration should be given to the difficulty that both AI and students face in locating such specific information.

Most of the information from the manual search was found in PDF documents about public prices and rules for remaining at university, or directly on the universities' websites. It was generally accessible in five steps or less. This suggests that the information is relatively available, but proper interpretation and presentation is crucial for guidance. The information could be organized to be more easily accessible on university websites, perhaps with a specific section referring to the number of credits that may be taken depending on whether a student is doing a single degree, a double degree, or simultaneous courses.

The initial research question was whether these language models specialise in university student guidance. ChatGPT-4o was shown to be a more accurate generative language model when it came to information on specific quantitative data in the two items analysed. However, given the continuous evolution of AI, both language models could specialise in university student guidance. Their potential as tools for the analysis and comprehension of

information opens new possibilities in education (González-Mayorga et al., 2024). Ongoing in-depth analysis of chatbot quality will be essential (Chiappe et al., 2025), as will continued verification of the information they provide against official sources to ensure accuracy. One implication of these models specialising in university guidance is the importance of maintaining up-to-date, well-structured information on university websites. University guidance must adapt to a new complex environment and take advantage of technological innovations, such as AI, to improve support and tutoring services (Bearman, 2022), thereby facilitating personalised attention (Viñuela & Vidal, 2023).

Implementing chatbots may be beneficial for educational guidance and learning (Rathore, 2022), as long as the ethics of using AI is taken into account (Flores-Vivar & García-Peña, 2023). It is important to be aware that AI is still in development and, as this study shows, has not yet achieved maximum accuracy. It should be understood as one factor influencing educational quality (López Rodríguez del Rey et al, 2023; Sánchez Cabeza, 2017), a factor that the entire educational community must adapt to.

In academic year 2019-2020, 7% of students who began degree courses decided to change degree (SIIU, 2024), making it essential to optimise guidance services in order to facilitate administrative procedures such as credit recognition. Information must be structured so that AI can access it easily, which would also lead to greater student satisfaction when using these services (Segovia García, 2023). This would involve universities committing to updating their websites at least annually with the most relevant information and current regulations.

This study also confirmed that chatbots not only function as an information service, but also as a support, guidance and advisory service. This is particularly evident with questions related to experience, as in the thematic block on Course Difficulties.

In summary, although Copilot and ChatGPT show great potential as a university guidance service, their effectiveness is constrained by the quality of the information available on university websites. Therefore, universities must work to keep their websites up to date, in line with regulatory changes, deadlines and administrative procedures that may apply not only at the beginning of a university degree, but also throughout it. This would optimise

the use of AI-based applications.

One interesting future line of research would be to monitor the improvements being made in artificial intelligence as well as in university websites themselves. Moreover, given the large amount of information and regulations relating to universities, it may be worth developing chatbots devoted exclusively to managing administrative procedures and perhaps implementing them as a pilot guidance service at a university in order to gauge student satisfaction.

The need to continuously update information is also a limitation, as we live in a society that is constantly generating more knowledge, regulations and information. Another limitation lies in our perception of chatbots, which should be considered complementary rather than a replacement for guidance staff. Finally, the ethics of artificial intelligence must be considered (UNESCO, 2021). When implementing applications such as Copilot or ChatGPT on university websites, data confidentiality and data privacy must be ensured, bearing in mind that their development is still ongoing.

These conclusions and recommendations are essential in order to develop and adapt AI applications such as ChatGPT in the field of university guidance, ensuring that they are useful, accurate and reliable.

## Bibliographical references

Álvarez-Pérez, P.R., López-Aguilar, D., & Garcés-Delgado, Y. (2020). Vocational preferences, the transition and the adaption to university education: an analysis from the perspective of High School students. *Bordon. Revista de Pedagogía*, 72(4), 9-26. <https://doi.org/10.13042/Bordon.2020.80131>

Artiles-Rodríguez, J., Guerra-Santana, M., Aguiar-Perera, M.V., & Rodríguez-Pulido, J. (2021). Agente conversacional virtual: la inteligencia artificial para el aprendizaje autónomo. *Pixel-bit*, 62, 107-144. <https://doi.org/10.12795/pixelbit.86171>

Bearman, M., & Ajjawi, R. (2023). Learning to work with the black box: Pedagogy for a world with artificial intelligence. *British Journal of Educational Technology*, 54(5), 1160–1173. <https://doi.org/10.1111/>

[bjet.13337](#)

Bearman, M., Ryan, J., & Ajjawi, R. (2022). Discourses of artificial intelligence in higher education: a critical literature review. *Higher Education*, 1–17. <https://doi.org/10.1007/S10734-022-00937-2/TABLES/2>

Chiappe, A., Sanmiguel, C., y Sáez Delgado, F.M. (2025). IA generativa versus profesores: reflexiones desde una revisión de la literatura. *Pixel-bit. Revista de Medios y Educación*, 72, 119-137. <https://doi.org/10.12795/pixelbit.107046>

Chvanova, M. S., Hramov, A. E., Khramova, M. V., & Pitsik, E. N. (2016). Is it possible to improve the university education with social networks: The opinion of students and teachers. *2016 IEEE Conference on Quality Management, Transport and Information Security, Information Technologies, IT and MQ and IS 2016, October*, 33–38. <https://doi.org/10.1109/ITMQIS.2016.7751895>

Cueva Gaibor, D. A. (2020). Transformación digital en la universidad actual. *Revista Conrado*, 16(77), 483–489.

El uso de la IA en el análisis de redes informales para la orientación en Educación Superior. Ministerio de Ciencia e Innovación. Proyectos de Generación de Conocimiento 2021. Referencia PID2021-125405NB-I00.

Essel, H. B., Vlachopoulos, D., Tachie-Menson, A., Johnson, E. E., y Baah, P. K. (2022). The impact of a virtual teaching assistant (chatbot) on students' learning in Ghanaian higher education. *International Journal of Educational Technology in Higher Education*, 19(1), 1–19. <https://doi.org/10.1186/s41239-022-00362-6>

Falcón-Linares, C., & Arraiz-Pérez, A. (2017). Construcción eficiente y sostenible de la carrera: El portafolio profesional como recurso de orientación universitaria. *Revista Española de Orientación y Psicopedagogía*, 28(2), 8–29. <https://socioconstructivismo.unizar.es/>

Flores-Vivar, J.-M., & García-Peñalvo, F.-J. (2023). Reflections on the ethics, potential, and challenges of artificial intelligence in the framework of quality education (SDG4). *Comunicar*, 31(74). <https://doi.org/10.3916/c74-2023-03>

García-Peñalvo, F. J., Llorens-Largo, F., & Vidal, J. (2024). The new reality of education in the face of advances in generative artificial intelligence. *Revista Iberoamericana de Educacion a Distancia*, 27(1), 9–39. <https://doi.org/10.5944/ried.27.1.37716>

González-Castellano, N., Runte-Geidel, A., Berrios-Aguayo, B., & Muñoz-Galiano, I. M. (2023). Buenas prácticas docentes y tutoriales en el ámbito universitario: la visión del docente Good teaching practices and tutorials in the university context: the vision of the good teacher. *Estudios Sobre Educacion*, 45, 97–121. <https://doi.org/10.15581/004.45.005>

González-Mayorga, H., Rodríguez-Esteban, A., y Vidal, J. (2024). El uso del modelo GPT de OpenAI para el análisis de textos abiertos en investigación educativa. *Pixel-bit. Revista de Medios y Educación*, 69, 227-253. <https://doi.org/10.12795/pixelbit.102032>

Guerrero-Bocanegra, B. (2022). Tópicos frecuentes en los foros de acogida para el desarrollo de un chatbot de orientación inicial universitaria. *Revista de Psicología y Educación - Journal of Psychology and Education*, 17(2), 187. <https://doi.org/10.23923/rpye2022.02.225>

Herrera-Ortiz, J. J., Peña-Avilés, J. M., Herrera-Valdivieso, M. V., & Moreno-Morán, D. X. (2024). La inteligencia artificial y su impacto en la comunicación: recorrido y perspectivas. *Telos: Revista de Estudios Interdisciplinarios En Ciencias Sociales*, 26(1), 278–296. <https://doi.org/10.36390/telos261.18>

Incio Flores, F. A., Capuñay Sanchez, D. L., Estela Urbina, R. O., Valles Coral, M. Á., Vergara Medrano, E. E., & Elera Gonzales, D. G. (2021). Inteligencia artificial en educación: una revisión de la literatura en revistas científicas internacionales. *Apuntes Universitarios*, 12(1). <https://doi.org/10.17162/au.v12i1.974>

Ley 3/2022, de 24 de febrero, de convivencia universitaria. *Boletín Oficial del Estado*, núm. 47, de 24 de febrero de 2022, páginas 23201 a 23219

Ley Orgánica 2/2023, de 22 de marzo, del Sistema Universitario. *Boletín Oficial del Estado*, núm. 69, de 22 de marzo de 2023, páginas 34000 a 34050

Mayor-Alonso, E., Vidal, J., y Rodríguez-Esteban, A. (2024). Los chatbots como herramienta de apoyo para la orientación universitaria. *Edutec. Revista Electrónica De Tecnología Educativa* (87), 188-203. <https://doi.org/10.21556/edutec.2024.87.2971>

McMillan, J. H., & Schumacher, S. (2005). Investigación educativa. Prentice Hall / Pearson.

Medrano, J.F., Castillo, C.A., Tejerina, M.A. (2018). *Empleo de un Chatbot en el aula como herramienta de apoyo al proceso de enseñan-*

za-aprendizaje. V Jornadas de Innovación Educativa Ministerio de Ciencia, Innovación y Universidades (2024). *Datos y cifras del Sistema Universitario Español* <https://www.universidades.gob.es/publicaciones-e-informes/>

Ogosi Auqui, J. A. (2021). Chatbot del proceso de aprendizaje universitario: Una revisión sistemática. *Alpha Centauri. Revista de Investigación Científica y Tecnológica*, 2(2), 29–43. <https://doi.org/10.47422/ac.v2i2.33>

Parlamento Europeo y Consejo de la Unión Europea. (2024). Reglamento (UE) 2024/1689 del Parlamento Europeo y del Consejo, de 13 de junio de 2024, por el que se establecen normas armonizadas sobre inteligencia artificial y se modifican diversos reglamentos y directivas (Ley de Inteligencia Artificial). Diario Oficial de la Unión Europea.

Rathore, B. (2021). Exploring the Potential Impacts of Chatbot Software/ Apps (ChatGPT) on Education: Benefits, Drawbacks, and Future Prospects. *International Journal of Multidisciplinary Innovation and Research Methodology*, 1(1), 2960-2968. <https://ijmirm.com/index.php/ijmirm/article/view/18>

Real Decreto 1791/2010, de 30 de diciembre, por el que se aprueba el Estatuto del Estudiante Universitario. *Boletín Oficial del Estado*, núm. 318, de 31 de diciembre de 2010, páginas 109312 a 109352

Rodríguez Almazán, Y., Parra-González, E.F., Zurita-Aguilar, K.A., Mejía Miranda, J. & Bonilla Carranza, D. (2023). ChatGPT: La inteligencia artificial como herramienta de apoyo al desarrollo de las competencias STEM en los procesos de aprendizaje de los estudiantes. *Revista electrónica de Computación, Informática, Biomédica y Electrónica*, 12 (1), 5-12

Sánchez Cabezas, P. P., López Rodríguez del Rey, M. M., & Alfonso Moreira, Y. (2018). La orientación educativa en la actividad pedagógica profesional del docente universitario. *Revista Pedagógica de La Universidad de Cienfuegos*, 14(65), 50–57.

UNESCO. (2021). Recomendación sobre la ética de la Inteligencia Artificial. En UNESCO. [https://unesdoc.unesco.org/ark:/48223/pf0000381137\\_spa](https://unesdoc.unesco.org/ark:/48223/pf0000381137_spa)

Vera-Rubio, P. E., Patricia Bonilla-González, G. P., Quishpe-Salcán, A. C., & Campos-Yedra, H. M. (2023). La inteligencia artificial en la edu-

cación superior: un enfoque transformador Artificial intelligence in higher education: a transformative approach Inteligência artificial no ensino superior: uma abordagem transformadora. *Polo Del Conocimiento*, 85(11), 67–80. <https://doi.org/10.23857/pc.v8i11.6193>

Vieira, M. J., & Vidal, J. (2006). Tendencias de la Educación Superior Europea e implicaciones para la orientación universitaria. *Revista Española de Orientación y Psicopedagogía*, 17(1), 75-97. <https://bit.ly/3U6yfbg>

Viñuela, Y., & Vidal, J. (2023). Guidance to students in Spanish public university degrees. *Revista Complutense de Educacion*, 34(3), 605–616. <https://doi.org/10.5209/rced.79759>

Wagh, K. S., & Hiremath, G. (2018). Chatbot for Education System. *International Journal of Advance Research*. [www.IJARIIT.com](http://www.IJARIIT.com)

## Annex I

**TABLE III.** Tool adapted from Mayor-Alonso et al. (2024)

<b>Access</b>	
Item 1. What are the entrance exams like?	Describe the university entrance exams, whether they are general or voluntary, and detail the admission process.
Item 2. How long is the break between one EBAU exam and another?	Provide an approximate break time
Item 3. How long is the EBAU mark valid for?	Describe the validity period, focusing on the general phase or the specific phase or both.
Ít4. To study biochemistry or chemistry, what would I need to do, a health sciences baccalaureate or a technology baccalaureate?	Describe which baccalaureate would be appropriate to take.
Ít6. How is the EBAU mark calculated?	Explain how to calculate the average mark and/or provide links to simulators
Ít10. Can I study a humanities degree after taking the voluntary biology and chemistry EBAU exams?	Explain how the choice of subjects in the EBAU affects career choices
Ít5. Can I apply for a place in more than one Autonomous Community?	Answer yes or explain how to apply in more than one Autonomous Community
Item 7. How do I pre-register for a degree?	Describe the process for pre-enrolling in a degree programme
Item 8. What are the deadlines for pre-enrolment?	Give an estimate of the deadlines (months or days) for pre-enrolment.
Ít9. If I do not reserve a place once the list of admitted students for the degree programme has been published, will I lose my place?	Answer yes or explain the policies and consequences of not reserving a place.
Ít11. How do I enrol?	Describe the process for enrolling in a degree programme.
Ít14. How do I pre-register for a master's degree?	Describe the process for pre-enrolling in a master's degree programme.
<b>Management</b>	
Ít15. If I enrol, do I have to pay anything? What if I am accepted onto the module in September, can I withdraw?	Explain the enrolment fees and the conditions for withdrawing
Ít16. We are halfway through the course and I want to drop out. Will I have to pay the enrolment fees?	Detail the financial obligations when dropping out of a course or possible exceptions
Q17. What scholarships can I apply for to study for a degree?	Describe the scholarships available for undergraduate studies.

Ít18. I have had a scholarship this year (I passed all 10 subjects) and I would like to know if I change degree programmes, could I receive the scholarship again next year?	Explain whether it is possible to receive the scholarship again and the conditions for renewal when changing degree programmes
Ít19. What scholarship can I apply for to study a master's degree?	Describe the scholarships available for master's degree studies
Ít20. I have a low grade point average and would like to start a PhD, but I know that I will not be eligible for the FPU, so I have thought about paying the tuition fees myself and applying for another scholarship later on. What other scholarships are available?	Explain alternative funding and scholarship options for doctoral students
Ít22. How do I transfer my academic record from one university to another?	Explain the procedure for transferring academic records and include the necessary documentation for the transfer
Ít23. Do I need to have a high grade point average to have my academic record transferred from one university to another?	Detail the requirements for transferring records, if any, and how the average grade affects the process.
Ít24. If you change universities, will you be awarded the same number of credits if you enter through the Selectividad exam as if you do so through a transfer of academic records?	Clarify the credit recognition policies in different scenarios of transfer between universities.
Ít25. What is the cost of recognising credits from one degree programme to another?	Provide an estimate of the costs associated with credit recognition and explain that this price may vary.
Ít26. If I am studying two degree programmes at the same time, how many credits can I take per year?	Explain the credit limits allowed when studying two degree programmes at the same time
Ít27. Even if I am in my first year of study, can I take subjects from other years?	Explain the regulations on choosing subjects from other years for first-year students.
<b>Course Difficulty</b>	
Ít29_40. (12 items) Is it difficult to study for a degree in [degree programme]?	Provide guidance on the difficulty or presents interesting statistics used to assess the difficulty
<b>Employability</b>	
Ít43_50. (12 items) What are the career opportunities for a degree in [degree]?	Present the career opportunities available

Source: authors' own work based on the original tool by Mayor-Alonso et al. (2024)



# **Repetition and Externalizing Socio-Emotional Consequences according to Gender in Compulsory Secondary Education**

## **Repetición y Consecuencias Socioemocionales externalizantes según el Sexo en la Educación Secundaria Obligatoria**

<https://doi.org/10.4438/1988-592X-RE-2025-411-731>

**Isaías Martín-Ruiz**

<https://orcid.org/0000-0002-4696-2374>

*University of Málaga*

**Ana Herrera-Gallego**

<https://orcid.org/0009-0002-0943-908X>

*University of Málaga*

**Agustín Wallace-Ruiz**

<https://orcid.org/0000-0003-1437-0128>

*University of Málaga*

### **Abstract**

Adolescence is a stage of growth where mental health problems can have considerable effects. Some personal conditions, such as gender, or some educational measures such as repetition, can be relevant to promote the appearance of externalizing socio-emotional problems. The aim of this study is to analyze the impact of repeating a course on externalizing

problems (anger and aggression) and personal resources (self-esteem, social competence and awareness of problems) according to the gender of adolescents. The sample included 230 males and 215 females between 12 and 17 years old. The test "Evaluation System for Children and Adolescents" (SENA) was used and a cross-sectional comparative design ex post facto. Descriptive analyses and comparisons between means were performed using 2x5 factorial ANOVA. The results indicate that gender and repetition of a course influence the emotional and social adjustment of adolescents. In anger, the group of girls and repeaters show higher scores than boys and non-repeaters. In aggression, repeaters have higher scores, with no significant effect of gender or its interaction with repetition. In conclusion, this study points out the impact of repetition on externalized socio-emotional problems according to gender, highlighting the relevance of personal resources as protective factors during adolescence.

*Key words:* repetition, aggression, anger, personal resources, adolescence, gender.

### **Resumen**

La adolescencia es una etapa de crecimiento donde los problemas de salud mental pueden tener efectos considerables. Algunas condiciones personales, como el sexo, o algunas medidas educativas como la repetición, pueden ser relevantes para promover la aparición de problemas socioemocionales de tipo externalizante. El objetivo de este estudio es analizar el impacto de la repetición de curso en los problemas externalizados (ira y agresión) y los recursos personales (autoestima, competencia social y conciencia de problemas) según el sexo de los adolescentes. La muestra incluyó 230 chicos y 215 chicas adolescentes entre 12 y 17 años. Se utilizó el test "Sistema de Evaluación de Niños y Adolescentes" (SENA) y un diseño comparativo transversal ex post facto. Se realizaron análisis descriptivos y comparaciones entre medias mediante ANOVA factorial 2x5. Los resultados indican que el sexo y la repetición de curso influyen en el ajuste emocional y social de los adolescentes. En la ira, las adolescentes que repiten muestran puntuaciones mayores que los chicos no repetidores. En la agresión, los repetidores tienen puntuaciones más altas, sin efecto significativo del sexo o su interacción con la repetición. En conclusión, este estudio señala el impacto de la repetición en los problemas socioemocionales de tipo externalizado según el sexo, destacando la relevancia de los recursos personales como factores protectores durante la adolescencia.

*Palabras clave:* repetición, agresión, ira, recursos personales, adolescencia, sexo.

## **Introduction**

Adolescence is a crucial transitional stage between childhood and adulthood, characterised by significant changes in the biological, cognitive, social, and family area. During this period, adolescents achieve important milestones such as the formation of a solid identity, the development of formal thinking, and sexual maturity (Bailen et al., 2019; Filipiak & Lubianka, 2021). Although these achievements provide valuable opportunities for learning and growth, they can also lead to stressful situations and increase emotional vulnerability due to the rapid pace of change. Common sources of stress include emotional distancing from parents, self-imposed academic pressure, concerns about body image and physical changes, the need for peer acceptance, and interactions with peers (Filipiak & Lubianka, 2021). In addition, adolescents may deal with other personal, contextual, and school-related situations that can serve as potential sources of stress and vulnerability (Bailen et al., 2019).

The prevalence of mental health problems during this developmental stage is significant, estimated at around 20% (Anglim et al., 2020; Martín et al., 2022). These experiences may persist into adulthood, potentially leading to serious consequences and significantly affecting social interactions and emotional well-being (Chen et al., 2020; Orgilés et al., 2023; Tamarit et al., 2020). Such problems are related both to socioemotional symptoms and to the personal resources available to deal with potentially vulnerable situations.

On the one hand, the socioemotional problems with the greatest personal and social impact on adolescents tend to be externalising in nature, such as anger and aggression (Lohmann, 2017). These issues are characterised by disruptive and aggressive behaviours directed towards others or the environment (Hernández et al., 2018; WHO, 2019). Anger is a common emotion that can vary in intensity (APA, 2014; Hernández et al., 2018), whereas aggression involves the intention to cause physical or psychological harm (Hernández et al., 2018; Martín et al., 2022). These behaviours are critical to the mental health of children and adolescents, as they have a significant impact on development and well-being, influencing socio-affective growth as well as social and family contexts (Lohmann, 2017; Salavera & Usán, 2019). Some studies suggest gender differences that may play a modulating

role in early adolescence (Carapeto et al., 2022; Mesurado et al., 2018; Oliva et al., 2017; Rey et al., 2023; Yancey et al., 2019). Boys tend to show higher levels of aggression as an expression of emotional dysregulation (Salavera & Usán, 2020; Yancey et al., 2019), whereas girls are more likely to express suppressed anger without outward aggressive behaviours (Oliva et al., 2017). However, other studies have found no differences between boys and girls in terms of anger or aggression (Mesurado et al., 2018).

On the other hand, personal resources are skills that enable adolescents to effectively deal with challenges during this stage of life and serve as protective factors. These include self-esteem, social competence, and problem awareness (Caqueo, 2020; Carapeto et al., 2022; Mesurado et al., 2018; Núñez et al., 2021; Oliva et al., 2017; Rey et al., 2023; Salavera & Usán, 2019; Yancey et al., 2019).

Self-esteem refers to a subjective perception of one's own abilities and competencies, influencing both self-perception and relationships with others (Fariñas & Urra, 2022). During adolescence, self-esteem plays a key role in emotional stability and overall well-being (Núñez et al., 2021). Some studies suggest that girls tend to exhibit lower self-esteem than boys (Gibby, 2021), although other research does not show a consistent pattern (Fariñas & Urra, 2022).

Social competence is the ability to adapt to community norms and apply social skills effectively. Adolescents with stronger social skills tend to have higher self-esteem and better academic performance (Huber, 2019). Specifically, girls may experience greater difficulties in communicating and expressing emotions, which can affect the stability of their social networks (Aguilar, 2020). However, some studies have found no significant sex differences in social competence (Portela, 2021).

Problem awareness is the ability to recognise difficulties and seek help. This resource tends to be higher among girls, who generally perceive and understand emotions more effectively (Gibby et al., 2021). However, this heightened awareness can also increase the risk of developing emotional problems (Schoeps et al., 2019). In this context, self-esteem and social competence are considered positive protective factors, as they predict psychological well-being in adolescents. These factors foster more rewarding

interpersonal relationships and provide young people with a greater capacity to deal with everyday challenges (Aguilar, 2020; Farías & Urra, 2022; Huber et al., 2019). Some studies suggest that there may be sex differences in the expression of these difficulties (Aguilar, 2020; Farías & Urra, 2022; Gibby et al., 2021; Huber et al., 2019; Schoeps et al., 2019), although other research has found no such differences (Carapeto et al., 2022; Mesurado et al., 2018; Portela et al., 2021).

One of the extraordinary educational measures is grade repetition, which involves a student repeating an academic year that was not successfully completed. This measure is closely related to school failure and carries both personal and social risks (Horbach et al., 2020). Repeating not only impacts academic performance but can also lead to adverse social and emotional effects, such as age-grade mismatch, stigmatisation, increased behavioural problems, and socioemotional maladjustment. In particular, the majority of students who repeat a year are concentrated in the first year of Compulsory Secondary Education, with this situation being more frequent among boys (Méndez & Cerezo, 2018).

National and international assessments indicate that Spain has a high rate of grade repetition, around 7% in secondary education, which is three times the average of both the OECD and the EU (INE, 2023; MEFPD, 2024). Repeating is a costly measure associated with school failure, disproportionately affecting students from lower socioeconomic and cultural backgrounds. Moreover, repeating a year increases the likelihood of school dropout, depressive symptoms, and mental health risks (Horbach et al., 2020; Livingston et al., 2018). It often coexists with learning disorders, neurodevelopmental disorders, or other mental health conditions (APA, 2014).

Repeating is considered an exceptional measure that may be applied when a student has not achieved the competencies and objectives established for their age and educational level. According to the Organic Law 3/2020, governing Education in Spain (LOMLOE), the teaching team must determine whether promotion to the next grade would not benefit the student's academic progress, as it would hinder their ability to successfully follow the curriculum for the subsequent year. In this regard, the decision to retain a student should only be made after all ordinary and specific measures have been exhausted,

such as educational support, reinforcement in basic subjects like language and mathematics, or non-significant curricular adaptations.

However, some research has highlighted positive outcomes that repeating may have on students' maturity and academic progress (Battistin & Schizzerotto, 2019; Mathys et al., 2019; Valbuena et al., 2021). Repeating can provide another opportunity to acquire basic competencies and foster a culture of effort and perseverance (Choi & Harachi, 2020). Furthermore, Marsh et al. (2017) found a small positive effect of repetition on students' mathematical academic self-concept, based on PISA results. Their findings also suggest that repetition may help reduce anxiety and enhance self-efficacy.

Nevertheless, repetition can hinder adaptation to a new group and contribute to low self-esteem, loss of motivation and academic expectations, disconnection from peers and school, and an increased risk of school dropout (González & Álvarez, 2022). Students who repeat during Secondary Education tend to have a lower academic self-concept and face greater socioemotional and behavioural adjustment difficulties (Méndez & Cerezo, 2018; Sosa et al., 2016).

Repeating a year may carry negative connotations that affect students both academically and socially. Therefore, it is crucial to assess the consequences of this measure in Secondary Education, where adolescents may feel stigmatised and experience socioemotional and behavioural problems (Yang et al., 2018).

In short, adolescence is a sensitive stage that combines significant opportunities for personal and social growth with challenges that can generate stress and emotional vulnerability. Repetition is an educational measure that may have a considerable impact on mental health, specifically on the presence of behavioural problems and on adolescents' personal resources, which may be affected differently depending on gender.

Therefore, the aim of this study is to analyse the effect of gender and the educational measure received (repeating a year) on externalising problems (anger and aggression) and on personal resources (self-esteem, social competence, and problem awareness).

Firstly, we propose three possible effects of the variables gender and the educational measure (repetition) in externalising problems:

- **Hypothesis 1.** The first hypothesis indicates that boys will obtain higher scores in anger and aggression than girls.
- **Hypothesis 2.** The second hypothesis indicates that students who repeat will score higher in anger and aggression than those who do not.
- **Hypothesis 3.** The third hypothesis posits the existence of interactions between gender and repeating in externalising problems (anger and aggression).

Secondly, we propose three possible effects about the effect of the variables gender and the educational measure (repetition) in personal resources:

- **Hypothesis 4.** The fourth hypothesis indicates that boys will obtain higher scores in self-esteem and social competence, and lower scores in problem awareness, than girls.
- **Hypothesis 5.** The fifth hypothesis indicates that students who have been held back a year will have lower scores in self-esteem and social competence and higher in problem awareness than those who have not repeated any years.
- **Hypothesis 6.** The sixth hypothesis proposes the existence of interactions between gender and repeating in personal resources (self-esteem, social competence, and problem awareness).

## **Materials and Methods**

### **Participants**

This study was conducted with a sample of 445 adolescents enrolled in Compulsory Secondary Education (ESO, to use the Spanish acronym). The participating students came from four secondary schools, distributed across different year levels (see Table I). The distribution of students by grade was uneven, with a larger proportion of participants in 2nd and 1st year of ESO. While this distribution might suggest a higher number of repeaters in 2nd year, the highest percentage of repeating students was actually found in 3rd year of ESO. Overall, the proportion of students who had repeated ranged from 14.67% to 25.75% depending on the grade, with a total rate of 17.89%.

**TABLE I.** Distribution of students by grade.

Grade	Students	Repeating	<i>f(repeaters)</i>
1º ESO	109	16	14.67
2º ESO	210	38	18.09
3º ESO	66	17	25.75
4º ESO	60	9	15.00
Total	445	80	17.98

Source: own elaboration.  
f (Percentage of repeat students per grade)

In terms of gender, the group of female participants constitutes 48.3% (215 students) aged between 12 and 17 years ( $M = 13.59$ ;  $SD = 1.14$ ), while 51.7% (230 students) belong to the male group, aged between 12 and 17 years ( $M = 13.60$ ;  $SD = 1.24$ ). No significant age differences were found between genders [ $t(433) = 0.54$ ,  $p = .957$ ].

The gender distribution of participants was fairly balanced, as shown in Table II. No significant differences were detected in the number of students by gender [ $\chi^2(445) = 0.733$ ,  $p = .655$ ]. Finally, it is noted that there were more boys (65%) repeating than girls (35%).

**TABLE II.** Distribution of students by gender.

	Repeating	Non-Repeating	Total	<i>f</i>
Female	28	187	215	48.3
Male	52	178	230	51.7
Total	80	356	445	100

Source: own elaboration.  
*f* (Sample percentage)

## Instruments

The evaluation of externalising problems and personal resources was carried out using the SENA test (Evaluation of Children and Adolescents System) developed by Fernández-Pinto et al. (2015) for adolescents in secondary education (ages 12–18). The test uses Likert items scored from 1 (never or almost never) to 5 (always or almost always) for each item. Table III presents the internal consistency ( $\alpha = .82$  and  $.85$ , depending on the scales) and temporal stability ( $r = .88$  and  $.90$ ) reported by the test authors (Fernández-Pinto et al., 2015). In addition to this, reliability was calculated for the study sample, yielding values similar to those reported in the test manual. Furthermore, the SENA demonstrates adequate external validity with medium-to-high values ( $r = .70$ ), calculated with the PAI-A (Personality Assessment Inventory—Adolescents) by Morey (2015).

Externalising symptomatology was assessed in terms of anger (ANG) and aggression (AGR). The variable ANG is defined as the excessive and inappropriate experience or expression of anger, manifested in aggressive-impulsive behaviours, feelings of rage, and a perceived loss of control. It was assessed with items such as: “I slam doors or hit things when I get angry” and “I lose control when I get angry” (Fernández-Pinto et al., 2015). The variable AGR is defined as interpersonal aggression and assesses behaviours that reflect low empathy and, in more severe cases, may involve some degree of cruelty towards others (Fernández-Pinto et al., 2015). It was evaluated with items such as: “I threaten others to get what I want” and “I make fun of other people for fun.”

Personal resources were assessed in terms of self-esteem (SEL), social competence (SOC), and problem awareness (AWE). The variable SEL refers to the degree of satisfaction a person has with themselves, their self-evaluation, and personal adjustment. High scores indicate a positive self-assessment and good personal adjustment. Example items include: "I believe I have many good qualities" and "I consider myself good-looking" (Fernández-Pinto et al., 2015). The variable SOC evaluates the ability to relate effectively with others, integrate into peer groups, and thereby obtain support and reinforcement. These variables reflect a good level of personal and social adjustment, which is beneficial in minimising possible emotional deficits. Example items include: "Others count on me to do activities or group work" and "I have real friends" (Fernández-Pinto et al., 2015). Finally, the variable AWE reflects the extent to which a person is able to perceive difficulties in daily life, be aware of what is happening, and recognise the need to seek help. A high score on this scale is a positive indicator, suggesting a good prognosis and strong willingness for personal and emotional change. Example items include: "Many of my problems are due to my attitude" and "I need help" (Fernández-Pinto et al., 2015).

## **Procedure**

The process of selecting which schools would take part in the study was carried out through convenience sampling by educational zones in the province of Málaga, following the guidelines of the Andalusian Regional Ministry of Education (2021). Four schools that agreed to participate voluntarily were randomly selected: three from the capital city and one from the province. Exclusion criteria for participants in the sample included the presence of prior clinical disorders, disabilities, students with high abilities, and/or disadvantaged socioeducational backgrounds.

The next step involved obtaining consent from the schools' leadership teams to conduct the study. Authorisation was then requested from parents and/or legal guardians, and assent was obtained from the participating students. The assessment tests were completed by the students during school hours

in their classrooms, after receiving detailed instructions and the necessary materials. The evaluation was carried out in a 45-minute session, ensuring the confidentiality of individual responses.

This study is part of the research project “Psychoeducational Assessment of Socioemotional Adjustment in Adolescents” and was conducted in accordance with the ethical and deontological standards of the Helsinki Declaration (World Health Organization, 2019). It was reviewed and approved by the Research Ethics Committee of the University of Málaga.

## **Statistical Design and Analysis**

This project is framed within associative research using a comparative or *ex post facto* cross-sectional design, in which independent variables are not manipulated but occur naturally (Ato et al., 2013). The independent variables of the study are two: gender (males and females) and the application of an educational measure of permanence (grade repetition or not). The dependent variables are externalising problems (anger and aggression) and personal resources (self-esteem, social competence, and problem awareness).

Firstly, descriptive statistics for the study variables were calculated, and assumptions of normality (Shapiro-Wilk test) and homogeneity of variances (Levene's test) were verified. Next, mean comparisons between groups by gender (males and females) and educational measure (repeaters and non-repeaters) were carried out using a  $2 \times 5$  factorial ANOVA. In cases where the assumption of homogeneity of variances was not met, significance was corrected using Welch's test (Ruxton, 2006).

When significant differences between means were found, effect sizes were calculated using McDonald's omega ( $\omega$ ) for the main effects of  $F$ , where values of 0.01 are considered small, 0.06 medium, and 0.14 large; and Cohen's  $d$  for post hoc Tukey  $t$  tests, with effect sizes classified as small ( $.10|$ ), moderate ( $.30|$ ), or large ( $.50|$ ), according to Cohen's (1992) criteria.

Statistical analyses were conducted using the Statistical Package for the Social Sciences (SPSS), version 29 (IBM, 2021).

## Results

Firstly, the descriptive statistics are presented, followed by the contrasts between groups according to the dependent variables.

### Externalizing problems

Analyses of externalizing problems (anger and aggression) were carried out. The descriptive statistics of the analyzed variables are shown in Table IV. The female group shows a higher score in anger ( $M = 18.63$ ;  $SD = 7.52$ ) than the males group ( $M = 15.43$ ;  $SD = 6.93$ ). In contrast, the males group shows higher scores in aggression ( $M = 9.82$ ;  $SD = 3.79$ ) than the female group ( $M = 9.54$ ;  $SD = 3.17$ ). On the other hand, the repeaters group shows higher scores in anger ( $M = 19.79$ ;  $SD = 7.80$ ) and aggression ( $M = 11.71$ ;  $SD = 5.69$ ) compared to the non-repeaters group [anger ( $M = 16.87$ ;  $SD = 7.33$ ); aggression ( $M = 9.42$ ;  $SD = 3.02$ )].

**TABLE IV.** Descriptive statistics of externalizing variables

	Males		Females		Repeaters		Non-repeaters	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Anger	15.43	6.93	18.63	7.52	19.79	7.80	16.87	7.33
Aggression	9.82	3.79	9.54	3.17	11.71	5.69	9.42	3.02

Source: own elaboration.

Note. *M* (Mean); *SD* (Standard deviation); ANG (Anger); AGR (Aggression).

The analysis of variance between groups in anger and aggression is presented in Table V. Differences in anger are significant between genders [ $F (1,355) = 7.91$ ;  $p = .005$ ], with girls scoring significantly higher than boys, with a medium effect size ( $\omega = .019$ ,  $d = -0.483$ ). Differences are also significant for the educational repetition variable [ $F (1,355) = 5.71$ ;  $p = .017$ ], with Repeaters scoring significantly higher than Non-repeaters, with a medium effect size ( $\omega = .013$ ,  $d = -0.412$ ). No statistically significant interactions were

found between gender and educational repetition for this variable [ $F(1,355) = 0.07; p = .789$ ].

For aggression, gender differences are not statistically significant [ $F(1,355) = 2.40; p = .122$ ]. However, there are significant differences in educational repetition [ $F(1,355) = 15.93; p = .000$ ], with Repeaters scoring significantly higher than Non-repeaters, with a medium effect size ( $\omega = .040, d = -0.686$ ). Once again, no statistically significant interactions between gender and educational repetition were found [ $F(1,355) = 1.92; p = .167$ ].

**TABLE V.** Results of factorial ANOVA analyses of externalizing problems

		ANOVA			Post Hoc		
		<i>F</i>	<i>p</i>	$\omega^2$	<i>t</i>	<i>p</i>	<i>d</i>
Anger	Gender	7.91	.005	.019	-2.81	.005	-0.483
	Repetition	5.74	.017	.013	-2.40	.017	-0.412
	Interaction	0.07	.789				
Aggression	Gender	2.40	.122				
	Repetition	15.93	.000	.040	-3.99		-0.686
	Interaction	1.92	.167				

Source: own elaboration

Note. ANG (Anger); AGR (Aggression); F (Fisher-Snedecor's F),  $\omega$  (Mc Donald's omega), t (Tukey's t), p (significance level), d (Cohen's d).

## Personal Resources

The descriptive statistics of personal resources (self-esteem, social competence, and problem awareness) are shown in Table VI. Boys present higher scores in self-esteem ( $M = 27.52; SD = 5.71$ ) and social competence ( $M = 34.81; SD = 6.73$ ) than girls [self-esteem ( $M = 22.08; SD = 7.28$ ); social competence ( $M = 31.77; SD = 7.09$ )]. In contrast, Girls show higher scores in problem awareness ( $M = 18.27; SD = 6.16$ ) compared to boys ( $M = 14.96; SD = 5.19$ ).

Non-repeaters score higher in self-esteem ( $M = 24.79; SD = 7.16$ ) and social competence ( $M = 33.20; SD = 6.88$ ) than Repeaters [self-esteem ( $M = 22.50; SD = 6.74$ ); social competence ( $M = 32.68; SD = 8.70$ )], but Repeaters score higher in problem awareness ( $M = 17.47; SD = 6.25$ ) compared to Non-

repeaters ( $M = 16.68$ ;  $SD = 5.93$ ).

**TABLE VI. Descriptive statistics of personal resource variables**

	Males		Females		Repeaters		Non-repeaters	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
AUT	27.52	5.71	22.08	7.28	22.50	6.74	24.79	7.16
SOC	34.81	6.73	31.77	7.09	32.68	8.70	33.20	6.88
CNC	14.96	5.19	18.27	6.16	17.47	6.25	16.68	5.93

Source: own elaboration

Note. *M* (Mean); *SD* (Standard deviation); AUT (Self-esteem); SOC (Social competence); CNC (Problem awareness)

In Table VII, the analysis of variance between groups in personal resources is presented. The differences in self-esteem are statistically significant between genders [ $F(1,355) = 27.50$ ;  $p = .000$ ], with Boys scoring higher than Girls, with a medium effect size ( $\omega = .068$ , and  $d = -0.901$ ). The same occurs for the educational measure variable [ $F(1,355) = 4.40$ ;  $p = .037$ ], where Boys also score significantly higher than Girls, with a medium effect size ( $\omega = .009$ , and  $d = -0.360$ ). No statistically significant interactions are found between gender and educational measure regarding the self-esteem variable [ $F(1,355) = 0.29$ ;  $p = .592$ ]).

For the social competence variable, statistically significant differences are also found with respect to gender [ $F(1,355) = 13.01$ ;  $p = .000$ ], with Boys scoring significantly higher than Girls, with a medium effect size ( $\omega = .032$ , and  $d = -0.620$ ). Regarding repetition, no statistically significant differences are found [ $F(1,355) = 0.173$ ;  $p = .678$ ]), nor significant interactions between gender and educational measure for this variable [ $F(1,355) = 1.77$ ;  $p = .185$ ]).

Finally, the problem awareness variable shows statistically significant differences with respect to gender [ $F(1,355) = 12.61$ ;  $p = .000$ ], with Girls scoring significantly higher than Boys, with a medium effect size ( $\omega = .031$ , and  $d = -0.610$ ). No significant differences are found regarding the educational measure [ $F(1,355) = 0.75$ ;  $p = .388$ ]), nor statistically significant interactions between gender and educational measure for this variable [ $F(1,355) = 0.06$ ;  $p = .806$ ]).

**TABLE VII.** Results of factorial ANOVA analyses of personal resources

		ANOVA			Post Hoc (main effects)		
		F	p	$\omega^2$	t	p	d
SEL	Gender	27.50	.000	.068	5.24	.000	0.901
	Repetition	4.40	.037	.009	2.10	.037	0.360
	Interaction	0.29	.592				
SOC	Gender	13.01	.000	.032	3.61	.000	0.620
	Repetition	0.173	.678				
	Interaction	1.77	.185				
AWE	Gender	12.61	.000	.031	-3.55	.000	-0.610
	Repetition	0.75	.388				
	Interaction	0.06	.806				

Source: own elaboration

Note. SEL (Self-esteem); SOC (Social competence); AWE (Problem awareness); F (Fisher-Snedecor's F),  $\omega$  (McDonald's omega), t (Tukey's t), p (significance level), d (Cohen's d)

## Conclusions

In conclusion, the aim of this study is to analyse the impact of gender and grade repetition on externalizing problems (anger and aggression) and personal resources (self-esteem, social competence, and problem awareness) in adolescents.

Firstly, regarding the hypotheses about the impact of gender and grade repetition on externalizing problems, it was found that girls show higher levels of anger, while boys and girls do not present statistically significant differences in aggression, which partially supports the first hypothesis. In addition, it was observed that adolescents who repeated a grade showed higher scores in anger and aggression compared to those who did not, which supports the second hypothesis. However, no statistically significant interactions were found between gender and grade repetition in externalizing problems, so the third hypothesis was rejected.

Caqueo et al. (2020) conclude that girls tend to experience fewer externalizing problems compared to boys, although other studies show differences in specific types of behaviours (Oliva et al., 2017; Yancey et al., 2019; Yang et al., 2018). The discrepancies found in externalizing problems between genders may be explained by biological, social, and cultural influences (Caqueo et al., 2020), including differences in gender socialization and social expectations (Bettencourt et al., 2020).

Secondly, regarding the hypotheses about the impact of gender and grade repetition on personal resources, it was found that boys show higher levels of self-esteem and social competence compared to girls, but not in problem awareness, which supports the fourth hypothesis. Furthermore, adolescents who repeated a grade showed lower levels of self-esteem and social competence (though not in problem awareness) compared to those who did not, which supports the fifth hypothesis, although the differences were not statistically significant. However, no interactions were found between gender and grade repetition in personal resources, so the sixth hypothesis was rejected.

Regarding the impact of gender on personal resources, this study found statistically significant differences between boys and girls compared to other studies that indicate similarities in the use of personal resources such as social competence (Portela, 2021). Differences have also been reported between genders in self-esteem and problem awareness, consistent with other research that also points to differences in self-concept and social skills (Aguilar, 2020; Gibby et al., 2021). Moreover, studies show that students who repeat a grade present worse outcomes in self-esteem, social competence, and problem awareness compared to those who do not (González & Álvarez, 2022; Sosa et al., 2016; López et al., 2023).

This study highlights the negative consequences of repetition and challenges commonly accepted misconceptions about this practice in our educational system. Therefore, it is essential to consider alternative measures to support struggling students and minimize grade repetition, especially in socially disadvantaged environments.

The results obtained in this study reveal consistent patterns in the influence of gender and grade repetition over various variables related to

students' emotional and social well-being. On the one hand, it was found that both gender and repetition could significantly influence levels of anger, although no significant effect of the interaction between these two factors was found. Both girls and boys who repeated a grade showed higher levels of anger. Regarding aggression, students who repeated a grade scored higher regardless of gender, and no significant interaction effect between gender and repetition was found. On the other hand, it was confirmed that gender has a significant influence on all the dependent variables analysed. Boys scored higher in self-esteem and social competence, while girls scored higher in problem awareness, regardless of whether they repeated a grade. Repetition only showed a statistically significant effect on self-esteem, with non-repeating students obtaining better results.

This study suggests that gender differences have a considerable impact on anger, self-esteem, social competence, and problem awareness among students. In contrast, grade repetition seems to have a more limited and specific impact, mainly affecting self-esteem and increasing levels of aggression and anger.

Social and contextual factors, such as family, peers, and cultural context, may also contribute to gender differences in externalizing problems. For example, experiences of different socialization, where certain behaviours are reinforced depending on gender, can influence how boys and girls express anger or aggression (Bettencourt et al., 2020).

Regarding the role of personal resources, the results of this research support the idea that these factors can mitigate socio-emotional maladjustments in adolescents. These findings are consistent with previous studies (Huber et al., 2019; Núñez et al., 2021) that highlight the importance of fostering the development of social skills, positive self-esteem, and problem awareness as intervention strategies for at-risk adolescents.

Stegge and Terwogt (2017) explored the role of emotional intelligence and self-esteem as mediators in externalizing problems in early adolescence. Their findings indicated that self-esteem partially mediated the relationship between emotional intelligence and externalizing problems, suggesting that positive self-esteem may help mitigate these problems.

Furthermore, associations between externalizing symptoms in

adolescence, mental health, and social competence were investigated. The results revealed that social competence acted as a mediator between socio-emotional maladjustments and mental health, suggesting that having adequate social skills can reduce these problems and help improve emotional well-being (Barry et al., 2019).

Likewise, other studies have also explored the role of social competence in aggression and substance use in early adolescence. The results indicated that social competence mediated the relationship between aggression and substance use, suggesting that the lack of these interpersonal skills could contribute to externalizing problems such as aggression and substance abuse (Choi & Harachi, 2020).

It is important to consider whether, in all cases of repetition, the ordinary measures available to support students have been previously implemented. Repetition is a drastic intervention that can have adverse effects on students' emotional and social well-being. Before resorting to this measure, it is essential to ensure that all ordinary support strategies have been exhausted, such as personalized tutoring, psychological support programs, differentiated pedagogical interventions, and the involvement of parents and teachers in the educational process.

The research highlights the importance of considering both gender differences and individual circumstances before making significant educational decisions such as grade repetition. The findings emphasize the need to implement preventive and personalized support measures that can mitigate the negative effects associated with repetition and address students' emotional and social needs more effectively. It is essential that schools and educational teams review and strengthen their intervention strategies to ensure that students receive the support they need for their overall development and well-being.

It is important to mention some limitations of this study. Firstly, the research was based on samples from a single province, which may limit its generalizability to other populations. In addition, a self-report-based approach was used, which may be subject to biases and limitations in the accuracy of the data collected.

Although this study focused on the influence of repetition

and gender on externalizing problems, there may be other unconsidered variables that could also impact these problems. Future research could explore the influence of additional variables such as family environment, culture, and individual factors. In addition, it would be interesting to conduct longitudinal studies. Studying adolescents over time would be beneficial to understand how repeating may influence the onset of certain socio-emotional problems and to identify possible protective factors and intervention strategies.

Finally, it would be important to conduct studies that evaluate the effectiveness of specific interventions aimed at strengthening adolescents' personal resources and reducing externalizing problems. This would provide stronger evidence on the effectiveness of these strategies and guide the implementation of effective prevention and treatment programs.

## References

Aguilar, E. F. R. (2020). Variables psicológicas y educativas para la intervención en el ámbito escolar. Nuevas realidades de análisis. En M.M. Molero, A. Martos, A. B. Barragán, M. M. Simón, M. Sisto, R. M. Pino, B. M. Tortosa, & J. J. Gázquez (Eds.), *Variables psicológicas y educativas para la intervención en el ámbito escolar: nuevas realidades de análisis* (pp. 89-102). Dykinson.

American Psychiatric Association. (2014). *Diagnostic and statistical manual of mental disorders* (5<sup>a</sup> ed.). American Psychiatric Association.

Anglim, J., Horwood, S., Smillie, L. D., Marrero, R. J., & Wood, J. K. (2020). Predicting psychological and subjective well-being from personality: A meta-analysis. *Psychological Bulletin*, 146(4), 279–323. <https://doi.org/10.1037/bul0000226>

Ato, M., López, J. J., & Benavente, A. (2013). Un sistema de clasificación de los diseños de investigación en psicología. *Anales de Psicología*, 29(3), 1038–1059. <https://doi.org/10.6018/analesps.29.3.178511>

Bailen, N. H., Green, L. M., & Thompson, R. J. (2019). Understanding emotion in adolescents: A review of emotional frequency, intensity, instability, and clarity. *Emotion Review*, 11(1), 63–73. <https://doi.org/10.1177/1754073918768878>

Barry, C. M., Nelson, L. J., & Dulin, R. (2019). Associations between adolescent externalizing behaviors, mental health, and social competence: A longitudinal study. *Journal of Child and Family Studies*, 28(2), 470–481. <https://doi.org/10.1007/s10802-019-00614-6>

Battistin, E., & Schizzerotto, A. (2019). Threat of grade retention, remedial education and student achievement: evidence from upper secondary schools in Italy. *Empirical Economics*, 56, 651-678. <https://doi.org/10.1007/s00181-018-1443-6>

Bettencourt, A., Farrell, A., & Liu, W. (2020). Gender differences in aggression: The mediating role of social information processing. *Journal of Youth and Adolescence*, 49(4), 858-874.

Caqueo, A., Mena-Chamorro, P., Flores, J., Narea, M., & Irarrázaval, M. (2020). Problemas de regulación emocional y salud mental en adolescentes del norte de Chile. *Terapia Psicológica*, 38(2), 203-222. <http://dx.doi.org/10.4067/S0718-48082020000200203>

Carapeto, M. J., Domingos, R., & Veiga, G. (2022). Attachment and depressive symptoms in adolescence: The mediatory role of emotion awareness. *Behavioral Sciences*, 12(10), 405-. <https://doi.org/10.3390/bs12100405>

Choi, Y., & Harachi, T. W. (2020). The mediating role of social integration in the relationship between aggression and substance use in early adolescence. *Journal of Youth and Adolescence*, 49(3), 707-722. <https://doi.org/10.3389/fpsyg.2021.802408>

Cohen, J. (1992). Statistical power analysis. *Current Directions in Psychological Science*, 1(3), 98–101. <https://doi.org/10.1111/1467-8721.ep10768783>

Consejería de Educación de la Junta de Andalucía. (2021). *La educación en Andalucía. Datos y cifras*. Gobierno Andaluz.

Farías, Á. D. R., & Urra, R. G. (2022). Funcionalidad familiar y autoestima en adolescentes durante la pandemia por COVID-19. *Revista PSIDIAL: Psicología y Diálogo de Saberes*, 1(1), 1-18. <https://doi.org/10.1590/SciELOPreprints.5945>

Fernández-Pinto, I., Santamaría, P., Sánchez-Sánchez, F., Carrasco, M. A., & Del Barrio, V. (2015). *Sistema de Evaluación de Niños y Adolescentes (SENA)*. TEA Ediciones.

Filipiak, S., & Łubianka, B. (2021). On the rocky road to independence: Big five personality traits and locus of control in Polish primary school students during transition into early adolescence. *International Journal of Environmental Research and Public Health*, 18(9), 4564. <https://doi.org/10.3390/ijerph18094564>

Gibby, R., Hartwell, B. K., & Wright, S. (2021). Dyslexia, literacy difficulties and the self-perceptions of children and young people: A systematic review. *Current Psychology*, 40(11), 5595–5612. <https://doi.org/10.1007/s12144-019-00444-1>

González, J. & Álvarez, C. (2022). La repetición de curso en Educación Secundaria en clave organizacional. *Avances en Supervisión Educativa*, 38, 1-14. <https://doi.org/10.23824/ase.v0i38.772>

Hernández, P. M. A., Belmonte, G. L., & Martínez, A. M. M. (2018). Autoestima y ansiedad en los adolescentes. *ReiDoCrea*, 7, 269-278. <https://doi.org/10.30827/Digibug.54133>

Horbach, J., Mayer, A., Scharke, W., Heim, S., & Günther, T. (2020). Devel-

opment of behavior problems in children with and without specific learning disorders in reading and spelling from kindergarten to fifth grade. *Scientific Studies of Reading*, 24(1), 57–71. <https://doi.org/10.1080/10888438.2019.1641504>

Huber, L., Plötzner, M., & Schmitz, J. (2019). Social competence and psychopathology in early childhood: a systematic review. *European Child Adolescent Psychiatry*, 28, 443-459. <https://doi.org/10.1007/s00787-018-1152-x>

IBM Corp. (2021). *IBM SPSS Statistics for Windows* (Versión 25) [Computer software]. IBM Corp.

Instituto Nacional de Estadística. (2023). *Resultados detallados de la educación en España, 2023*. Gobierno de España. <https://www.ine.es>

Livingston, E. M., Siegel, L. S., & Ribary, U. (2018). Developmental dyslexia: Emotional impact and consequences. *Australian Journal of Learning Difficulties*, 23(2), 107–135. <https://doi.org/10.1080/19404158.2018.1479975>

Lohmann, M. J., Boothe, K. A., & Nenovich, N. M. (2017). Using classroom design to reduce challenging behaviors in the elementary classroom. *Classroom Management Series*, 17, 1-8.

López, L., González, D., & Vieira, M.J. (2023). Variables que afectan la repetición en la educación obligatoria en España. *Revista Electrónica de Investigación Educativa*, 25, 1-15. <https://doi.org/10.24320/reie.2023.25.e17.4942>

Marsh, H. W., Pekrun, R., Parker, P. D., Murayama, K., Guo, J., Dicke, T., & Lichtenfeld, S. (2017). Long-term positive effects of repeating a year in school: Six-year longitudinal study of self-beliefs, anxiety, social relations, school grades, and test scores. *Journal of Educational Psychology*, 109(3), 425. <https://doi.org/10.1037/edu0000144>

Martín, I., Barba, M.J., Lázaro, C., Cuenca, J., & Samaniego, E. (2022). Prevención de los problemas socioemocionales en los centros educativos. Una propuesta de intervención psicoeducativa. *Revista de Orientación Educativa AOSMA*, 31, 36-66.

Mathys, C., Véronneau, M.-H., & Lecocq, A. (2019). Grade retention at the transition to secondary school: using propensity score matching to identify consequences on psychosocial adjustment. *The Journal of Early Adolescence*, 39(1), 97–133. <https://doi.org/10.1177/027243161773565> 1

Méndez, I., & Cerezo, F. (2018). La repetición escolar en Educación Secundaria y factores de riesgo asociados. *Educación XXI*, 21(1), 41–61. <https://doi.org/10.5944/educXX1.13717>

Mesurado, B., Vidal, E. M., & Mestre, A. L. (2018). Negative emotions and behaviour: The role of regulatory emotional self-efficacy. *Journal of Adolescence*, 64(1), 62–71. <https://doi.org/10.1016/j.adolescence.2018.01.007>

Ministerio de Educación y Formación Profesional de España. (2020). *Ley Orgánica 3/2020, de 29 de diciembre, por la que se modifica la Ley Orgánica 2/2006, de 3 de mayo, de Educación (LOMLOE)*.

Ministerio de Educación, Formación Profesional y Deporte. (2024). *Panorama de la Educación. Indicadores de la OCDE 2024. Informe español*. Secretaría General Técnica.

Morey, L.C. (2015). *Inventario de evaluación de la personalidad para adolescentes (PAI-A)*. TEA Ediciones.

Núñez, A., Álvarez-García, D., & Pérez-Fuentes, M. C. (2021). Ansiedad y autoestima en los perfiles de cibervictimización de los adolescentes. *Comunicar*, 29(68), 47-59. <https://doi.org/10.3916/C67-2021-03>

Oliva, A., Antolín, L., Pertegal, M. A., Ríos, M., Parra, Á., Hernando, A., & Hernández, J. A. (2017). Gender differences in aggressive behavior among adolescents and young adults: A study from the Canary Islands. *International Journal of Clinical and Health Psychology*, 17(2), 125-132.

Orgilés, M., Tomczyk, S., Amorós-Reche, V., Espada, J.P., & Morales, A. (2023). Stressful life events in children aged 3 to 15 years during the covid-19 pandemic: A latent class analysis. *Psicothema* 2023, 35, 58-65. <https://doi.org/10.7334/psicothema2022.202>

Portela, I., Alvariñas-Villaverde, M., & Pino-Juste, M. (2021). Socio-emotional skills in adolescence. Influence of personal and extracurricular variables. *International Journal of Environmental Research and Public Health*, 18(9), 4811-. <https://doi.org/10.3390/ijerph18094811>

Rey-Bruguera, M., Calonge, I., Thomas-Currás, H., & Martínez-Arias, M. R. (2023). Sexo como variable moderadora de la sintomatología internalizante y externalizante en la infancia. *Revista Española de Salud Pública*, 97, e202303022. <https://ojs.sanidad.gob.es/index.php/resp/article/view/101>

Ruxton, G. D. (2006). The unequal variance t-test is an underused alternative to student's t-test and the Mann-Whitney U test. *Behavioral Ecology*, 17, 688-90. <http://dx.doi.org/10.1093/beheco/ark016>

Salavera, C., & Usán-Supervía, P. (2019). Influencia de los problemas internalizantes y externalizantes en la autoeficacia en estudiantes de Secundaria. *Revista de Investigación Educativa*, 37(2), 413–429. <https://doi.org/10.6018/rie.37.2.323351>

Schoeps, K., Chulià, A. T., Barrón, R. G., & Castilla, I. M. (2019). Competencias emocionales y autoestima en la adolescencia: impacto sobre el ajuste psicológico. *Revista de Psicología Clínica con Niños y Adolescentes*, 6(1), 51-56. <http://dx.doi.org/10.21134/rpcna.2019.06.1.7>

Sosa, D. M., Guerrero, E., & Sánchez-Herrera, S. (2016). Autoconcepto académico: Modalidades de escolarización, repeticiones de curso y sexo. *Campo Abierto*, 35(2), 69–82.

Stegge, H., & Terwogt, M. M. (2017). Emotional intelligence, self-esteem, and externalizing problems in early adolescence. *Journal of Early Adolescence*, 37(5), 681-696.

Tamarit, A., de la Barrera U., Mónaco, E., Schoeps, K., & Montoya-Castilla, I. (2020). Psychological impact of COVID-19 pandemic in Spanish adolescents: Risk and protective factors of emotional symptoms. *Revista Psicología Clínica Niños y Adolescentes*, 7, 73–80. <https://doi.org/10.21134/rpcna.2020.mon.2037>

Valbuena, J., Mediavilla, M., Choi, Á., & Gil, M. (2021). Effects of grade retention policies. A literature review of empirical studies applying causal inferences. *Journal of Economic Surveys*, 35(2), 408–451. <https://doi.org/10.1111/joes.12406>

World Health Organization. (2019). *International Classification of Diseases* (11th ed.). <https://icd.who.int/en>

Yancey, T. J., Bennett, D. C., Benner, A. D., & Li, F. (2019). Gender differences in behavioral and academic trajectories from kindergarten to eighth grade. *Developmental Psychology*, 55(5), 1004-1017.

Yang, S. J., Kim, B. N., & Song, D. H. (2018). Gender differences in the relationships between internet gaming disorder and aggression among South Korean teenagers. *Journal of Psychiatric Research*, 98, 7-14.





# **Self-regulation in mathematics: different strategies for different levels of achievement**

## **Autorregulación en matemáticas: diferentes estrategias para distintos niveles de rendimiento**

<https://doi.org/10.4438/1988-592X-RE-2025-411-728>

**Raquel De Sixte Herrera**

<https://orcid.org/0000-0001-6260-5011>

*University of Salamanca*

**Marta Ramos Baz**

<https://orcid.org/0000-0002-9643-6495>

*University of Salamanca*

**Álvaro Jáñez González**

<https://orcid.org/0000-0002-6861-1743>

*University of Salamanca*

**María Sevilla López**

*University of Salamanca*

### **Abstract**

This study analyses the use of learning and motivation strategies. High School students (ESO) as a function of academic performance in mathematics, with the main objective of identifying the strategies that actually seem to contribute to or explain the different types of performance. 292 ESO students were assessed on the use of learning and motivational strategies and academic performance in mathematics. The results showed that, although all students, regardless of their performance, use the strategies, only some of them appear to be weighted towards the medium and high achievers, and even fewer strategies seem to explain

them. Of all the learning strategies, only some in the 'resource control' group seem to explain significantly and positively both levels of performance. When mathematical performance is average, peer help seems to be key. Effort and, marginally, the cognitive strategy of critical thinking contribute to high performance. The data also reveal differences in the case of motivational strategies. Thus, although self-efficacy seems to contribute positively in both cases, it does so only significantly when performance is high and marginally when it is average. Another notable difference is the finding of a significant negative contribution in the case of self-handicapping motivational strategies only when performance is high. It seems that variables that may explain higher performance in isolation lose impact in a realistic situation in which the student uses several strategies, and all are analysed together. The theoretical and practical implications of these results are discussed.

*Keywords:* self-regulation, learning strategies, motivational strategies, mathematics, middle school.

## Resumen

En este estudio se analiza el uso de las estrategias de aprendizaje y de motivación de estudiantes de Educación Secundaria Obligatoria (ESO) en función del rendimiento académico en matemáticas, con el principal objetivo de identificar las estrategias que realmente parecen contribuir o explicar los diferentes tipos de rendimiento. 292 estudiantes de ESO fueron evaluados en el uso de estrategias de aprendizaje y de motivación y en rendimiento académico en matemáticas. Los resultados mostraron que, aunque todos los alumnos, independientemente de su rendimiento, utilizan las estrategias, sólo algunas parecen tener peso en los de rendimiento medio y alto, y aún son menos las estrategias que parecen explicarlos. De todas las estrategias de aprendizaje, solo algunas del grupo 'control de recursos' parecen explicar de forma significativa y positiva ambos niveles de rendimiento. Cuando el rendimiento matemático es medio, la *ayuda de los compañeros* parece ser clave. El *esfuerzo* y, de un modo marginal, la estrategia cognitiva de *pensamiento crítico* contribuye al rendimiento alto. Los datos también revelan diferencias en el caso de las estrategias de motivación. Así, aunque la *autoeficacia* parece contribuir en positivo en ambos casos, solo lo hace de forma significativa cuando el rendimiento es alto y marginalmente cuando es medio. Otra diferencia notable es el hallazgo de una contribución significativa en negativo en el caso de las estrategias motivacionales de *self-handicapping* solo cuando el rendimiento es alto. Parece que las variables que pueden explicar un mayor rendimiento de forma aislada pierden impacto en una situación realista en la que el estudiante usa diversas estrategias y se analizan todas en conjunto. Se discuten las implicaciones teóricas y prácticas de estos resultados.

*Palabras clave:* autorregulación, estrategias de aprendizaje, estrategias de motivación, matemáticas, Educación Secundaria Obligatoria.

## Introduction

There is extensive research on learning strategies (cognitive and motivational) as an essential part of self-regulation and their impact on practice (Fung et al., 2018; Li et al., 2018). According to Ruiz-Martín et al. (2024), we know which are desirable strategies because research supports their role in learning, performance, and even well-being. However, what is truly interesting is to explore which of these strategies students actually use and, furthermore, which of them explain the different types of student performance (low, medium or high). This work focuses its contribution on this particular point. Specifically, we explore which self-regulation strategies are most frequently used by compulsory secondary education students when they have to deal with complex content such as mathematics. In addition, we are interested in identifying which of these strategies may have the greatest impact on the type of student performance (low, medium and high). Identifying which strategies are key to medium or high mathematical performance can offer clues about the type of support that should be provided depending on the academic objectives pursued.

## Self-regulation and learning and motivation strategies

Self-regulation is the process of managing one's thoughts, feelings, and behaviours to achieve objectives or goals (Cleary et al., 2021; Usher & Schunk, 2018). Research in this field (Cleary et al., 2021; Pintrich, 2004) agrees that it can be conceptualised as a dynamic process involving the use of strategies, motivation and metacognition. From this theoretical framework, students can actively promote their learning and performance by regulating the processing of the information to which they are exposed, their motivational beliefs, and their behaviour in order to achieve their goals (Torrano & Soria, 2016). In practice, studies (Paz-Baruch & Hazema, 2023; Torrano & Soria, 2016) explore this possibility by focusing on the *learning strategies* (cognitive, resource control and metacognitive) and *motivation strategies* (goal orientation, self-efficacy and self-handicapping) that students

deploy with regard to complex learning content such as mathematics.

Many studies have shown that direct intervention on these strategies improves performance, learning, and motivation (Theobald, 2021), but very few studies explore their actual use (Ruiz-Martín et al., 2024; Torrano & Soria, 2016), and even fewer identify which strategies explain performance. This is what this study explores. In addition to analysing the use of these self-regulation strategies according to performance level, it goes a step further and analyses which of these strategies actually explain the type of performance of each student when studied together rather than in isolation.

When analysing *learning strategies*, cognitive strategies focus on processing, transforming and organising information (Karlen, 2016), metacognitive strategies involve planning, monitoring and evaluating the learning process itself (Ohtani & Hisasaka, 2018), and resource management strategies serve to exert control over the learning environment (Theobald, 2021). *Cognitive* strategies include repetition or rehearsal, elaboration, organisation and critical thinking (Pintrich, 2004). Critical thinking is also one of the most studied cognitive strategies in relation to mathematics and is defined as drawing logical conclusions and making informed decisions to solve mathematical problems (Aizikovitsh-Udi & Cheng, 2015). Strategies that offer deeper processing of information, such as elaboration, have been shown to have a greater impact on performance than more superficial strategies (underlining or rereading) typical of repetition or rehearsal (Donoghue & Hattie, 2021). *Metacognitive* strategies include processes of monitoring and managing cognition (Ohtani & Hisasaka, 2018). Encouraging students to plan, monitor, and evaluate their learning process is known to improve their performance (Guo, 2022). Thus, metacognitive strategies have the greatest impact of all those proposed by the self-regulation model (Theobald, 2021). The final learning strategies are *resource management* strategies, used to gain control over the environment, managing effort, perseverance or other people by seeking help. Their overall impact on performance is also high (Theobald, 2021). It is important to note that effort and perseverance are volitional strategies which, although included within cognitive strategies, have a certain relationship with motivational aspects. Both the commitment to actions to stay focused on a task (effort) and the ability to maintain that effort

in the face of obstacles and difficulties (perseverance) act through volitional mechanisms and are closely related to each other (DiNapoli, 2023). Seeking help, on the other hand, is defined as a multi-stage process in which students must first identify that a problem exists, then determine that they need help, engage in the search for help, decide why they need help, decide whom to ask for that help, and finally, request and receive that help (Newman, 2002). When the variables are analysed independently, it is clear that they are all important: effort management (Pools & Monseur, 2021), perseverance (Fung et al., 2018) and help-seeking (Sun et al., 2018) all have significantly positive impacts on performance.

Meanwhile, *motivational strategies* consist of self-efficacy, goal orientation and self-handicapping beliefs, completing the set of essential strategies that enable individuals to effectively self-regulate their own learning (Pintrich, 2004). These strategies may be even more important than cognitive or metacognitive strategies in predicting performance in STEM subjects, i.e., science, technology, engineering, and mathematics (Satrústegui Moreno et al., 2024). *Self-efficacy* is the belief in one's own ability to achieve a goal (Bandura, 2011). It influences personal thoughts, feelings, motivations and behaviours, affecting decisions and performance. With regard to *goal orientation*, the most widely used model for its explanation is that of Elliot & McGregor (2001), in which they propose a mastery/performance axis and an approach/avoidance axis. This gives rise to four different goal orientations. Approach mastery orientations encourage commitment to the task for the sake of improvement. However, when this mastery occurs through avoidance, the focus shifts to avoiding failure rather than self-improvement. In approach performance goals, the student focuses on performing relatively well compared to others, assuming that performance at or above the standard would be positive. Finally, if these performance goals are avoidance-oriented, the objective is to strive not to fail in comparison to others, causing anxiety about the possibility of underperforming. It has been proven that avoidance subtypes are negatively related to learning, while approach subtypes are positively related. Furthermore, within the approach subtypes, mastery goals have a greater positive impact than performance goals (Sorić et al., 2017). Even in recent studies (Méndez-Giménez et al., 2017) exploring the latest

proposal by Elliot et al. (2011) regarding this variable (3x2 model), the results reveal that only mastery goals are clearly related to more self-determined motivation in secondary school students and the promotion of their well-being, while approach performance goals can have both adaptive and maladaptive relationships with both aspects. Recent studies show how self-efficacy appears to be the mediator between goal orientation and performance (Honcik et al., 2020), with a strong relationship with mastery and approach goals, but a weaker one with avoidance and performance goals (Huang, 2016).

Lastly, *self-handicapping* is the creation of obstacles to one's own success, with the intention of protecting or enhancing perceived competence (Funkhouser & Hallam, 2022). This strategy of defending one's own self-worth, unlike others such as self-assertion, is anticipatory in nature (Valle et al., 2007). In other words, a student displays this behaviour with the aim of protecting their self-worth before engaging in the activity. Choosing circumstances that make work impossible is an example of this type of strategy (Valle et al., 2007). The meta-analysis by Schwinger et al. (2014) shows that self-handicapping has a negative influence on performance. Furthermore, it appears to be related to the type and orientation of goals: as learning goals become higher, the use of self-handicapping strategies decreases, while greater use is made of them when avoidance goals or even performance approach goals increase (Valle et al., 2007).

Different self-regulation strategies are key to academic performance. However, previous studies have focused mainly on finding out which strategies are used in general, rather than by performance groups. Similarly, there has been no detailed analysis of which of these types of strategies actually explain performance, beyond whether they are used more or less or explain part of performance individually. In short, it is unknown which types of strategies seem to be most relevant for achieving average or high performance in demanding academic subjects such as mathematics.

## Mathematical performance and self-regulation in secondary school

Self-regulation strategies for science performance are even more powerful than in other areas (Li et al., 2018), which encourages the development of studies on self-regulation in mathematics. Furthermore, they are positively related to mathematical performance in secondary school (Alyani & Ramadhina, 2022), with students with high self-regulation profiles showing higher mathematical performance (Cleary et al., 2021).

When strategies are disaggregated and studied separately, rather than as a set of self-regulation skills, we continue to find positive effects. Metacognitive strategies, for example, predict adolescents' engagement with mathematics, which enhances their performance (Wang et al., 2021). Critical thinking promotes higher mathematics performance in secondary school students, especially in lower-performing students, but loses its effectiveness in high-performing ones (Duru & Obasi, 2023). Motivational strategies are also strong predictors of mathematical performance, even above other variables such as intellectual ability (Abín et al., 2020).

Despite the available data corroborating the great value of self-regulation strategies on mathematical performance, there is little information on whether they are equally effective for students of different performance levels, or which ones are most commonly used when analysed as a whole. One of the few examples available in secondary education is the study by Paz-Baruch & Hazema (2023), which showed how high-achieving students used all strategies to a greater extent than typical-achieving students, except for the critical thinking strategy, which was more common among the latter. The study by Kim et al. (2015) offers similar results: high-achieving students showed higher levels of effort regulation and self-efficacy than low-achieving students.

Similarly, Torrano & Soria (2016) showed that the motivational strategies that seem to be used differently depending on performance level are learning goals, self-efficacy and self-handicapping. High-performing students use the first two to a greater extent, while the latter is used in lesser measure than low- and medium-performing students. In terms of learning strategies, high-performing students make significantly greater use of effort planning

and monitoring than lower-performing students.

In summary, the use of different types of learning and motivation strategies and their relationship with different levels of mathematical performance is well known. However, it is not known which of these strategies explain each type of performance when analysed together, especially in Spain. Therefore, it seems necessary to make further progress in this area.

## **The present study**

This study has two objectives. One, to analyse the use of learning and motivation strategies by secondary school students according to their level of mathematical performance. Two, to explore the contribution of learning and motivation strategies at different levels of mathematical performance. In accordance with the theoretical framework presented, the following hypotheses are proposed:

- H1: In learning strategies, a differential impact is expected across different achievement levels on mathematics performance.  
All strategies will be used to a greater or lesser extent by all students (e.g., Paz-Baruch & Hazema, 2023; Torrano & Soria, 2016). High-performing students will use learning strategies to a greater extent than lower-performing students, except in critical thinking (H1a). However, although these strategies have an impact when analysed individually (Duru & Obasi, 2023; Sun et al., 2018), when analysing all the variables taken together and by performance groups, we expect that only some of them will have an impact on mathematical performance (H1b).
- H2: In motivational strategies, a differential impact is also expected between different achievement levels on performance in mathematics.  
All motivational strategies will be used to a greater or lesser extent by students (Paz-Baruch & Hazema, 2023; Torrano & Soria, 2016), and we expect their use to be greater among high-performing students, except for self-handicapping (H2a). When analysed individually, all will

have a positive impact (Sorić et al., 2017; Sun et al. 2018), except for self-handicapping, which will have a negative impact (Schwinger et al., 2014). However, when analysing all the variables together and by performance levels, several of these individual effects will disappear, and only some of them will have a significant impact on mathematical performance (H2b), offering a more realistic view of the impact of these variables.

## **Method**

### **Design**

A quantitative methodology with a non-experimental cross-sectional design was used.

## **Participants**

The study involved 392 compulsory secondary education (ESO) students from two schools located in areas of medium sociocultural level in the city of Salamanca (Spain). One hundred students were excluded from the analysis because some of their questionnaires were missing answers to certain items. The final sample of participants consisted of 292 students (42.8% female and 57.2% male). Non-probability purposive sampling was used. The age range of the students was 12-17 years old ( $M= 14.02$  and  $SD=1.31$ ). The distribution of the sample according to compulsory secondary education academic years was as follows: 1st year ( $n=85$ ), 2nd year ( $n=50$ ), 3rd year ( $n=82$ ) and 4th year ( $n=75$ ), organised into fifteen classrooms with four mathematics teachers.

## Instruments

### Learning strategies

The use of learning strategies was assessed using the Learning Strategies and Motivation Questionnaire (*Cuestionario de Estrategias de Aprendizaje y Motivación*, CEAM II-R2) by Roces et al. (1995), based on the *Motivated Strategies for Learning Questionnaire* (MSLQ) by Pintrich et al. (1991). Specifically, the learning strategies scale was used, consisting of 57 items organised into three dimensions: cognitive strategies (repetition, elaboration, organisation and critical thinking), metacognitive strategies and resource control strategies (perseverance, effort, study environment, peer support and teacher support). Students indicated their level of agreement with each item on a 1-7 point Likert scale (1 = no, never to 7 = yes, always). The scale had a good reliability index ( $\alpha = .93$ ), with Cronbach's alpha for the dimensions ranging from .90 to .69 (Hair et al., 2018).

### Motivation strategies

The use of motivational strategies was assessed using the Spanish adaptation by González-Torres & Torrano (2012) of Midgley et al.'s *Patterns of Adaptive Learning Survey* (PALS) questionnaire (2000), consisting of 39 items organised into four dimensions: academic goal orientation (learning goals, approach performance goals, avoidance performance goals), perception of classroom goals (learning goals, approach performance goals, avoidance performance goals), academic self-efficacy, and self-handicapping strategies. Students indicated their level of agreement with each item on a 1-7 point Likert scale (1 = no, never to 7 = yes, always). The scale had a good reliability index ( $\alpha = .90$ ), with Cronbach's alpha for the dimensions ranging from .93 to .75 (Hair et al., 2018).

## Academic performance

Mathematics performance corresponded to the quantitative grade for the subject. The Spanish grading scale ranges from 0 (fail) to 10 (excellent), with a pass mark of 5 or above.

## Procedure

Educational centres were contacted to request their collaboration in the study, and informed consent was sought from the students' parents, following the ethical guidelines of the Declaration of Helsinki and the recommendations of the Research Ethics Committee of the University of Salamanca. Those students who had parental authorisation were assessed on their use of learning and motivation strategies through paper questionnaires. A simultaneous assessment was carried out in a large group by one of the authors of the study, lasting approximately 30 minutes, in the last term of the academic year. The educational centre provided academic performance data in mathematics for each of the students who participated in the study.

## Data analyses

After verifying the normality of the variables involved in the study, non-parametric tests were used (K-S learning strategies = .065,  $p = .005$ ; K-S motivation strategies = .084,  $p = .003$ ; K-S performance = .136,  $p = < .001$ ). Subsequently, the following were calculated: a) descriptive statistics and the Wilcoxon test to analyse the use of learning and motivation strategies by students, and the Kruskal-Wallis H test and Mann-Whitney U test with Bonferroni correction to analyse differences in the use of strategies; b) Spearman's rho correlation analysis to analyse the relationship between these strategies and academic performance, categorising them into three groups: low (0-4.99), medium (5-6.99) and high (7-10); c) multiple linear regression analysis to analyse the contribution of learning and motivation strategies to

academic performance in mathematics. In cases where statistically significant differences were found, Cohen's *d* was calculated to provide an estimate of the effect size of the difference. Following Cohen's criteria (1988), the following were considered: adverse effect ( $<0$ ), no effect (.0-.1), small effect (.2-.4), intermediate effect (.5-.7) and large effect (.8- $\geq 1$ ).

Statistical analyses were performed using SPSS Statistic 28 software.

## Results

### Use of learning and motivation strategies

The results obtained by students in the use of learning and motivation strategies according to performance groups are shown in Table I.

**Table I.** Descriptive statistics of learning and motivational strategies according to performance groups.

	PERFORMANCE			
	Low (n=33)	Medium (n=85)	High (n=174)	Total (n=292)
	M (SD)	M (SD)	M (SD)	M (SD)
<b>LEARNING STRATEGIES</b>	<b>4.44 (.92)</b>	<b>4.37 (.90)</b>	<b>4.76 (.81)</b>	<b>4.61 (.87)</b>
<b>Cognitive Strategies</b>	<b>4.43 (1.19)</b>	<b>4.15 (1.17)</b>	<b>4.33 (1.15)</b>	<b>4.29 (1.16)</b>
Repetition	5.00 (1.59)	4.69 (1.56)	4.49 (1.64)	4.61 (1.61)
Elaboration	4.60 (1.17)	4.25 (1.32)	4.63 (1.28)	4.52 (1.29)
Organization	3.98 (1.49)	3.76 (1.34)	3.89 (1.52)	3.86 (1.47)
Critical thinking	4.36 (1.57)	4.18 (1.61)	4.40 (1.49)	4.33 (1.53)
<b>Metacognitive Strategies</b>	<b>4.73 (1.31)</b>	<b>4.63 (1.14)</b>	<b>5.05 (.94)</b>	<b>4.89 (1.06)</b>
<b>Resource Management Strategies</b>	<b>4.40 (.81)</b>	<b>4.51 (.83)</b>	<b>5.07 (.70)</b>	<b>4.83 (.80)</b>
Perseverance (volitional)	4.78 (1.39)	5.04 (1.20)	5.72 (1.01)	5.41 (1.18)
Effort (volitional)	3.91 (.87)	4.09 (.89)	4.84 (.79)	4.52 (.92)
Study environment	5.39 (1.33)	5.50 (1.26)	5.80 (1.29)	5.66 (1.29)
Peer help	4.50 (1.29)	4.29 (1.19)	4.49 (1.16)	4.43 (1.18)
Teacher help	4.04 (1.89)	4.39 (1.75)	5.27 (1.59)	4.87 (1.74)
<b>MOTIVATION STRATEGIES</b>	<b>4.52 (.94)</b>	<b>4.44 (1.00)</b>	<b>4.66 (.77)</b>	<b>4.58 (.87)</b>
<b>Academic Goal Orientation</b>	<b>4.32 (1.37)</b>	<b>4.45 (1.44)</b>	<b>4.73 (1.20)</b>	<b>4.60 (1.30)</b>
Mastery goals	5.11 (1.59)	5.19 (1.53)	5.93 (1.19)	5.62 (1.39)

	PERFORMANCE			
	Low (n=33)	Medium (n=85)	High (n=174)	Total (n=292)
	M (SD)	M (SD)	M (SD)	M (SD)
Performance goals (Approach)	3.72 (1.68)	3.85 (1.88)	3.92 (1.68)	3.88 (1.74)
Performance goals (Avoidance)	4.08 (1.77)	4.29 (1.66)	4.25 (1.58)	4.24 (1.62)
<b>Perception of classroom goals</b>	<b>4.96 (1.15)</b>	<b>4.93 (1.12)</b>	<b>5.18 (.94)</b>	<b>5.08 (1.02)</b>
Mastery goals	5.86 (1.83)	5.68 (1.09)	6.12 (1.00)	5.96 (1.16)
Performance goals (Approach)	5.46 (1.14)	5.31 (1.50)	5.72 (1.98)	5.7 (1.78)
Performance goals (Avoidance)	3.59 (1.76)	3.81 (1.82)	3.73 (1.65)	3.74 (1.71)
<b>Academic Self-Efficacy</b>	<b>5.43 (1.32)</b>	<b>5.06 (1.55)</b>	<b>6.03 (.96)</b>	<b>5.68 (1.28)</b>
<b>Self-Handicapping</b>	<b>3.21 (1.41)</b>	<b>2.72 (1.29)</b>	<b>2.14 (1.08)</b>	<b>2.43 (1.24)</b>

Source: Own work.

Note: The totals for each of the two types of strategies analysed are highlighted in bold.

At the secondary school level, students report similar use of learning strategies and motivational strategies ( $Z=-.624$ ,  $p=.532$ ). In the case of learning strategies, high-achieving students show slightly higher use than other students with average ( $U=-34.802$ ,  $p=.006$ ) and low ( $U=-25.668$ ,  $p=.101$ ) performance. In the case of motivational strategies, there are no differences in their use according to student performance [ $\chi^2 (2) = 2.427$ ,  $p=.297$ ].

*Learning strategies.* The most commonly used are metacognitive strategies ( $Z_{\text{Cognitive}} = -14.812$ ,  $p < .001$ ;  $Z_{\text{ResourceControl}} = -14.812$ ,  $p < .001$ ) and resource control strategies ( $Z_{\text{Cognitive}} = -12.355$ ,  $p < .001$ ), with higher-performing students reporting greater but not significant use (with Bonferroni correction, only  $p < .017$  will be considered significant) of metacognitive strategies than medium-performing students ( $U = -30.048$ ,  $p = .021$ ) and low-performing students ( $U = -27.446$ ,  $p = .120$ ); as well as a significantly greater use, in this case, of resource control compared to medium ( $U = -59.94$ ,  $p = .001$ ) and low-performing students ( $U = -68.599$ ,  $p = .001$ ). Specifically, the most commonly used resource control strategies appear to be the study environment ( $Z_{\text{effort}} = -14.745$ ;  $p < .001$ ;  $Z_{\text{peer help}} = -8.084$ ,  $p < .001$ ;  $Z_{\text{teacher help}} = -6.861$ ,  $p < .001$ ) and perseverance ( $Z_{\text{effort}} = -14.815$ ;  $p < .001$ ;  $Z_{\text{study environment}} = -13.763$ ,  $p < .001$ ;  $Z_{\text{peer help}} = -14.110$ ,  $p < .001$ ;  $Z_{\text{teacher help}} = -7.929$ ,  $p < .001$ ), with higher-achieving students making significantly greater use of them than medium students ( $U = -48.558$ ,  $p < .001$ ) and low ( $U = -60.008$ ,  $p = .001$ ) in perseverance, but without

reaching significance with either the medium ( $U=-24.925$ ,  $p=.025$ ) or low ( $U=-30.335$ ,  $p=.051$ ) in resource control. In all cases, the effect size was  $>1.0$ , which is considered a strong effect.

According to performance groups, low- and medium-performing students would be characterised by the use of repetition as a cognitive strategy and the study environment as a resource control strategy. Meanwhile, high-performing students would be characterised by the use of elaboration as a cognitive strategy, metacognition and the study environment and perseverance as resource control strategies.

*Motivation Strategies.* The most commonly used is self-efficacy ( $Z_{\text{AcademicGoals}} = -14.781$ ,  $p < .001$ ;  $Z_{\text{ClassroomGoals}} = -14.813$ ,  $p < .001$ ;  $Z_{\text{Self-handicapping}} = -13.275$ ,  $p < .001$ ), with higher-performing students making significantly greater use of it than medium-performing students ( $U = -53.690$ ,  $p < .001$ ) but not low-performing students ( $U = -37.914$ ,  $p = .053$ ). The least used strategies are self-handicapping ( $Z_{\text{AcademicGoals}} = 14.808$ ,  $p = .000$ ;  $Z_{\text{ClassroomGoals}} = -14.812$ ,  $p = .001$ ), in which higher-performing students make significantly less use than medium ( $U = 39.684$ ,  $p = .001$ ) and low-performing students ( $U = 68.472$ ,  $p = .000$ ). With regard to the academic goal orientation strategy, the most commonly used is learning goals ( $Z_{\text{GoalsPerformanceApproach}} = -12.427$ ,  $p < .001$ ;  $Z_{\text{GoalsPerformanceAvoidance}} = -14.096$ ,  $p < .001$ ) and in relation to classroom goals, it is the learning class goals strategy ( $Z_{\text{ClassGoalsPerformanceApproach}} = -14.573$ ,  $p < .001$ ;  $Z_{\text{ClassGoalsPerformanceAvoidance}} = -14.489$ ,  $p < .001$ ). In both cases, it is the students with higher performance who make significantly greater use than those with medium ( $U = -42.341$ ,  $p = .000$ ) and low ( $U = -49.170$ ,  $p = .006$ ) performance for the first, and also significantly greater than those with medium ( $U = -37.470$ ,  $p = .001$ ) but not than those with low performance ( $U = -32.594$ ,  $p = .040$ ) for the second. In all cases, the effect size was  $>1.0$ , which is considered a strong effect.

According to performance groups, low- and medium-performing students are characterised by the use of mastery goals as a strategy for academic goal orientation, class mastery goals as a strategy for classroom goal perception, and self-handicapping strategies. High-performing students are distinguished by their use of academic self-efficacy and low use of self-handicapping strategies.

## **Contribution of the use of learning and motivation strategies to academic performance**

Student performance in mathematics is shown in Table II.

**Table II.** Descriptive statistics of performance.

	<b>M</b>	<b>SD</b>	<b>Min.</b>	<b>Max.</b>
<b>Total</b>	6.87	1.85	2	10

Source: Own work.

The analysis of correlations between the use of learning and motivation strategies and different levels of academic performance in mathematics (see complete data in Appendix I) shows that only in the case of medium and high performance are some of the strategies related to performance. Table III shows the strategies in each case.

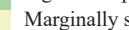
**Table III.** Strategies related to each level of academic performance in mathematics.

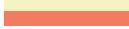
		PERFORMANCE	
	Low (n=33)	Medium (n=85)	High (n=174)
Learning strategies			Elaboration (C) (rho=.267, p=<.001)
			Critical thinking (C) (rho=.185, p=.015)
		Metacognitive strategies (rho=.187, p=.086)	
			Perseverance (RM) (rho=.128, p=.091)
			Effort (RM) (rho=.347, p=<.001)
		Peer help (RM) (rho=.339, p=.001)	
Motivation strategies			Teacher help (RM) (rho=.144, p=.058)
			Mastery goals (AG) (rho=.179, p=.018)
			Performance goals (Approach) (AG) (rho=.126, p=.097)
			Classroom Performance goals (CG) (rho=.130, p=.087)
		Self-efficacy (rho=.187, p=.087)	Self-efficacy (rho=.297, p=<.001)
			Self-handicapping (rho=-.246, p=.001)

Source. Own work.

Note. C: cognitive; RM: resource management; AG: academic goals; CG: classroom goals

 Significant positive relation  $p<.05$

 Marginally significant positive relation  $p<.1$

 Significant negative relation  $p<.01$

Based on statistically significant correlations, a multiple linear regression analysis was performed. The Durbin-Watson statistic was calculated, showing the independence of the residuals, as well as the tolerance and the variance inflation factor (VIF), showing the absence of multiple collinearity (Table IV).

**Table IV.** Regression coefficients.

MODEL		$\beta$	t	DW	TOLERANCE	VIF	F	$R^2$
<b>MEDIUM PERFORMANCE (n=85)</b>								
<b>Learning strategies</b>	Metacognition	.008 (p=.947)	.067	1.933	.725	1.379	5.889 (p=.004)	.126
	Peer help	.350 (p=.005)	2.887					
<b>Motivation strategies</b>	Self-efficacy	.199 (p=.067)	1.853	1.841	1.00	1.00	3.433 (p=.067)	.040
<b>HIGH PERFORMANCE (n=174)</b>								
<b>Learning strategies</b>	Elaboration	.140 (p=.158)	1.502	2.157	.578	1.729	6.264 (p=<.001)	.157
	Critical thinking	.145 (p=.100)	1.616		.626	1.597		
	Perseverance (volitional)	-.103 (p=.222)	-1.226		.710	1.408		
	Effort (volitional)	.322 (p=<.001)	4.019**		.780	1.282		
	Teacher help	.017 (p=.826)	.220		.846	1.182		
<b>Motivation strategies</b>	Mastery goals	-.038 (p=.777)	-.283	2.036	.284	3.526	4.546 (p=<.001)	.119
	Performance goals (Approach)	.112 (p=.165)	1.394		.814	1.228		
	Classroom Mastery goals	-.103 (p=.437)	-.779		.302	3.308		
	Self-efficacy	.293 (p=.001)	3.240**		.60	1.563		
	Self-handicapping	-.163 (p=.047)	-2.003		.790	1.265		

Source. Own work.

\*p<0.1; \*p<0.05; \*\*p<0.01

Table V presents the regression model including only the significant variables detected in the model in Table IV.

**Table V.** Regression coefficients.

MODELO		$\beta$	t	DW	TOLERANCE	VIF	F	R2
<b>RENDIMIENTO MEDIO (n=85)</b>								
Learning strategies	Peer help	.354 (p=<.001)	3.452	1.935	1.00	1.00	11.916 (p=<.001)	.126
Motivation strategies	Self-efficacy	.199 (p=.067)	1.853	1.841	1.00	1.00	3.433 (p=.067)	.040
<b>RENDIMIENTO ALTO (n=174)</b>								
Learning strategies	Critical thinking	.191 (p=.008)	2.688	2.146	1.00	1.00	13.768 (p=<.001)	.139
	Effort (volitional)	.322 (p=<.001)	4.532		1.00	1.00		
Motivation strategies	Self-efficacy	.255 (p=.001)	3.294	2.,027	.879	1.137	9.236 (p=<.001)	.097
	Self-handicapping	-.112 (p=.105)	-1.446		.879	1.137		

For medium performance, the learning strategies model was significant ( $p<.001$ ), explaining 12.6% of the variance in performance, where only the variable peer support contributed significantly and positively to academic performance in mathematics. The motivation strategies model was marginally significant ( $p<.067$ ) with a marginally significant contribution from the self-efficacy variable.

In the case of high performance, the learning strategies model was significant ( $p<.001$ ), explaining 13.9% of the variance in performance, with the variables effort and critical thinking contributing positively and significantly to academic performance in mathematics. The motivation strategies model was also significant ( $p<.001$ ), explaining 9.7% of the variance in performance, with positive self-efficacy and negative self-handicapping strategies marginally explaining performance.

## Discussion and conclusions

The objectives of this study were to analyse the use of learning and motivation strategies by secondary school students according to their level of mathematical performance and to explore the contribution of these strategies at different performance levels.

The results obtained are consistent with previous studies (Paz-Baruch & Hazema, 2023; Torrano & Soria, 2016). Students use all learning and motivation strategies regardless of their level of mathematical performance. However, it appears that not all learning strategies are used to a greater extent by high-performing students, as claimed by Paz-Baruch & Hazema (2023). In the current study, resource management is not used more by high-performing students compared to low- and medium-performing students. In the case of motivational strategies, higher-performing students report greater use of all strategies except self-efficacy, self-handicapping, and avoidance-type class goals. This partially confirms hypotheses H1a and H2a.

It seems reasonable to assume that simply using these strategies does not guarantee that they will have a significant impact on performance. In fact, only in cases of average and high performance a relationship between self-regulation strategies and mathematical achievement is found.

Given this situation, it is worth asking what happens with low/medium performers if they also seem to use these strategies, and some even to the same extent as higher performers. A joint analysis of the types of strategies can help us understand these relationships and their contribution to performance beyond the individual contributions already known and reported by previous research (e.g. Abín et al., 2020; Alyani & Ramadhina, 2022; Duru & Obasi, 2023 or Wang et al., 2021). First it is offered an analysis of what the data suggest from this individual impact and then an analysis of them together to see their real contribution.

In terms of learning strategies, correlation analysis reveals that there is a relationship between the strategies used by students and high performance. They use elaboration, critical thinking and repetition as their main cognitive strategies, and effort, perseverance and even help from the teacher seem to be key resources in their management of the environment when successfully

tackling mathematical tasks. Interestingly, although they report similar use of metacognitive strategies, these strategies only correlate positively, marginally, with the medium performance group. To achieve an average result, it seems that students must be particularly strategic at the metacognitive level (planning, monitoring, evaluating) and rely on the help of their peers. However, if we are talking about an excellent result, the strategies that must be deployed are greater and many of them are complex.

When analysed together, the data on the type of strategy that actually contributes to different types of achievement modify this initial perception. In the case of medium performance, peer support is the only strategy that seems to explain the results achieved by this group of students. In the case of high-performing students, however, it is effort and critical thinking. At this point, it is worth remembering that effort is understood as a volitional strategy: it is not simply a matter of taking action and working hard, but of doing so strategically around a specific goal, with students taking on constant work that ultimately explains this type of result. As for critical thinking, it is important to note that not only does it appear as a frequently used strategy in the high-achieving group compared to the other groups, unlike the data from Paz-Baruch & Hazema (2023), but it also partly explains the achievement of these results.

These analyses allow for the identification of certain elements that had not been identified previously: 1) metacognitive strategy does not explain medium or high mathematical performance; 2) high performance is explained by the use of certain cognitive strategies (critical thinking) and resource management strategies (effort); 3) the only learning strategy that contributes to medium mathematical performance seems to be peer support, a resource management strategy that, given this result, should be valued. This confirms hypothesis H1b.

To complete the overview of the regulation of these students, it is necessary to look at the results obtained in the case of motivational strategies. When analysed individually, it can be seen how academic goals, especially those related to learning or mastery, have a significant positive correlation with high mathematical performance, confirming the study by Sorić et al. (2017). The other motivational strategy that seems to have a stronger

positive relationship with high mathematical performance is self-efficacy, corroborating the data from Sun et al. (2018). Furthermore, this strategy seems to be common for the group of students with medium and high performance, with no significant relationship found in the case of low-performing students. High performance is related to the pursuit of mastery, marginally to the pursuit of performance, the perception of a learning-oriented classroom approach or mastery, and self-efficacy. Meanwhile, medium performance is related only to the latter. With regard to self-handicapping, for which a negative relationship was predicted (Schwinger et al., 2014), this was only found in the high-achieving group. However, when analysing all the variables together, not all those identified end up having an impact, as had been anticipated (H2b). In a more realistic view, in which students have numerous strategies at their disposal and use them all to a greater or lesser extent, it seems that self-efficacy is a key variable for both medium and high performance. Mastery and performance goals are diluted and do not end up having a significant impact. Self-handicapping strategies also remain, marginally explaining negative performance only in high-performing students. Given its repeated appearance in all analyses, self-efficacy emerges as a key motivational strategy that must be addressed in order to help students. Interestingly, the data on self-handicapping strategies brings us back to the previous discussion, as it is the only strategy that seems to have a negative impact on the high-achieving mathematics group, despite being the one they use least frequently. This is a paradox with significant educational implications. Previous studies (Valle et al., 2009) have demonstrated the relationship between learning or mastery orientation and the reduction of this type of strategy, so it is feasible to assume that within this group of high-achieving students, only those with a different orientation (e.g., performance approach) are likely to activate this type of defensive strategy more frequently. This is an interesting question to explore.

In conclusion, to understand performance in complex subjects such as mathematics, what matters is not the greater or lesser use of different learning and motivation strategies, but rather how they are used when students are faced with the content and have all of them at their disposal. In this sense, peer support and self-efficacy seem to be key to average performance, while effort, self-efficacy, critical thinking, and self-handicapping (in a negative

sense) seem to be key to high performance.

This is one of the few studies of its kind in Spain that has relevant educational implications:

- If we want to help lower-performing students improve, peer support and self-efficacy strategies seem to be key.
- If we want high-performing groups, it is not enough for students to be intelligent, well organised (metacognitively speaking) or interested in what they are studying; they must also deploy volitional effort strategies that help them protect their goals from other possible ones. Teachers must also insist that their students feel capable of achieving the goals set for them, since the perception of self-efficacy is what explains both average and high performance.
- Finally, we must be aware of the type of goal orientation, because if it is defined primarily by demonstrating one's personal worth to others, the activation of self-protective strategies that negatively affect what is being pursued will be very likely. Insisting at every step on the importance of one's own learning rather than constant comparison, valuing effort even when mistakes are made, understanding them as part of the learning process (De Sixte et al., 2020), seems to be the key to everything. Only in this way will all students be helped.

Our data reinforce some of the most recent recommendations (Méndez-Giménez et al., 2017) that call on secondary school teachers to help their students pursue goals focused on the task ('doing it well') or on their own progress ('doing better than before'). Helping them feel effective in this process ('believing they can') and teaching them to ask their peers for help seem to be the other key factors at the educational level.

## **Limitations and prospects**

This study has several limitations. First, the performance measure used in this work is the same as that commonly used in previous studies (e.g. Satrústegui et al., 2024; Torrano and Soria, 2016). However, it would have been more useful to control the teacher variable in some way, since the way it has

been measured assumes educational homogeneity in all classrooms due to the obligation to follow educational regulations. It would be interesting to consider this in future studies.

Secondly, the use of self-reports means that the data may be biased by the social desirability of those being assessed. However, it is a common tool in this area of research as it is indispensable for assessing self-regulated learning (Pintrich, 2004) and it would be interesting to complement it with other methods that allow for a person-centred analysis (Pekrun, 2020) of mathematics content. This type of analysis would allow for an examination of the relationship between what is said to be done and what actually occurs when students are faced with learning a complete set of content. Thirdly, this is a cross-sectional study, which provides a static view of the use and impact of self-regulated learning strategies on performance. Future research with longitudinal designs would allow for a dynamic view of this in compulsory secondary education, as well as an overview of the strategies deployed in each of the courses in this stage. Fourthly, the sample means that the data cannot be generalised, so it would be interesting for future studies to increase the number of students in order to contrast the findings of this work, as well as to carry out a gender-based analysis.

## References

Abín, A., Núñez, J. C., Rodríguez, C., Cueli, M., García, T., & Rosário, P. (2020). Predicting mathematics achievement in secondary education: The role of cognitive, motivational, and emotional variables. *Frontiers in Psychology*, 11, 876. <https://doi.org/10.3389/fpsyg.2020.00876>

Aizikovitsh-Udi, E., & Cheng, D. (2015). Developing critical thinking skills from dispositions to abilities: mathematics education from early childhood to high school. *Creative Education*, 6(4), 455-462. <https://doi.org/10.4236/ce.2015.64045>

Alyani, F., & Ramadhina, A.L. (2022). The Relation between Self-Regulated Learning and Mathematical Problem-Solving During Covid-19. *Journal of Education Research and Evaluation*, 6(4), 645–652. <https://doi.org/10.4236/edre.2022060401>

[org/10.23887/jere.v6i4.47593](https://doi.org/10.23887/jere.v6i4.47593)

Bandura, A. (2011). On the Functional Properties of Perceived Self-Efficacy Revisited. *Journal of Management*, 38, 9-44. <https://doi.org/10.1177/0149206311410606>

Cleary, T.J., Slemp, J., & Pawlo, E.R. (2021). Linking student self-regulated learning profiles to achievement and engagement in mathematics. *Psychology in the schools*, 58, 443-457. <https://doi.org/10.1002/pits.22456>

Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Lawrence Earlbaum Associates.

De Sixte, R., Mañá, A., Vicenta, A. & Sánchez, E. (2020). Warm elaborated feedback. Exploring its benefits on post-feedback behaviour. *Educational Psycholgy*, 40:9, 1094-1112. <https://doi.org/10.1080/01443410.2019.1687853>

DiNapoli, J. (2023). Distinguishing between grit, persistence, and perseverance for learning mathematics with understanding. *Education Sciences*, 13, 402. <https://doi.org/10.3390/educsci13040402>

Donoghue, G.M., & Hattie, J.A.C. (2021). A meta-analysis of ten learning techniques. *Frontiers in Education*, 6, 581216. <https://doi.org/10.3389/feduc.2021.581216>

Duru, D.C., & Obasi, C.V. (2023). Critical Thinking Ability as a Correlate of Students' Mathematics Achievement: A Focus on Ability Level. *Journal of Instructional Mathematics*, 4(1), 41-51. <https://doi.org/10.37640/jim.v4i1.1753>

Elliot, A.J., & McGregor, H.A. (2001). A  $2 \times 2$  achievement goal framework. *Journal of Personality and Social Psychology*, 80(3), 501-519. <https://doi.org/10.1037/0022-3514.80.3.501>

Elliot, A.J., Murayama, K., & Pekrun, R. (2011). A  $3 \times 2$  achievement goal model. *Journal of Educational Psychology*, 103(3), 632-648. <https://doi.org/10.1037/a0023952>

Fung, F., Tan, C.Y., & Chen, G. (2018). Student engagement and mathematics achievement: Unraveling main and interactive effects. *Psychology in the Schools*, 55(7), 815-831. <https://doi.org/10.1002/pits.22139>

Funkhouser, E., & Hallam, K. (2022). Self-handicapping and self-deception: A two-way street. *Philosophical Psychology*, 37(2), 299-324. <https://doi.org/10.1080/09515089.2022.2055915>

González-Torres, M.C., & Torrano, F. (2012). Perfiles de motivación y rendimiento académico en matemáticas en estudiantes de educación secundaria: Utilidad del Patterns of Adaptive Learning Scales (PALS). En V. Mellado, L.J. Blanco, A.B. Borrachero & J.A. Cárdenas (Eds.), *Las Emociones en la Enseñanza y el Aprendizaje de las Ciencias Experimentales y las Matemáticas* (pp. 177-215). DEPROFE.

Guo, L. (2022). Using metacognitive prompts to enhance self-regulated learning and learning outcomes: A meta-analysis of experimental studies in computer-based learning environments. *Journal of Computer Assisted Learning*, 38(3), 811–832. <https://doi.org/10.1111/jcal.12650>

Hair, J., Babin, B. Anderson, R., & Black, W. (2018). *Multivariate data analysis*. Cengage Learning.

Honicke, T., Broadbent, J., & Fuller-Tyszkiewicz, M. (2020). Learner self-efficacy, goal orientation, and academic achievement: exploring mediating and moderating relationships. *Higher Education Research & Development*, 39(4), 689–703. <https://doi.org/10.1080/07294360.2019.1685941>

Huang, C. (2016). Achievement goals and self-efficacy: A meta-analysis. *Educational Research Review*, 19, 119-137. <https://doi.org/10.1016/j.edurev.2016.07.002>

Karlen, Y. (2016). Differences in students' metacognitive strategy knowledge, motivation, and strategy use: a typology of self-regulated learners. *The Journal of Educational Research*, 109(3), 253–265. <https://doi.org/10.1080/00220671.2014.942895>

Kim, C., Park, S. W., Cozart, J., & Lee, H. (2015). From motivation to engagement: The role of effort regulation of virtual high school students in mathematics courses. *Educational Technology & Society*, 18(4), 261–272.

Li, J., Ye, H., Tang, Y., Zhou, Z., & Hu, X. (2018). What are the effects of self-regulation phases and strategies for Chinese students? A meta-analysis of two decades research of the association between self-regulation and academic performance. *Frontiers in Psychology*, 9, 2434. <https://doi.org/10.3389/fpsyg.2018.02434>

Méndez-Giménez, A., Cecchini-Estrada, J.A., Fernández-Río, J., Méndez-Alonso, D., & Prieto-Saborit, J.A. (2017). Metas de logro 3x2, motivación autodeterminada y satisfacción con la vida en Educación

Secundaria. *Revista de Psicodidáctica*, 22(2), 150-156. <https://doi.org/10.1016/j.psicod.2017.05.001>

Midgley, C., Maehr, M.L., Hruda, L.Z., Anderman, E., Anderman, L., Freeman, K.E., Gheen, M., Kaplan, A., Kumar, R., Middleton, M.J., Nelson, J., Roeser, R., & Urdan, T. (2000). *Manual for the Patterns of Adaptive Learning Scales (PALS)*. Ann Arbor, MI: University of Michigan [versión electrónica]. Disponible en: [http://www.umich.edu/~pals/pals/PALS%202000\\_V13Word97.pdf](http://www.umich.edu/~pals/pals/PALS%202000_V13Word97.pdf).

Newman, R.S. (2002). What do I need to do to succeed... When I don't understand what I'm doing!? Developmental influences on students' adaptive help seeking. En A. Wigfield & J. Eccles (Eds.), *Development of achievement motivation* (pp. 285–306). Academic Press.

Ohtani, K., & Hisasaka, T. (2018). Beyond intelligence: A meta-analytic review of the relationship among metacognition, intelligence, and academic performance. *Metacognition Learning*, 13, 179–212. <https://doi.org/10.1007/s11409-018-9183-8>

Paz-Baruch, N., & Hazema, H. (2023). Self-regulated learning and motivation among gifted and high-achieving students in science, technology, engineering, and mathematics disciplines: examining differences between students from diverse socioeconomic levels. *Journal for the education and gifted*, 46(1), 34-76. <https://doi.org/10.1177/0162353222114382>

Pekrun, R. (2020). Self-report is indispensable to assess students' learning. *Frontline learning research*, 8(3), 185-193. <https://doi.org/10.14786/flr.v8i3.637>

Pintrich, P.R. (2004). A conceptual framework for assessing motivation and self-regulated learning in college students. *Educational Psychology Review*, 16, 385-407. <https://doi.org/10.1007/s10648-004-0006-x>

Pintrich, P.R., Smith, D.A.F., Garcia, T.A., & McKeachie, W.J. (1991). *A manual for the use of the motivated strategies for learning questionnaire (MSLQ)*. University of Michigan. Retrieved from: <https://eric.ed.gov/?id=ED338122>.

Pools, E., & Monseur, C. (2021). Student test-taking effort in low-stakes assessments: evidence from the English version of the PISA 2015 science test. *Large-scale Assessment in Education*, 9, 10. <https://doi.org/10.1186/s40536-021-00104-6>

Roices, C., Tourón, J., & González-Torres, M.C. (1995). Validación prelimi-

nar del CEAM II (Cuestionario de Estrategias de Aprendizaje y Motivación II). *Psicológica*, 16(3), 347-366.

Ruiz-Martín, H., Blanco, F., & Ferrero, M. (2024). Which learning techniques supported by cognitive research do students use at secondary school? Prevalence and associations with students' beliefs and achievement. *Cognitive research: principles and implications*, 9(44), 1-21. <https://doi.org/10.1186/s41235-024-00567-5>

Satrústegui Moreno, A., Quílez-Robres, A., Mateo González, E., & Cortés-Pascual, A. (2024). Learning strategies and academic performance in STEM subjects in secondary education. *Revista Fuentes*, 26(1), 36-47. <https://doi.org/10.12795/revistafuentes.2024.23324>

Schwinger, M., Wirthwein, L., Lemmer, G., & Steinmayr, R. (2014). Academic self-handicapping and achievement: A meta-analysis. *Journal of Educational Psychology*, 106(3), 744-761. <https://doi.org/10.1037/a0035832>

Sorić, I., Penezić, Z., & Burić, I. (2017). The Big Five personality traits, goal orientations, and academic achievement. *Learning and Individual Differences*, 54, 126-134. <https://doi.org/10.1016/j.lindif.2017.01.024>

Sun, Z., Xie, K., & Anderman, L.H. (2018). The role of self-regulated learning in students' success in flipped undergraduate math courses. *The Internet and Higher Education*, 36, 41-53. <https://doi.org/10.1016/j.iheduc.2017.09.003>

Theobald, M. (2021). Self-regulated learning training programs enhance university students' academic performance, self-regulated learning strategies, and motivation: A meta-analysis. *Contemporary Educational Psychology*, 66, 101976. <https://doi.org/10.1016/j.cedpsych.2021.101976>

Torrano, F., & Soria, M. (2016). Una aproximación al aprendizaje autorregulado en alumnos de educación secundaria. *Contextos educativos, revista de educación, Extra 1*, 97-115. <https://doi.org/10.18172/con.2838>

Usher, E.L., & Schunk, D.H. (2018). Social cognitive theoretical perspective of self-regulation. In D.H. Schunk & J.A. Greene (Eds.), *Handbook of self-regulation of learning and performance* (2nd ed., pp. 19-35), Routledge.

Valle, A., Núñez, J.C., Cabanach, R.G., Rodríguez, S., González-Pineda, J.A., & Rosario, P. (2007). Metas académicas y estrategias motivacionales

de autoprotección. *Electronic journal of research in Educational Psychology*, 5(3), 617-632. <https://doi.org/10.25115/ejrep.v5i13.1251>

Valle, A., Rodríguez, S., & Canabach, R.G. (2009). Diferencias en rendimiento académico según los niveles de estrategias cognitivas y de las estrategias de autorregulación. *SUMMA Psicológica*, 6(2), 31-42.

Wang, M.T., Binning, K.R., Del Toro, J., Qin, X., & Zepeda, C.D. (2021). Skill, Thrill, and Will: The Role of Metacognition, Interest, and Self-Control in Predicting Student Engagement in Mathematics Learning Over Time. *Child Development*, 92(4), 1369-1387. <https://doi.org/10.1111/cdev.13531>

## Appendix I. Correlations between learning and motivation strategies and performance groups

	PERFORMANCE			
	Low (n=33)	Medium (n=85)	High (n=174)	Total (n=292)
	M (SD)	M (SD)	M (SD)	M (SD)
<b>LEARNING STRATEGIES</b>	<b>.103</b>	<b>.157</b>	<b>.208</b>	<b>.24</b>
Cognitive Strategies	<b>.123</b>	<b>.134</b>	<b>.160</b>	<b>.08</b>
Repetition	.067	.152	.044	-.05
Elaboration	.133	.175	.267	.17
Organization	.131	.073	.041	.03
Critical thinking	-.028	.146	.185	.11
<b>Metacognitive Strategies</b>	<b>.046</b>	<b>.187</b>	<b>.058</b>	<b>.16</b>
<b>Resource Management Strategies</b>	<b>.125</b>	<b>.144</b>	<b>.267</b>	<b>.42</b>
Perseverance (volitional)	.195	.084	.128	.32
Effort (volitional)	.202	-.008	.347	.48
Study environment	.164	.050	.025	.15
Peer help	-.059	.339	.086	.09
Teacher help	.053	.143	.144	.30
<b>MOTIVATION STRATEGIES</b>	<b>-.015</b>	<b>.081</b>	<b>.124</b>	<b>.12</b>
<b>Academic Goal Orientation</b>	<b>.079</b>	<b>.023</b>	<b>.131</b>	<b>.14</b>
Mastery goals	.022	.158	.179*	.30
Performance goals (Approach)	.096	-.110	.126	.06
Performance goals (Avoidance)	.022	-.002	.074	.04
<b>Perception of classroom goals</b>	<b>-.070</b>	<b>.053</b>	<b>.091</b>	<b>.12</b>
Mastery goals	-.237	.024	.130	.22
Performance goals (Approach)	.060	.118	.086	.11
Performance goals (Avoidance)	.113	-.011	.023	.02
<b>Academic Self-Efficacy</b>	<b>.032</b>	<b>.187</b>	<b>.297</b>	<b>.34</b>
<b>Self-Handicapping</b>	<b>-.077</b>	<b>.015</b>	<b>-.246</b>	<b>-.34</b>

Source: Own work.

Note: The totals for each of the two types of strategies analysed are highlighted in bold.

- Significant positive relation  $p < .05$
- Marginally significant positive relation  $p < .1$
- Significant negative relation  $p < .01$



# **What happened with PISA 2018 in Spain? An explanation based on response times to items.**

## **¿Qué pasó en España con PISA 2018? Una explicación a partir de los tiempos de respuesta a los ítems**

<https://doi.org/10.4438/1988-592X-RE-2025-411-727>

**José G. Clavel**

<https://orcid.org/0000-0001-5800-319X>

*University of Murcia*

**Francisco Javier García-Crespo**

<https://orcid.org/0000-0002-1050-462Y>

*Complutense University of Madrid*

**Luis Sanz San Miguel**

<https://orcid.org/0002-1050-462X>

*National Institute of Educational Assessment (INEE)*

### **Abstract**

In December 2019 OECD decided not to publish Spanish results on Reading for PISA 2018. Apparently, they had found *implausible student-response behaviour* on a certain number of students. Enough students as to consider not acceptable the results for international comparisons. Months later, they finally published the Reading results, adding a technical note proposing some possible explanations. In this paper, we show that was the test structure what caused the problem. Specifically, the presence at the beginning of the test of the “reading fluency items” and its effect on the final results. We use the time response of those items and

the successive performance of the students in the remaining of the test to find which students had an odd behaviour. Later, using a loglinear multilevel model, we found what characterized those students. The application period, the student motivation and the immigration status are relevant variables. The private or public condition of the school, or the gender of the students are not relevant to predict a student's odd behaviour. Finally, the comparison with the results without the reading fluency items shows the repercussion of these for certain Autonomous Communities.

**Keywords:** PISA 2018, Reading fluency, rapid guessing, process data, odd behaviour, loglinear model, Reading performance.

## **Resumen**

En diciembre de 2019, la OCDE decidió no publicar los resultados de la competencia en lectura para España de PISA 2018 porque, aunque no se habían detectado errores en la realización de la prueba, los datos mostraban lo que llamaron una respuesta poco plausible de un porcentaje elevado de estudiantes, lo que no permitía asegurar la comparabilidad internacional de los datos españoles. Meses después, en julio de 2020, se publicaron finalmente los datos, acompañados de un estudio independiente que señalaba varias posibles explicaciones de esos resultados inesperados. Entre esos motivos se citaba la fecha de realización de la prueba, y se añadía que quizás también tuvo su influencia la estructura de la prueba.

En este trabajo mostraremos que es precisamente la estructura de la prueba, lo que causó el problema. En concreto, la presencia de los llamados “*reading fluency items*” y su repercusión en la calificación final provocaron un caldo de cultivo adecuado para que las respuestas de un grupo de estudiantes desmotivados -quizás efectivamente por la localización de las pruebas en determinadas fechas- tuvieran relevantes consecuencias en algunas Comunidades Autónomas. Tan relevantes como para que la OCDE decidiera no publicar los resultados en lectura para España.

A partir de la estructura de la prueba, y los tiempos de respuesta de los alumnos a cada uno de los ítems, determinamos aquellos estudiantes que tuvieron comportamientos anómalos y qué características tienen. Además, estudiamos qué efecto han provocado en los rendimientos medios de sus CCAA y cuál hubiera sido su efecto con una estructura distinta de la prueba.

**Palabras clave:** PISA 2018, fluidez lectora, rapid guessing, process data, comportamientos anómalos, modelo loglinear, rendimiento en lectura.

## Introduction

On November 19, 2019, the OECD issued an official announcement stating that Spain's Reading results would not be released together with those of the other countries on December 3, 2019. The announcement said:

*“Spain’s data met PISA Technical Standards with no apparent technical errors or manipulations identified. However, the data show implausible student-response behaviour. Consequently, the OECD is unable to assure full international comparability of Spain’s results at this moment. Spain has agreed to follow the OECD’s recommendation to defer the publication of its results and data while possible sources of those anomalies are investigated”.*

Months later, on July 23, 2020, Spain's reading results were published, along with a brief independent study (Annex A9) that offered possible explanations for the detected anomalies. The study pointed out, among other factors, that the timing of when the PISA test was conducted in Spain could have influenced the results. In the same document, it was also noted that the impact of one section of the test, Reading Fluency, might have been more significant than initially expected:

*“The analysis of Spain’s data also reveals how the inclusion of reading fluency items may have strengthened the relationship between test performance and student effort in PISA more generally. The OECD is therefore exploring changes to the administration and scoring of reading fluency items to limit the occurrence of disengaged response behaviour and mitigate its consequence”.*

Apparently, the anomalous behaviour of some students in the Reading Fluency items (hereinafter RF) triggered the unexpected results in some Autonomous Communities, leading to not publishing Spain's PISA 2018 reading results in December 2019. But... What characteristics do the students who exhibited this anomalous behaviour have? Why did this problem occur in some Autonomous Communities and not in others? What could have caused this behaviour? We will attempt to answer these questions in the following study using the published PISA 2018 reading results.

Our work falls within the category of those who analyse the data available since the tests are conducted on a tablet, as in the case of PISA 2018 (Goldhammer et al. 2020). Indeed, computer-based assessments have

had several methodological consequences. Among other things, it has made it possible to design adaptive tests that change according to students' responses (as is the case with PISA tests); it has made it possible to design response items that were not technically possible before; and, above all, it has allowed to polish test evaluation by incorporating all the collateral information available into the model (see, for example, Bezirhan et al., 2020). Our work falls within this third area: we use the computer trace (log-files) generated by the student as they progress through the test (process data) and combine it with their answers (response data). For a review of how the two sources of information are being integrated into LSAs such as PISA, see Anghel et al (2024).

According to the test, these log files may include information such as which keys were pressed or how the cursor moved across the screen, and in more advanced assessments, even data on eye movements or heart rate for each item and each participant. In PISA 2018, the log files collected response times: excessively short times would be a sign of rapid guessing behaviour when answering (Wise, 2017). This would reveal the test-taker disengagement (Avvisati et al, 2024), which is a risk in tests such as PISA, where students have nothing at stake (what the literature refers to as a low-stakes context).

A second source of information available in PISA 2018 is non-response to certain items. As pointed out by Weeks et al. (2016), a student's failure to answer does not necessarily mean that they do not know the answer. They may not have answered it due to lack of time, or they may simply not have put enough effort. This would therefore be another aspect of test-taker disengagement. However, what happened in Spain with PISA 2018 is related to the RFs, and these were answered by all participants, therefore we will leave this aspect of the logfiles for further research.

Following the introduction, we will provide a detailed description of the test structure, which is a key aspect of our work on RF. The methodology section presents the variables selected for the study, a descriptive analysis of anomalous behaviours across the Autonomous Communities, and the multilevel log-linear model used to explain the causes of these anomalies. The subsequent section discusses the estimation results and offers a prediction of what might have occurred if RF had been weighted differently. Finally, the paper concludes with recommendations aimed at preventing a recurrence of

the issues observed in Spain with PISA 2018.

## Test Structure: Multi-Stage Adaptive Design

The fact that the PISA assessment can be taken on a computer makes it possible to use a MultiStage Adaptive Testing design (MSAT), which presents new items to students based on the skills they have demonstrated so far. This enables to determine more accurately what students can do with what they know at different skill levels, obtaining a more sensitive test, especially at the lower levels of PISA performance.

The MSAT design for PISA 2018 consisted of three stages: core, stage1, and stage2. In each stage included a number of units (5 in the core, 24 in stage1, and 16 in stage2), with each unit containing several items. On the device used to take the test, students saw only a selection of these units. Specifically, out of a total of 45 units and 245 items available, each student completed 7 units, for a total of between 33 and 40 items, depending on the level of skill they demonstrated. A detailed explanation can be found in Chapter 2 of the test's technical report (OECD, 2018 <https://www.oecd.org/pisa/data/pisa2018technicalreport/>).

In addition to these three stages, PISA2018 included a preliminary stage to measure students' RF. In this stage, student read a short expression and indicated whether it was logical or not. The items were simple sentences in which students only had to decide whether the sentence made sense. For example, “The window sang the song loudly” would be illogical, while “The man drove the car to the warehouse” would make sense. Both examples are taken from the PISA 2018 test.

In summary, students began the test with very simple RF items, followed by a random core stage and two subsequent stages (stage1 and stage2) determined by their performance. From the core stage onward, item assignment was based on the students' results on the automatically scored items. According to Item Response Theory (IRT), the estimated performance function for each student depends not only on whether they answered correctly, but also on the difficulty of the questions they answered correctly.

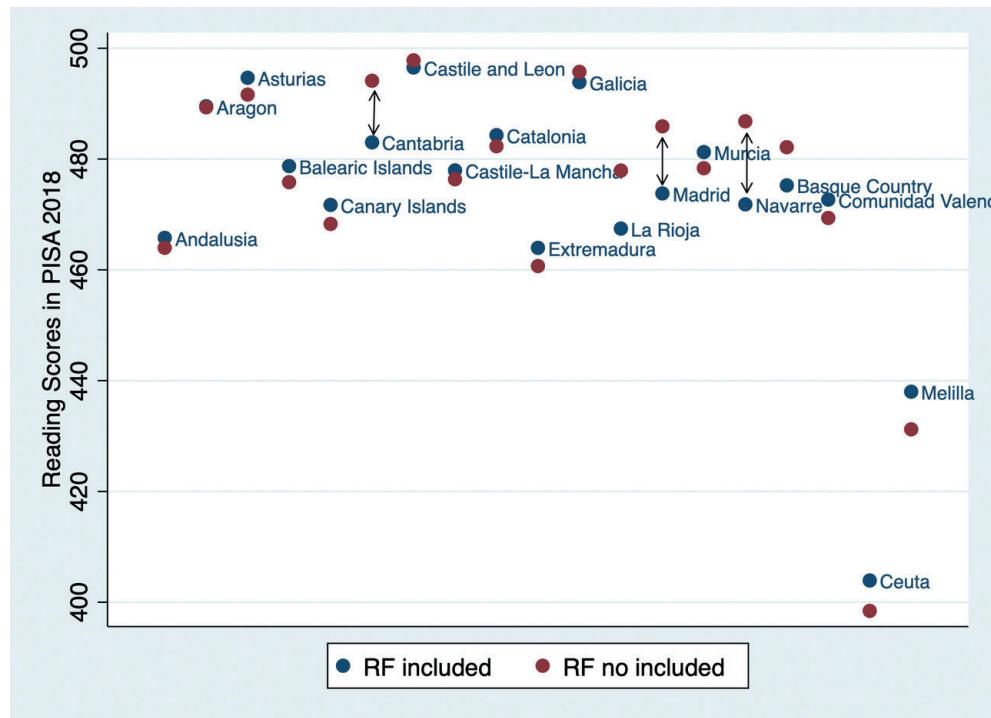
Therefore, a good student who only receives simple questions and answers them correctly will have a lower estimated ability than a good student who answers more difficult questions correctly.

## **Measuring Reading Fluency**

As noted earlier, students' RF was assessed in a preliminary stage. However, the results of this stage did not determine which items were included in each student's testlet. Regarding its role in performance measurement, the OECD decided not to incorporate RF results into the different subscales of reading (locating information, understanding, evaluating, and reflecting), but instead to include them in the overall competency score. To date, we have not found any OECD publication explaining precisely how RF was incorporated. Nevertheless, the OECD provides, upon request, alternative plausible values for each student that exclude RF results.

Using these alternative data, we calculated the average performance by region and compared it with the published results that included RF. As shown in Figure 1, the effect of RF is particularly significant in the Autonomous Communities of Cantabria, Madrid, Navarre, La Rioja, and the Basque Country, where the impact diverges from the pattern observed in other regions, whose results are more consistent with each other.

**Figure 1:** Average reading scores in PISA 2018 by region, depending on whether the effect of reading fluency (RF) is included in the final score.



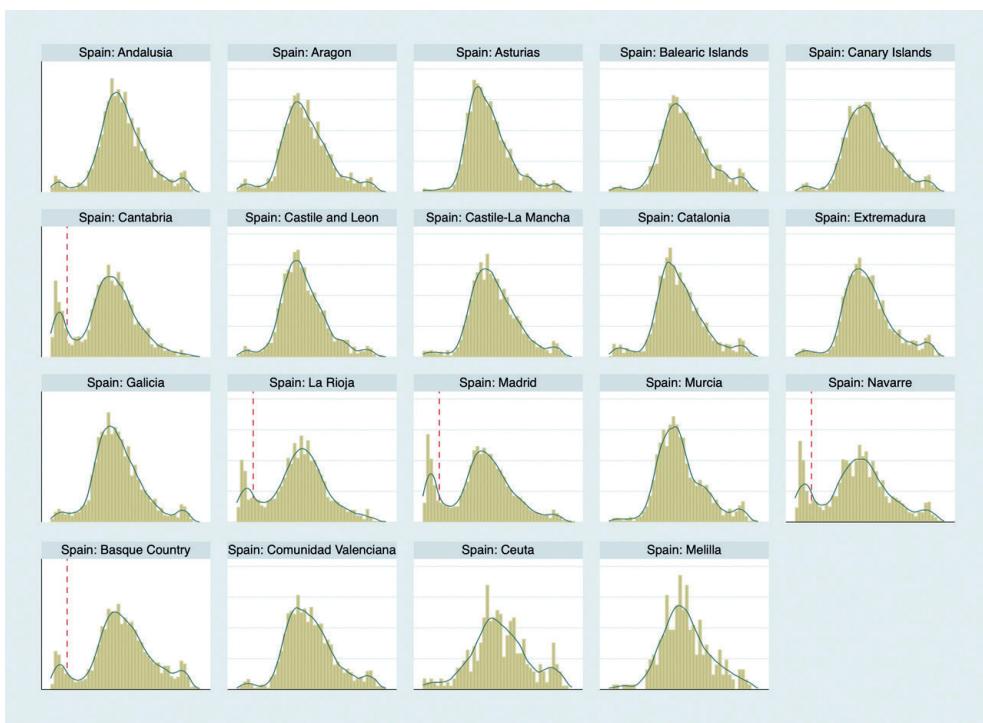
Note: The numerical values are in Table AI of the Annex.

The PISA 2018 database provides extensive information for each item measuring RF. Most students had to answer 22 items, and for each we have data on their response, the time taken to answer, and whether the response was correct. On average, Spanish students answered 19.33 items correctly, with a median of 20, which was expected given the simplicity of the task.

However, an extraordinary finding emerged when analysing response times, that is, the total time each student spent answering the 22 questions. A significant proportion of students (up to 15% in some Autonomous Communities) completed all 22 items in under 22 seconds, which is far too little time. This was possible because the items were displayed consecutively on the device, and the answers (“yes” or “no”) always appeared in the same

position on the screen. As a result, students could simply tap repeatedly on the same box to finish this section in under 22 seconds, typically getting about half of the answers correct. Figure 2 highlights these anomalous response-time patterns in the Autonomous Communities of Madrid, Cantabria, Navarre, La Rioja, and the Basque Country.

**Figure 2:** Distribution of time spent answering the 22 RF questions in different regions.



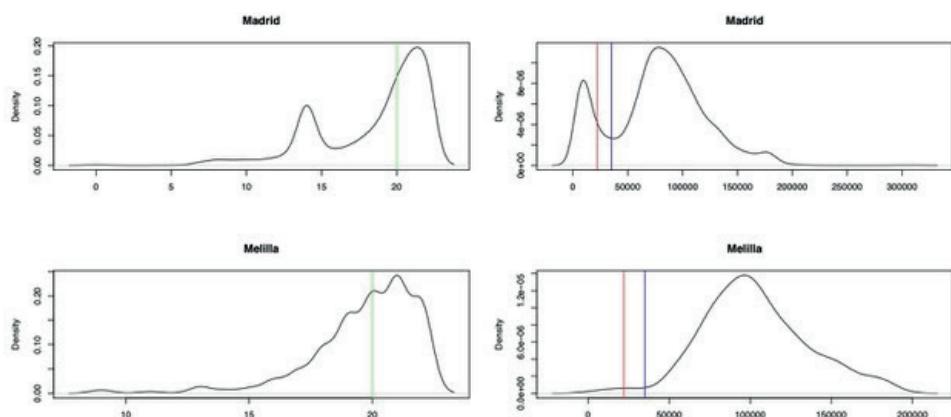
Note: The dashed red line reads 22 seconds

Source: Own elaboration based on PISA2018 data

This response-time pattern provided a clue as to what might have happened. We confirmed that the distribution of correct answers on the RF items was also affected by the same anomaly, as shown in Figure 3, which illustrates the distributions for Madrid and Melilla. It was therefore evident

that a group of students (significant in some Autonomous Communities) had answered the RF questions “carelessly.” The next step was to identify the characteristics of these students and, most importantly, to assess whether their behaviour had any impact on the overall reading results of the test.

**Figure 3:** Distribution of the number of correct answers (left) and response times (right) to the RF questions for Madrid and Melilla in PISA 2018.



*Note:* The red line reads 22 seconds; the blue line reads 35 seconds. The time is measures by milliseconds.  
*Source:* Own elaboration based on PISA2018 data

## Methodology

Our first task was to define what we considered anomalous behaviour. To do so, we analysed the response times for the RF items in relation to students' overall test performance. We then examined how these students were distributed across Autonomous Communities and what their main characteristics were. Finally, using a logit model, we investigated what factors might have triggered such anomalous behaviour.

### Dependent Variable: Anomalous Behaviour

We defined anomalous behaviour as a situation where a student performs poorly on the RF stage but achieves strong results in the rest of the test. This required specifying what we mean by “performing poorly” in the preliminary stage and “performing well” in the main test. For the first part, we calculated the variable *RF score*.

$$RF\ score = \frac{\text{total n}^{\circ}\ \text{of correct questions}}{\text{total n}^{\circ}\ \text{of questions answered}} \times 10.$$

In this study, we classified a student as having performed poorly in the preliminary stage if they obtained a score of fewer than 8 correct answers out of 10 in RF. Table 1 shows the regional distribution (weighted and unweighted) of students who scored below 8 in RF. Approximately 28% of these students were enrolled in schools in the Community of Madrid, 18% in Andalusia, and 11% in Catalonia. The Basque Country and the Valencian Community each accounted for around 6–7%, while the percentages for the remaining regions were below 5%.

**Table 1:** Distribution by region of students with a score below 8 in RF.

Region	Number of students	Population represented	Percentage of the total
Andalusia	202	10528	17.66%
Aragon	189	1189	1.99%
Asturias	117	439	0.74%
Balearic Islands	140	806	1.35%
Canary Islands	155	1763	2.96%
Cantabria	491	1209	2.03%
Castile and Leon	197	2128	3.57%
Castile-La Mancha	177	1881	3.15%
Catalonia	168	6614	11.09%
Extremadura	174	1007	1.69%
Galicia	272	2874	4.82%
La Rioja	429	782	1.31%
Madrid	1431	16883	28.32%
Murcia	142	1427	2.39%
Navarre	511	1911	3.20%
Basque Country	740	3873	6.50%
Valencia	150	4061	6.81%
Ceuta	63	177	0.30%
Melilla	22	75	0.13%
<b>TOTAL</b>	<b>5770</b>	<b>59625</b>	<b>100%</b>

A score below 8 on the RF items could also reflect reading difficulties. Therefore, the criterion for identifying anomalous behaviour combines performance on the RF items with behaviour in the next phase of the test, the core stage. Specifically, we distinguish between students who performed

poorly on RF and were then *consistently* classified at low or medium levels in the core, and those with *inconsistent* behaviour: students who started poorly on RF but then recovered and achieved a high level in the next stage. The latter represent 16.66% (s.e.: 0.845) of students who scored below 8 on RF and are classified as anomalous—good students who performed unexpectedly poorly on the simple RF items.

Table 2 presents, by Autonomous Community, the percentage of students who, despite scoring below 8 on RF, went on to achieve a high level of performance in the core section. The regions with the highest proportions of such students—between 20% and 30%—are Galicia, the Basque Country,

Castile and León, La Rioja, Navarre, Madrid, and Cantabria.

**Table 2:**Percentage of students exhibiting “abnormal behaviour” in each region

Region	Percentage	pct_se
Andalusia	12,10	2,374
Aragon	10,51	2,332
Asturias	11,92	3,878
Balearic Islands	9,83	2,713
Canary Islands	9,34	2,441
Cantabria	29,20	2,767
Castile and Leon	19,65	2,706
Castile-La Mancha	11,32	2,745
Catalonia	10,57	2,492
Extremadura	9,89	2,099
Galicia	18,56	2,285
La Rioja	23,62	2,041
Madrid	24,04	1,538
Murcia	8,85	1,941
Navarre	23,96	2,321
Basque Country	19,43	2,553
Valencia	8,35	1,707
Ceuta	3,04	1,860
Melilla	0,00	0,000

Source: Own elaboration

## Independent Variables

To better characterize students with anomalous behaviour, we selected several independent variables at both the student and school levels. These variables are grouped according to their type: categorical variables are presented in Table 3, and continuous variables in Table 4. The study population includes all students who scored below 8 on RF, regardless of their subsequent performance. For categorical variables, we report the percentage of students in each category; for continuous variables, we provide the mean, standard deviation, and their respective standard errors. It should be noted that continuous variables were

standardized to have a mean of zero and a standard deviation of one for the full sample of students assessed in PISA 2018.

**Table 3:** Analysis of Categorical Variables

		Score below 8 in RF and low or medium levels in CORE	Score below 8 in RF and high level in CORE		
Variable	Categories	%	%_se	%	%_se
<b>CENTER OWNERSHIP</b>	Public (71,84%)	85,74	0,873	14,26	0,873
	Private (28,16%)	76,99	2,049	23,01	2,049
<b>EXT_JUN</b>	Does not move up the extraordinary exam to June (58,65%)	88,19	0,955	11,81	0,955
	Does move up the extraordinary exam to June (41,35%)	76,45	1,105	23,55	1,105
<b>SEX</b>	Girl (39,51%)	78,19	1,330	21,81	1,330
	Boy (60,49%)	86,70	0,776	13,30	0,776
<b>IMMIGRANT</b>	Native (83,52%)	81,11	0,972	18,89	0,972
	1st or 2nd generation (16,48%)	90,81	1,235	9,19	1,235
<b>YEAR REPE-TITION</b>	Does not have to repeat the year (58,43%)	73,89	1,213	26,11	1,213
	Does have to repeat the year (41,57%)	96,17	0,466	3,83	0,466

Note: Estimated percentage of students in each category, together with the standard error of the estimate among students who scored below 8 out of 10 on the RF.

Source: Own elaboration

As shown in Table 3, among students scoring below 8 on RF, 71.84% were enrolled in public schools. Of these, 14.3% reached a high-performance level in the core section, compared with 23.0% among students in private schools. Additionally, 41.4% of students with an RF score below 8 attended schools that brought forward the extraordinary assessment to June. Of these, 23.6% achieved a high level in the core, compared with roughly half that proportion in schools that did not advance the assessment.

Gender differences also emerged: 39.51% of the students scoring below 8 on RF were girls, of whom 21.8% reached a high level in the core. By contrast, only 13.3% of boys achieved this level. Regarding immigration background, 16.5% of students with low RF scores were first- or second-generation immigrants, and of these, 9.2% reached a high level in the core—more than twice the percentage of native students (19%) (Table 3).

Year repetition was another key factor: 41.6% of students with RF

scores below 8 had repeated at least one school year, and of these, only 3.8% achieved high performance in the core, compared with 26.1% among students who had not repeated (Table 3). In summary, more than 7 out of 10 students with RF scores below 8 attended public schools, around 60% were boys, and the vast majority were native students (83.5%). Notably, 6 out of 10 of these students were enrolled in schools located in Autonomous Communities that brought forward the extraordinary exams, usually held in September, to June of the 2017–18 academic year.

Table 4 shows the basic statistics for students with an RF score below 8 for the continuous variables included in the model. Two of these variables are school-related: *Week*, which refers to the week in which the test was taken at the school, and *COLT*, which measures teacher involvement in the reading assessment. All variables are standardized, with a mean of zero and a standard deviation of one for the group of students participating in PISA 2018.

**Table 4:** Analysis of continuous variables

Variable	Description	Median	sd
<b>Week</b>	Week in which the tests were conducted	0,2415	0,98692
<b>COLT</b>	Teacher involvement in the reading assessment	-0,1380	0,59551
<b>EFFORT</b>	How much effort did you put into this test?	0,0184	1,02565
<b>ESCS</b>	Economic, social and cultural status index	-0,2819	1,08597
<b>DISCLIMA</b>	Disciplinary environment in Spanish classes	-0,3598	1,09171
<b>TEACHSUP</b>	Teacher support in Spanish classes	0,0165	1,03440
<b>SCREADCOMP</b>	Reading self-concept: perception of competence	-0,3240	1,02507
<b>SCREADDIFF</b>	Reading self-concept: perception of difficulty	0,0865	1,00486
<b>EUDMO</b>	Eudaemonia: the meaning of life	0,1683	1,01676
<b>GCSELFEFF</b>	Self-efficiency in global matters	-0,1050	1,07948
<b>DISCRIM</b>	Discriminatory school environment	0,1660	1,13819
<b>BEINGBULLIED</b>	Cases of bullying	-0,1602	1,64272
<b>HOMESCH</b>	Use of ICT outside school (for school activities)	0,1134	1,12059
<b>SOIAICT</b>	ICT as a topic of social interaction	0,1854	1,11804
<b>ICTCLASS</b>	Use of subject-related ICT during lessons	-0,0992	1,01290
<b>INFOJOB1</b>	Information about the job market provided by the school	-0,0979	1,00313

Note: Mean and estimated standard deviation of estimates among students who scored below 8 out of 10 on the RF.  
Source: Own elaboration

The *Week* variable takes a high positive mean value, indicating that

a large proportion of students in this analysis completed the PISA tests from the middle of the administration period onwards, coinciding largely with the final exams of their academic year. This overlap was particularly pronounced in communities that brought forward their extraordinary assessment tests to June. Regarding teacher involvement in the reading test (*COLT*), its negative value (-0.1380) reflects a low level of collaboration between teachers and the PISA 2018 assessment.

In the target group of students, variables such as test effort (*EFFORT*), teacher support in language classes (*TEACHSUP*), perception of reading difficulty (*SCREADDIFF*), use of ICT in lessons (*ICTCLASS*), and school-provided information about the labour market (*INFOJOB1*) are very close to zero. This suggests that, for these students, these aspects neither improved nor worsened performance compared to the overall average.

For students who answered fewer than 8 items correctly in the Reading Fluency (RF) section, scored significantly above the average in areas such as sense of life purpose (*EUDMO*), discriminatory school climate (*DISCRIM*), and use of ICT for schoolwork outside the classroom (*HOMESCH*) or for social interaction (*SOIAICT*). Conversely, they performed significantly below the average in global self-efficacy (*GCSELFEFF*) and experience of being bullied (*BEINGBULLIED*). Even more negative were their results in reading competence perception (*SCREADCOMP*), perception of classroom disciplinary climate (*DISCLIMA*), and socioeconomic status (*ESCS*). (Table 4).

## Log-linear models

We conclude the methodological section by presenting the model we have used to characterize students with “anomalous” behaviour in the test. In fact, given the hierarchical structure of the data and the nature of the dependent variable, the most appropriate approach is a multilevel log-linear model. As in other PISA cycles, the selection of students followed a classic two-stage cluster sampling procedure (school-student). Specifically, we applied the two-stage stratified sequential cluster model (OECD, 2017). First, strata were defined to best represent the target population of each study (in Spain, by Autonomous

Community and school ownership). Within each stratum, schools were then selected sequentially and in proportion to their size, measured by the number of eligible students enrolled. Thus, larger schools had a higher probability of selection than smaller ones. In the second sampling stage, 42 students who turned 16 during the test year were selected, regardless of the class or grade in which they were enrolled. If a selected school had 42 or fewer target students, all of them took the test.

As we have already mentioned, the multilevel logistic regression model is the most suitable for this study (Cohen, Cohen, West, & Aiken, 2013; Gelman & Hill, 2006; Merino Noé, 2017; Snijders & Bosker, 2012). This method effectively accounts for variability in large-scale international educational assessments (De la Cruz, 2008; Iñiguez-Berrozpe & Marcaletti, 2018) while avoiding the use of replicated weights present in the databases (Fishbein, Foy, & Yin, 2021).

Therefore, to analyse the effect of predictor variables on the likelihood of anomalous behaviour, we employed multilevel logistic models with fixed effects that reflect the nested structure of the sample. Model estimation was carried out using HLM6© software, applying the Laplace approximation for Bernoulli models (Raudenbush & Bryk, 2002), which enables analyses with binary dependent variables across hierarchical levels.

The equations of the model used are:

Level 1 of the model:

$$P(Y = 1|\beta) = P,$$

$$\log \left[ \frac{P}{1-P} \right] = \alpha_0 + \alpha_1 \cdot \text{Sexo} + \alpha_2 \cdot \text{Inmigran} + \alpha_3 \cdot \text{Repetici} + \alpha_4 \cdot \text{Effort} + \alpha_5 \cdot \text{ESCS} + \alpha_6 \cdot \text{Disclima} + \alpha_7 \cdot \text{Teachsup} + \alpha_8 \cdot \text{Screadco} + \alpha_9 \cdot \text{Screaddi} + \alpha_{10} \cdot \text{Eudmo} + \alpha_{11} \cdot \text{Gcselfef} + \alpha_{12} \cdot \text{Discrim} + \alpha_{13} \cdot \text{Beingbul} + \alpha_{14} \cdot \text{Homesch} + \alpha_{15} \cdot \text{SoiaICT} + \alpha_{16} \cdot \text{ICTclass} + \alpha_{17} \cdot \text{Infojob1}$$

Nivel 2 of the model:

$$\alpha_0 = \beta_{00} + \beta_{01} \cdot \text{Titulari} + \beta_{02} \cdot \text{Week} + \beta_{03} \cdot \text{Ext-Jun} + \beta_{04} \cdot \text{Colt} + U_0$$

$$U_0 \sim N(0, \sigma_{U_0}^2)$$

Where,

Y represents whether students exhibit anomalous behaviour or not.

$\alpha_i$  are the fixed coefficients for each predictor variable at level 1.

$\beta_{0i}$  are the fixed coefficients for each predictor variable at level 2.

$\beta_{00}$  is the regression intercept.

The variables are already presented in Tables 3 and 4.

## Results

Table 5 presents the results of the hierarchical log-linear model, in which the dependent variable was the condition “anomalous behaviour.” The model is constructed on two levels: school level and student level. Statistically significant variables were observed at both levels. At the school level, it is worth noting that neither school ownership (*TITULARI*) nor collaborative support from Spanish teachers (*COLT\_MEAS*) had a significant effect on the likelihood of students being classified as exhibiting anomalous behaviour. This suggests that such behaviour is not attributable to specific characteristics of the schools themselves. However, the timing of the PISA test proved relevant: the week in which the school administered the test (*WEEK*) was statistically significant, with an increase of 10 percentage points in anomalous behaviour among students tested in later weeks. Even more significant was whether the Autonomous Community moved the extraordinary exams forward to June (*EXT\_JUN*), which increased the probability of anomalous behaviour by 87 percentage points. These variables are closely linked: the later the PISA test was taken, the more likely it was to coincide with the end of the school year and, consequently, with students’ final secondary school assessments. Although these factors are exogenous to students, they nonetheless generated reluctance or lack of motivation toward the PISA test, as students were required to take an external assessment while already immersed in the crucial final evaluation of their studies.

At the student level, the adjusted multilevel model examined how and to what extent these school variables influenced individual behaviour. Neither gender (*GENDER*)—which affected boys and girls in statistically similar proportions—nor students’ perception of teacher support (*TEACHSUP*),

consistent with the school-level variable associated with language teachers, showed statistical significance. By contrast, several other variables did. Notably, repetition of a school year (*REPETICI*), immigrant status (*INMIGRAN*), and the discriminatory climate of the school (*DISCRIM*) all displayed strong effects. Students who had repeated a year were 80 percentage points less likely to exhibit anomalous behaviour, immigrant students 30 percentage points less likely, and students in highly discriminatory school environments 25 percentage points less likely.

Interestingly, students more likely to graduate from 4th year of ESO were more prone to anomalous behaviour, probably due to their lack of interest in the PISA test, which interfered with their main academic focus. Similarly, students with a high self-concept in reading competence (*SCREADCO*) were 38 percentage points more likely to be classified as anomalous. A considerable number of other variables also showed significant effects within a range of 15–20 percentage points, among them student effort (*EFFORT*: +19 points), the Socioeconomic and Cultural Index (*ESCS*: +18 points), a positive school climate (*DISCLIMA*: +17 points), and self-efficacy in responding to global aspects (*GCSELF*: +20 points). Although these are generally positive contextual indicators, in this case they appear to identify students who did not approach the test with appropriate seriousness or motivation.

Conversely, certain variables reduced the likelihood of anomalous classification. These include perception of difficulty in reading competence (*SCREADDI*: -13 points) and use of ICT outside school (*SOIAICT*: -9 %). Both are consistent with the patterns observed in the variables associated with increased probability of anomalous behaviour. These two indicators tend to be linked with lower overall performance, suggesting greater demotivation toward reading skills in general—an effect that was amplified by the particular circumstances of the 2018 PISA administration, as discussed throughout this article.

**Table 5:** Results of the multilevel analysis

FIXED EFFECT	COEFFICIENT	STANDARD ERROR	T-RATIO	P-VALUE	ODDS RATIO	CONFIDENCE INTERVAL
INTRCPT2	-1,343	0,111	-12,137	0,000	0,261	(0,210,0,324)
TITULARI	-0,053	0,097	-0,549	0,583	0,948	(0,784,1,147)
WEEK	0,099	0,043	2,308	0,021	1,104	(1,015,1,201)
EXT_JUN	0,628	0,103	6,088	0,000	1,873	(1,531,2,293)
COLT_MEA	0,059	0,085	0,702	0,483	1,061	(0,899,1,253)
SEXO	0,106	0,084	1,263	0,207	1,112	(0,943,1,312)
INMIGRAN	-0,358	0,140	-2,557	0,011	0,699	(0,532,0,920)
REPETICI	-1,666	0,129	-12,945	0,000	0,189	(0,147,0,243)
EFFORT	0,175	0,040	4,375	0,000	1,191	(1,102,1,289)
ESCS	0,164	0,050	3,303	0,001	1,178	(1,069,1,298)
DISCLIMA	0,154	0,041	3,786	0,000	1,166	(1,077,1,263)
TEACHSUP	0,066	0,041	1,634	0,102	1,068	(0,987,1,157)
SCREADCO	0,324	0,046	7,116	0,000	1,383	(1,265,1,512)
SCREADDI	-0,137	0,043	-3,178	0,002	0,872	(0,801,0,949)
EUDMO	-0,174	0,044	-3,917	0,000	0,841	(0,771,0,917)
GCSELFEF	0,183	0,043	4,225	0,000	1,200	(1,103,1,307)
DISCRIM	-0,282	0,044	-6,365	0,000	0,754	(0,691,0,822)
BEINGBUL	-0,081	0,034	-2,369	0,018	0,922	(0,862,0,986)
HOMESCH	-0,155	0,041	-3,804	0,000	0,856	(0,790,0,927)
SOIAICT	-0,096	0,046	-2,087	0,037	0,909	(0,831,0,994)
ICTCLASS	0,115	0,039	2,967	0,003	1,122	(1,040,1,211)
INFOJOB1	-0,113	0,045	-2,488	0,013	0,894	(0,818,0,976)

## Conclusions

The exclusion of Spain's results from the PISA 2018 reading assessment in December 2019 was a carefully considered decision by the OECD, following the observation of unexpectedly low performance in certain Autonomous Communities. Although not all of the decline in reading performance can be attributed to the nature and structure of the test, this study has shown that these factors did play a significant role in some cases.

A key element was the presence of an initial section, the Reading Fluency (RF) module, which some students appeared to treat "as if it did not count toward the final score." This negatively affected the average performance

of certain autonomous communities, since the adaptive multistage design of the test, combined with the use of Item Response Theory to calculate individual performance, prevented high-performing students from compensating for a poor start.

The proportion of students who responded “lightly” to RF items—evidenced by abnormally short response times—did not exceed 5% in most regions. However, the percentages were slightly higher in the Basque Country and the Valencian Community (around 7%) and markedly higher in three regions: Catalonia (11.09%), Andalusia (17.7%), and the Community of Madrid (28.32%).

We define students who performed poorly on the RF section but excelled in the subsequent *CORE* stage as exhibiting anomalous behaviour. In seven regions, the share of such students was close to or above 20%: Cantabria, Castile and León, La Rioja, Community of Madrid, Chartered Community of Navarre, Basque Country, and Galicia (Table 2). A multilevel logistic model allowed us to rule out school ownership, student gender, and language teacher support as relevant factors in anomalous behaviour. By contrast, test administration variables—such as taking the test in the final weeks of the school year (second application window) or advancing extraordinary exams to June—had a clear influence on students’ tendency not to take the RF section seriously. At the individual level, higher reported effort and stronger self-perceptions of reading competence also increased the likelihood of anomalous behaviour.

In other words, high-achieving students who engaged in anomalous behaviour during the PISA 2018 reading test often responded randomly to the RF section—as indicated by their response times—for a variety of possible reasons: they may have been told the section did not count, they may have assumed the items were calibration exercises for the tablet, or they may have dismissed the section as “too easy” to be relevant. Due to the test’s design, however, they were then unable to recover their expected performance levels.

The OECD has already announced its intention to review both the administration of PISA and the impact of the RF modules on student performance. Nevertheless, definitive conclusions will not be possible until reading once again becomes the primary domain assessed. In the meantime,

it would be valuable to investigate whether similar patterns of anomalous behaviour occurred in other countries, and to identify the characteristics of the students involved. It would be unrealistic to assume that this phenomenon was unique to Spain.

Given the importance of large-scale international assessments such as PISA—both in shaping public opinion and in guiding potential improvements to educational programs—we consider it essential to highlight the main factors associated with the anomalous behaviour observed among a significant share of students. Accordingly, we recommend:

- Modifying the structure of the test so that it includes RF items but minimizes the possibility of automatic responses. For instance, varying the position of answer choices across items.
- Scheduling the test earlier in the school year, sufficiently far from final exams, to ensure students are not distracted by end-of-year concerns.
- Conducting awareness campaigns to emphasize the importance of the test, underscoring its relevance both nationally (regional comparisons) and internationally (comparisons across countries).

## Bibliography

Anghel, E., Khorramdel, L. and von Davier, M. (2024). The use of process data in large-scale assessments: a literature review. *Large-scale Assess Educ* 12, 13. <https://doi.org/10.1186/s40536-024-00202-1>

Avvisati, F. et al. (2024), “Item characteristics and test-taker disengagement in PISA”, OECD Education Working Papers, No. 312, OECD Publishing, Paris, <https://doi.org/10.1787/7abea67b-en>

Bezirhan, U., von Davier, M., and Grabovsky, I. (2020). Modeling Item Re-visit Behavior: The Hierarchical Speed–Accuracy–Revisits Model. *Educational and Psychological Measurement*, 81(2), 363-387. <https://doi.org/10.1177/0013164420950556>

Cohen, J., Cohen, P., West, S. G., & Aiken, L. S. (2013). *Applied multiple regression/correlation analysis for the behavioral sciences*. New York: Routledge.

De la Cruz, F. (2008). Modelos multínivel. *Epidemiol*, 12(3), 1-8. Obtained from [http://sisbib.unmsm.edu.pe/brevistas/epidemiologia/v12\\_n3/pdf/a02v12n3.pdf](http://sisbib.unmsm.edu.pe/brevistas/epidemiologia/v12_n3/pdf/a02v12n3.pdf)

Fishbein, B., Foy, P., & Yin, L. (2021). *TIMSS 2019 User Guide for the International Database*. Boston College, TIMSS & PIRLS International Study Center. Retrieved from [timssandpirls.bc.edu/timss2019/international-database/](http://timssandpirls.bc.edu/timss2019/international-database/)

Gelman, A., & Hill, J. (2006). *Data analysis using regression and multilevel/hierarchical models*. Cambridge: Cambridge University Press.

Goldhammer F, Scherer R and Greiff S (2020) Editorial: Advancements in Technology-Based Assessment: Emerging Item Formats, Test Designs, and Data Sources. *Front. Psychol.* 10:3047. doi: 10.3389/fpsyg.2019.03047

Iñiguez-Berrozpe, T., & Marcaletti, F. (2018). Modelos lineales multínivel en SPSS y su aplicación en investigación educativa [Linear multilevel models in SPSS and its application in educational research]. *REIRE Revista d'Innovació i Recerca en Educació*, 11(1), 26-40. doi:10.1344/reire2018.11.118984

Merino Noé, J. (2017). La potencialidad de la Regresión Logística Multínivel. Una propuesta de aplicación en el análisis del estado de salud percibido. *Revista de Metodología de Ciencias Sociales*, 36, 177-211.

doi:empiria.36.2017.17865

OECD. (2017). *PISA 2015 Technical Report*. Retrieved from [www.oecd.org/pisa/data/2015-technical-report/](http://www.oecd.org/pisa/data/2015-technical-report/)

Raudenbush, S. W., & Bryk, A. S. (2002). *Hierarchical Linear Models: Applications and data analysis methods*. Thousand Oaks: Sage Publications, Inc.

Snijders, T. A., & Bosker, R. J. (2012). *Multilevel analysis: An introduction to basic and advanced multilevel modeling*. London: Sage.

Weeks, J., von Davier M. and Yamamoto K. (2016): Using response time data to inform the coding of omitted responses. *Psychological Test and Assessment Modeling*, Volume 58, (4), 671-701

Wise, S.L. (2017), Rapid-Guessing Behavior: Its Identification, Interpretation, and Implications. *Educational Measurement: Issues and Practice*, 36: 52-61. <https://doi.org/10.1111/emp.12165>

## Annex

To assess the impact that this behaviour had on the student's final average performance, we used data provided by the OECD itself, upon request, on reading performance without taking into account the RF component. In other words, after requesting it from the OECD, we have an alternative score, specifically ten plausible alternative values, to measure the average effect of the RF.

Table AI shows the average value for each region including the RF component (i.e., the values already published by the OECD in its report of July 23, 2020), the average value of performance without considering the RF component, and the difference between the two results.

**TABLE AI.** Average returns by region, with and without RF, and sample sizes. Differences in average returns presented in Graph I.

Region	Variable	Coefficient	Std_err	z	P_value	CI_low	CI_high
Andalusia	pv_read_mean	465.7783	5.321941	87.52	0.000	455.3475	476.2091
	pv_read_N	1766					
	pv_readalt_mean	463.9828	5.250794	88.36	0.000	453.6914	474.2741
	pv_readalt_N	1766					
	difere	-1.795492	.7040459	-2.55	0.011	-3.175397	-.4155875
Aragon	pv_read_mean	489.5368	4.594978	106.54	0.000	480.5308	498.5428
	pv_read_N	1797					
	pv_readalt_mean	489.3574	4.768528	102.62	0.000	480.0113	498.7036
	pv_readalt_N	1797					
	difere	-1.793783	.4479969	-0.40	0.689	-1.057436	.6986794
Asturias	pv_read_mean	494.6758	3.885189	127.32	0.000	487.0609	502.2906
	pv_read_N	1896					
	pv_readalt_mean	491.6436	4.040386	121.68	0.000	483.7246	499.5627
	pv_readalt_N	1896					
	difere	-3.032141	.4074045	-7.44	0.000	-3.830639	-2.233643
Balearic Islands	pv_read_mean	478.7348	4.183915	114.42	0.000	470.5345	486.9352
	pv_read_N	1723					
	pv_readalt_mean	475.8325	4.094693	116.21	0.000	467.8071	483.858
	pv_readalt_N	1723					
	difere	-2.902305	.5178243	-5.60	0.000	-3.917221	-1.887388

Canary Islands	pv_read_mean	471.7291	3.857218	122.30	0.000	464.1691	479.2891
	pv_read_N	1790					
	pv_readalt_mean	468.2864	3.835062	122.11	0.000	460.7698	475.8029
	pv_readalt_N	1790					
	difere	-3.442751	.3406474	-10.11	0.000	-4.110408	-2.775095
Cantabria	pv_read_mean	483.0237	4.333965	111.45	0.000	474.5293	491.5181
	pv_read_N	1880					
	pv_readalt_mean	494.1387	4.118407	119.98	0.000	486.0668	502.2106
	pv_readalt_N	1880					
	difere	11.11499	2.016134	5.51	0.000	7.16344	15.06654
Castile and Leon	pv_read_mean	496.5328	4.683635	106.01	0.000	487.3531	505.7126
	pv_read_N	1876					
	pv_readalt_mean	497.8215	4.900396	101.59	0.000	488.2169	507.4261
	pv_readalt_N	1876					
	difere	1.288705	.7953758	1.62	0.105	-.2702032	2.847613
Castile-La Mancha	pv_read_mean	477.952	4.880844	97.92	0.000	468.3857	487.5183
	pv_read_N	1832					
	pv_readalt_mean	476.3575	5.085931	93.66	0.000	466.3892	486.3257
	pv_readalt_N	1832					
	difere	-1.594553	.5407023	-2.95	0.003	-2.65431	-.5347955
Catalonia	pv_read_mean	484.3267	4.287873	112.95	0.000	475.9227	492.7308
	pv_read_N	1690					
	pv_readalt_mean	482.3179	4.488378	107.46	0.000	473.5209	491.115
	pv_readalt_N	1690					
	difere	-2.008801	.6203864	-3.24	0.001	-3.224736	-.7928659
Extremadura	pv_read_mean	463.9754	5.591467	82.98	0.000	453.0163	474.9345
	pv_read_N	1816					
	pv_readalt_mean	460.6949	5.759329	79.99	0.000	449.4068	471.9829
	pv_readalt_N	1816					
	difere	-3.280551	.564458	-5.81	0.000	-4.386868	-2.174233
Galicia	pv_read_mean	493.8737	3.313901	149.03	0.000	487.3786	500.3688
	pv_read_N	1934					
	pv_readalt_mean	495.7443	3.196672	155.08	0.000	489.479	502.0097
	pv_readalt_N	1934					
	difere	1.870658	.8826824	2.12	0.034	.1406326	3.600684
La Rioja	pv_read_mean	467.4523	2.804815	166.66	0.000	461.9549	472.9496
	pv_read_N	1494					
	pv_readalt_mean	477.9292	3.077152	155.32	0.000	471.8981	483.9603
	pv_readalt_N	1494					
	difere	10.4769	.4821893	21.73	0.000	9.531826	11.42197

Madrid	pv_read_mean	473.7915	3.328186	142.36	0.000	467.2684	480.3146
	pv_read_N	5015					
	pv_readalt_mean	485.9054	2.818756	172.38	0.000	480.3807	491.4301
	pv_readalt_N	5015					
	difere	12.1139	1.395589	8.68	0.000	9.378598	14.84921
Murcia	pv_read_mean	481.265	4.731576	101.71	0.000	471.9913	490.5387
	pv_read_N	1682					
	pv_readalt_mean	478.355	4.960637	96.43	0.000	468.6323	488.0777
	pv_readalt_N	1682					
	difere	-2.909961	.6443936	-4.52	0.000	-4.172949	-1.646972
Navarre	pv_read_mean	471.8186	5.431639	86.86	0.000	461.1728	482.4644
	pv_read_N	1728					
	pv_readalt_mean	486.8177	5.870621	82.92	0.000	475.3115	498.3239
	pv_readalt_N	1728					
	difere	14.99916	1.635343	9.17	0.000	11.79395	18.20437
Basque Country	pv_read_mean	475.2566	3.342334	142.19	0.000	468.7058	481.8075
	pv_read_N	3605					
	pv_readalt_mean	482.1512	3.209735	150.22	0.000	475.8602	488.4422
	pv_readalt_N	3605					
	difere	6.89459	1.199311	5.75	0.000	4.543984	9.245197
Valencia	pv_read_mean	472.6889	4.517413	104.64	0.000	463.835	481.5429
	pv_read_N	1753					
	pv_readalt_mean	469.3733	4.435609	105.82	0.000	460.6797	478.067
	pv_readalt_N	1753					
	difere	-3.315583	.6460696	-5.13	0.000	-4.581857	-2.04931
Ceuta	pv_read_mean	403.9273	5.159777	78.28	0.000	393.8143	414.0403
	pv_read_N	387					
	pv_readalt_mean	398.4453	5.423275	73.47	0.000	387.8159	409.0748
	pv_readalt_N	387					
	difere	-5.481986	.9850373	-5.57	0.000	-7.412623	-3.551348
Melilla	pv_read_mean	437.9991	4.880427	89.75	0.000	428.4336	447.5646
	pv_read_N	279					
	pv_readalt_mean	431.216	5.21072	82.76	0.000	421.0032	441.4288
	pv_readalt_N	279					
	difere	-6.783103	.7716942	-8.79	0.000	-8.295596	-5.27061

## Key Terms:

- **pv\_read\_mean:** the average reading performance scores for the Autonomous Community published by the OECD
- **pv\_read\_mean:** refers to the mean reading performance score of the Autonomous Community excluding the RF results. These data are available on request from the OECD.
- **pv\_read\_N:** sample size considered.
- **difere:** represents the difference between the mean values depending on whether the RF are included or not, calculated as  $pv\_readalt\_mean - pv\_read\_mean$ .



# **Rubric-Based Assessment of Narrative Texts via Human-AI Collaboration: A Specialized GPT Model Approach**

## **Evaluación de Textos Narrativos Basada en Rúbricas con Colaboración Humano-IA: Enfoque Especializado de Modelo GPT**

<https://doi.org/10.4438/1988-592X-RE-2025-411-730>

**Tolga Demir**

<https://orcid.org/0000-0002-1812-3397>

*Republic of Türkiye Ministry of National Education*

**Sait Çüm**

<https://orcid.org/0000-0002-0428-5088>

*Dokuz Eylül University*

### **Abstract**

This study investigates whether narrative texts can be accurately and stably scored over time and whether effective formative feedback can subsequently be provided for these texts through human-AI collaboration. To this end, two models were employed: the default version of ChatGPT and the Text Assessment Tool (TAT), a GPT model specifically trained through a six-step process for this research purpose. 114 narrative texts were scored three times according to criteria in a rubric by both the specially trained and default models. The agreement levels of the scores given by TAT and default ChatGPT with the actual scores, as well as the stability of these scores over time, were examined. The results indicated that, in contrast to the performance of default ChatGPT, TAT's scores demonstrated high levels of agreement with the actual scores and maintained stability over time across all rubric

categories, consistently surpassing the threshold and frequently indicating high reliability. Additionally, it was observed that the majority of the feedback generated by TAT met the criteria for effective feedback. The statistical evidence presented in this study underscores that large language models, when specifically trained, can perform very well in scoring texts using a rubric and providing feedback. This is particularly promising for achieving fairer education, especially in large classes and situations where evaluators are overburdened.

*Keywords:* educational assessment, human-AI collaboration, GPT training

## Resumen

Este estudio analiza si los textos narrativos pueden ser evaluados con precisión, mantener calificaciones estables a lo largo del tiempo, y si es posible proporcionar retroalimentación formativa efectiva para estos textos gracias a la colaboración humano-IA. Para ello, se utilizaron dos modelos: la versión estándar de ChatGPT y la Herramienta de Evaluación de Textos (TAT), un modelo GPT específicamente entrenado mediante un proceso de seis pasos diseñado para esta investigación. Se evaluaron 114 textos narrativos tres veces según los criterios establecidos en una rúbrica, utilizando tanto el modelo estándar como el modelo especialmente entrenado. Se analizaron los niveles de concordancia de las calificaciones otorgadas por TAT y ChatGPT estándar con las calificaciones reales, así como la estabilidad de estas calificaciones a lo largo del tiempo. Los resultados mostraron que, en comparación con el desempeño de ChatGPT estándar, las calificaciones de TAT presentaron altos niveles de concordancia con las calificaciones reales y mantuvieron estabilidad a lo largo del tiempo en todas las categorías de la rúbrica, superando de manera constante el umbral e indicando con frecuencia una alta fiabilidad. Además, se observó que la mayor parte de la retroalimentación generada por TAT cumplía con los criterios de retroalimentación efectiva. La evidencia estadística presentada en este estudio demuestra que los modelos de lenguaje a gran escala, cuando son específicamente entrenados, pueden desempeñarse de manera excelente en la evaluación de textos mediante una rúbrica y en la provisión de retroalimentación formativa. Esto es particularmente alentador para lograr una educación más equitativa, especialmente en clases numerosas y en situaciones donde los evaluadores están sobrecargados.

*Palabras clave:* evaluación educativa, colaboración humano-IA, entrenamiento de modelos GPT.

## Introduction

*“To shorten our path, we needed a horse. We found a wild one, untamed and strong. We had to tame it, for a wild horse would not serve us. This paper is the story of that taming.”*

*Sait Çüm & Tolga Demir*

In educational assessment, question types such as multiple-choice, sentence completion, matching, and true-false are frequently employed in both classroom settings and large-scale examinations, particularly for summative assessment purposes, due to their capacity for objective scoring. However, for formative assessments—which aim to identify and address students’ learning gaps, monitor their development, and enhance instructional processes—It is essential to utilize open-ended questions, as well as oral and product-based or process-oriented performances that provide more detailed data to the educator. Such assessment approaches enable a clearer identification of students’ learning deficiencies and misconceptions, while also facilitating the measurement of higher-order cognitive skills from a taxonomic perspective. Despite these advantages, the time-consuming process of reading, scoring, and providing feedback on these assessments, especially in large classrooms, often leads to their underutilization by teachers.

Recent revolutionary advancements in artificial intelligence (AI) technology have spurred discussions about the future role and significance of AI in our lives. It is now evident that humans are no longer the sole intelligent actors on our planet, making human-AI collaboration inevitable in contemporary organizations (Kolbjørnsrud, 2024). It is not difficult to predict that human-AI collaboration will continue to reduce costs related to time and labor in various fields.

## Artificial intelligence

Artificial intelligence (AI) encompasses computerized systems that perform tasks and respond in ways typically associated with human intelligence, such as learning, problem-solving, and goal achievement under uncertain and varying conditions. AI has achieved remarkable progress from early problem-solving in the 1950s to the simulation of human reasoning in the 1960s, from initial mapping projects in the 1970s to the advent of intelligent assistants in the 2000s (Dalton, 2024; Fell Kurban & Şahin, 2024). Within this vast domain, generative AI stands out as a specialized subset focused on creating new content that mimics existing data. Up to the present day, the fields of machine learning and artificial neural networks have significantly advanced, enabling the development of sophisticated generative architectures and deep learning algorithms. Notable examples include generative adversarial networks (GANs), variational autoencoders (VAEs), and transformer-based models (Alto, 2023; Chan & Colloton, 2024; Johannesson, 2024), which are integral to the progress and applications of generative AI.

The release of ChatGPT, a generative AI model, by OpenAI in late 2022, made a significant global impact, garnering widespread attention. This development acted as a driving force, encouraging numerous major technology companies to enter the competitive field of generative AI models (Holmes & Miao, 2023). While strong competitors such as Gemini, DeepSeek and Llama have emerged, ChatGPT continues to maintain a slight lead in terms of popularity and widespread user adoption.

ChatGPT, a pre-trained large language model (LLM), utilizes a transformer-based language architecture, a type of deep neural network highly effective for natural language processing (NLP) tasks. It can understand and generate human-like text based on the input it receives. Trained on a vast amount of data, ChatGPT has learned the patterns, styles, and complexities of human language, making it an exceptional tool for communication. Its capabilities have transformed education by offering dynamic human-like conversations, providing instant information, personalized recommendations, and continuous academic support (Chan & Colloton, 2024; Fell Kurban & Şahin, 2024).

## Education and LLMs

The popularity of LLMs such as ChatGPT among both teachers and students necessitates research into the alignment of its capabilities and outputs with expectations or defined objectives. We find it crucial to explore the potential of LLMs in facilitating and supporting tasks that are exhausting and time-consuming for teachers, rather than merely assisting with superficial or straightforward tasks. This is particularly important in ensuring the continuity of critical educational processes, such as formative assessment, in large classrooms or periods of high teacher workload, thus sustaining the quality of education.

When the literature on the integration of LLMs into educational practices, particularly in writing skills and assessment, was reviewed, two studies were identified that highlighted AI's effectiveness in generating reading materials (Fitria, 2023; Xiao et al., 2023). Additionally, three studies aligned with our objectives examined AI's ability to provide feedback or score student essays (Steiss et al., 2024; Wang, 2022; Yavuz et al., 2024). However, a rubric-based training process specifically designed for assessing narrative writing skills was not employed in any of these studies.

On the other hand, the use of Large Language Models (LLMs) in education may produce hallucinatory information, leading to accuracy and reliability issues that can negatively affect student learning and critical thinking skills (Elsayed, 2024). Some studies have shown that LLMs, particularly in feedback processes, may fail to fully comprehend student work and at times provide feedback that is either off-topic or superficial (Venter et al., 2024; Jia et al., 2024). This situation may affect the trust that students and teachers place in AI-generated feedback and could lead to more cautious or even skeptical attitudes toward such outputs (Ziqi, 2024). For precisely these reasons, training a specialized, rubric-based model for a specific purpose within the scope of this study is considered important, as it has the potential to overcome some of the challenges that may arise.

## The present study

This study aims to determine whether narrative texts can be accurately scored and whether effective formative feedback can be provided through human-AI collaboration. Additionally, the study compares the scoring accuracy and stability over time of a GPT model, the Test Assessment Tool (TAT), which was trained using many-shot iterative prompting approach, with those of the default ChatGPT.

A significant challenge in this study is the inherent subjectivity in scoring narrative texts, even with a rubric. The study suggests that human-AI collaboration can improve objectivity and stability in scoring. For example, determining what constitutes an “engaging title” involves personal judgment, which AI also struggles with. Instead of simplifying the rubric to minimize subjectivity, this research aims to show how human-AI collaboration can develop reliable solutions in contexts requiring subjective evaluation. If successful, this approach could lead to fairer outcomes, even in large-scale assessments or recruitment processes.

The study also investigates the potential of AI collaboration in providing feedback within formative assessment processes to support student development. It posits that such collaboration can reduce teachers’ workload in providing feedback on students’ work. The effective feedback criteria used to measure the effectiveness of the feedback (Brookhart, 2008; Burke & Pieterick, 2010; Irons, 2008; Juwah et al., 2004) are detailed in Appendix I. Although the process of effective feedback can involve dialogue and face-to-face interaction, this study focuses exclusively on written feedback due to the nature of the materials used.

The following hypotheses guide the research process and analyses:

- H1: The trained large language model will produce more accurate scores for narrative texts compared to the default ChatGPT.
- H2: The trained large language model will demonstrate greater stability and reproducibility in scoring narrative texts over time compared to the default ChatGPT.
- H3: The trained large language model will provide more effective written feedback that enhances students’ narrative writing skills compared to the default ChatGPT.

## Methodology

The methodology of this study comprises two main phases. The first phase involves training GPT specifically for the research objective, while the second phase evaluates the effectiveness of the trained model by comparing it to the default ChatGPT.

For both phases, a rubric from the Turkish Ministry of National Education's 2024 curriculum was used, encompassing eight categories: "page structure," "title," "text structure," "character," "setting," "plot," "language and style," and "spelling and punctuation." Each category is assessed at three levels (details in Appendix II). TAT was trained using the GPT Builder application of OpenAI to scoring texts and provide feedback based on this rubric.

In this study, human evaluators were not used as benchmarks for AI scoring accuracy due to the risk of their evaluation errors introducing additional bias. Instead, the narrative texts in the dataset were created by researchers according to the rubric, with intentional omissions or errors. To ensure the accuracy of the dataset's intended design, a reliability study was conducted with other experts on a subset of the texts, with the results detailed in this section. Following the reliability study, the pre-determined scores of the texts, referred to as "actual scores," served as the gold standard for comparisons.

## GPT Training Process

TAT was subjected to a thorough six-step training process, summarized below, using GPT Builder; examples of the prompts used in each step are provided in Appendix III.

- Goal Setting and Initial Assessment

The GPT model is assigned a specific role. The necessary files for this role (preferably in PDF format) are uploaded to the system, and their comprehensibility is verified. In the context of this study, these files contain the criteria specified in the rubric as well as the criteria for effective feedback.

- Criteria Introduction

A question-and-answer session is conducted with GPT about the evaluation criteria. The session aims to determine how well GPT comprehends the criteria and to identify potential issues it might encounter during the evaluation. The prompts given in response to the answers help to clarify how the evaluation criteria are to be applied.

- Example Analysis

Examples (training data) are provided to GPT for many-shot iterative prompting. For scoring tasks, example sentences are presented for texts that could receive 1, 2, or 3 points. For feedback prompts, examples of sentences illustrating effective feedback are provided.

- Upload Sample Files

- When assessing narrative texts, certain formal features—such as paragraph indentation and title placement—also need to be considered, even though they are not directly related to content. Since it was not possible to effectively illustrate these aspects through standard text-based examples, visual samples were required. Therefore, a set of texts containing intentional formatting errors was created and provided to GPT in PDF format. These files served as reference points, allowing GPT to accurately recognize and evaluate formatting elements as part of the assessment process. Structured Practice

Unlike earlier steps that focus on parts, this step aims to see the whole. To elaborate, while previous steps focus on specific criteria within a rubric or a particular aspect of effective feedback, this step observes how GPT scores an entire text and provides comprehensive feedback.

During the training process, the phases of Example Analysis, Upload Sample Files, and Structured Practice can be iteratively repeated to ensure more accurate responses. In cases where the desired outcomes are not achieved, the process is repeated with new examples and the structured texts are re-evaluated for problematic areas.

- Final Evaluation and Confirmation

In this step, the researcher verifies the topics agreed upon with GPT up to this point. Final adjustments are made to the instructions if necessary, and the uploaded source files are confirmed.

**FIGURE I.** GPT Training process for rubric-based assessment using GPT Builder

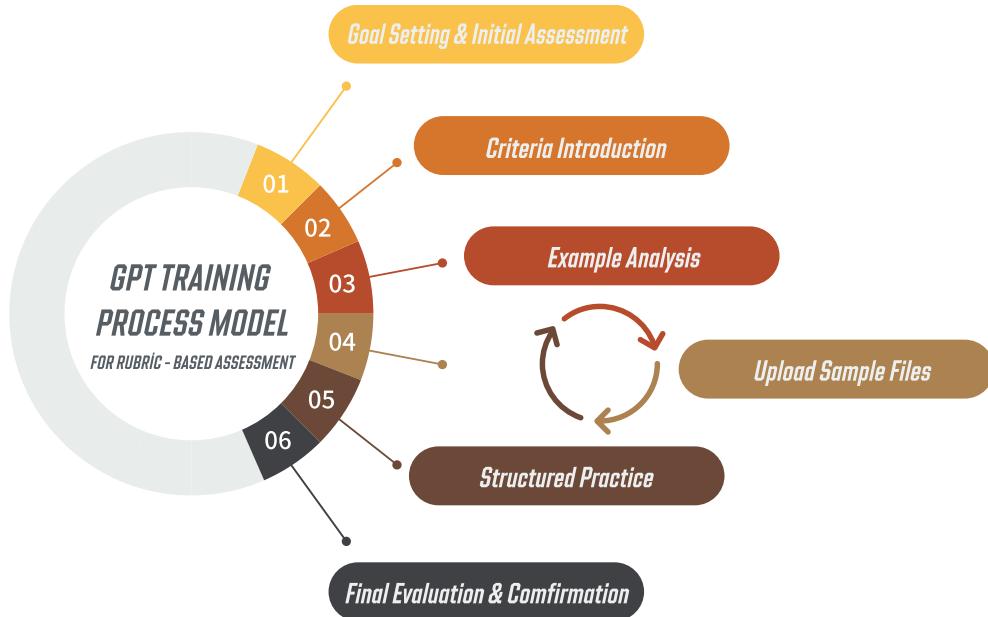


Figure I illustrates the GPT training process, applicable for similar tasks. [Click here to access TAT](#)

## Challenges and Solutions Encountered During the Training of the AI

In this section, we summarize the notable challenges encountered during the AI training process and the solutions devised, aiming to assist other researchers and practitioners in navigating similar issues.

- File type compatibility

One key challenge was the variety of file types used in the training process. Considering practical applications, evaluators might store texts in different formats, such as photographs of students' written work. We

experimented with different file types during the training process to observe any variations in performance. Using .png files resulted in more errors, likely due to the Optical Character Recognition (OCR) process employed by LLM, which made changes to the content before analysis. With .doc files, the model sometimes altered texts, such as adding and scoring titles that weren't originally there. However, using .pdf files minimized these issues, significantly reducing the frequency of such interventions.

- Batch processing vs. individual processing

Another issue involved the mode of text submission—whether collectively or individually. Batch submissions led to significant errors during training and testing, with the model exhibiting unwanted automation in scoring and producing uniform feedback after a few texts. Sequential submission and individual scoring effectively mitigated these issues.

- Text length

Problems also emerged due to the length of the training data. Long texts or prompts in the training set could cause confusion in the trained model. These issues were resolved by organizing training data into shorter, clearer, and more concise segments.

- Connectivity and generalization issues

Occasionally, the trained model struggled to establish the correct connections with previously provided training data, resulting in undesired creativity. This could be due to the model's difficulty in connecting with prior training data, in addition to the challenge of making incorrect generalizations as it is exposed to more varied data. We observed that these connectivity issues resolved themselves over time without new interventions and were not consistently related to specific training data (indicative of randomness). This problem underscores the importance of human-AI collaboration, suggesting that some processes should not be left entirely to AI. Human oversight can effectively eliminate these issues.

## **Data Collection**

114 narrative texts were created for this study, all written in Turkish. These

texts are diverse in terms of evaluation criteria. For instance, some texts consist of a single paragraph but are flawless in terms of grammar and punctuation. Other texts, while ideal in their three-paragraph structure and page layout, lack titles. Some intentionally omit elements of setting. Each story has a unique title, features different characters, and utilizes different elements of setting, resulting in distinct plotlines. In essence, each text is original and unrelated to others. This approach aims to minimize the random factor in scoring or providing effective feedback by TAT.

Narrative texts were uploaded to the Automated Text Analysis Tool (TAT) and scored three times, resulting in scores at three different points in time. The same scoring procedure was applied using the default ChatGPT, yielding three datasets: the actual scores, the scores assigned by TAT across three sessions, and the scores assigned by ChatGPT across three sessions. Additionally, 20 randomly selected narrative texts were re-uploaded to TAT to collect effective feedback based on the previous automated scoring, and outputs were recorded.

## Data Analysis

The agreement levels among the actual scores of 114 texts, the scores provided by TAT at three different times, and the scores given by default ChatGPT at three different times were calculated using Krippendorff's  $\alpha$  technique. Krippendorff's  $\alpha$  is a reliability coefficient commonly used in fields such as social sciences and content analysis to measure the consistency of categorical or continuous data ratings made by multiple raters or coders (Krippendorff, 2004). The following criteria are used to evaluate the obtained Krippendorff's  $\alpha$  values: a coefficient value below 0.67 indicates low agreement and reliability, a value between 0.67 and 0.80 indicates acceptable, moderate agreement and reliability, and a value above 0.80 indicates high agreement and reliability.

The effectiveness of the feedback provided by TAT, based on effective feedback criteria, was analyzed using descriptive statistics. In this phase, researchers individually examined a total of 160 feedback for 20 randomly selected texts, using the eight categories in the rubric. The

feedback was coded by researchers as successful or unsuccessful according to criteria such as category appropriateness, performance orientation, clarity and comprehensibility, developmental quality, constructiveness, and task specificity. Subsequently, the percentage of successful feedback was calculated relative to the total amount of feedback.

## **Reliability of Actual Scores**

The preliminary scores for 114 narrative texts were determined by researchers using a rubric. To assess the reliability of these scores, a random selection of texts from the 114 was sent to three experts, who provided their opinions on the appropriateness of the scores. The similarity between the expert opinions and the researchers' scores was calculated using the formula  $A = C \div (C + a) \times 100$ , based on the Miles and Huberman (1994) model. In this formula, A represents the reliability coefficient, C denotes the number of items/terms with agreement, and a denotes the number of items/terms without agreement. According to this model, a similarity ratio of at least 80% is required to achieve consistency. Our reliability study showed agreement rates of 95%, 96.25%, and 91.25% between the preliminary scores assigned by the researchers and the expert evaluations. This consistency justifies considering the preliminary scores assigned by the researchers as the gold standard (actual scores).

## **Results**

All texts in the dataset were scored by TAT at three separate times, and Krippendorff's  $\alpha$  was used to determine the level of agreement between each set of scores and the actual scores (t). The results are presented in Table I.

**TABLE I.** Agreement levels for TAT scores with actual scores

Category	$\alpha_{t-1}$	$\alpha_{t-2}$	$\alpha_{t-3}$	$\alpha_{mean}$	Interpretation
Page structure	0.899	0.897	0.857	0.884	High reliability
Title	0.870	0.802	0.818	0.830	High reliability
Text structure	0.921	0.950	0.950	0.940	High reliability
Character	0.822	0.763	0.807	0.797	Medium reliability
Setting	0.728	0.787	0.759	0.758	Medium reliability
Plot	0.883	0.894	0.901	0.889	High reliability
Language and style	0.874	0.894	0.893	0.887	High reliability
Spelling and punctuation	0.780	0.786	0.814	0.793	Medium reliability

Examining Table I, it is observed that the category with the lowest agreement between TAT's scores and the actual scores is the “setting” category, which involves examining the presence of time and place elements in the stories and their impact. On the other hand, the category with the highest agreement is the “text structure” category, which examines the presence and quality of the introduction, body, and conclusion sections of the stories, with a value of 0.940. Upon reviewing the findings on the agreement levels for each of the three comparisons between TAT scores and actual scores, it was found that all the obtained alpha values, as well as their means, exceeded the threshold considered reliable (0.667).

Along with analyzing the agreement between TAT's scores and the actual scores, the stability of TAT's scores across the three different times was also examined. The results and their interpretations are presented in Table II.

**TABLE II.** Stability of TAT Scores

Category	$\alpha_{1,2,3}$	Interpretation
Page structure	0.905	High reliability
Title	0.896	High reliability
Text structure	0.957	High reliability
Character	0.797	Medium reliability
Setting	0.846	High reliability
Plot	0.908	High reliability
Language and style	0.954	High reliability
Spelling and punctuation	0.828	High reliability

Upon examining Table II, it is evident that the scores assigned by TAT exhibit consistency over time across all categories, underscoring the reproducibility of the scoring outcomes. It is observed that the category with the highest agreement between the three different scores assigned by TAT is again the “text structure” category. The “character” category, which assesses the personal and psychological traits of the story characters, shows the lowest agreement. It can be interpreted that the character category, with the lowest alpha value, demonstrates medium reliability, whereas the agreements in the other categories demonstrate high reliability.

Krippendorff's  $\alpha$  values, indicating the agreement between default ChatGPT scores and actual scores, are shown in Table III.

**TABLE III.** Agreement levels for default ChatGPT scores with actual scores

Category	$\alpha_{t-1}$	$\alpha_{t-2}$	$\alpha_{t-3}$	$\alpha_{mean}$	Interpretation
Page structure	-0.032	0.553	0.370	0.297	Low reliability
Title	0.159	0.422	0.473	0.351	Low reliability
Text structure	0.261	0.521	0.502	0.428	Low reliability
Character	0.266	0.604	0.477	0.449	Low reliability
Setting	0.384	0.469	0.516	0.456	Low reliability
Plot	0.214	0.381	0.477	0.357	Low reliability
Language and style	0.412	0.562	0.550	0.508	Low reliability
Spelling and punctuation	0.233	0.415	-0.171	0.159	Low reliability

Table III shows that “Spelling and Punctuation” has the lowest agreement between ChatGPT and actual scores, while “Language & Style”

has the highest. Overall, the default ChatGPT scores show low agreement with actual scores across all categories.

The findings related to the stability of the scores given by ChatGPT, a general language processing model not specifically trained for this research, at three different times are presented in Table IV.

**TABLE IV.** Stability of default ChatGPT Scores

Category	$\alpha_{1,2,3}$	Interpretation
Page structure	0.403	Low reliability
Title	0.402	Low reliability
Text structure	0.566	Low reliability
Character	0.475	Low reliability
Setting	0.633	Low reliability
Plot	0.491	Low reliability
Language and style	0.436	Low reliability
Spelling and punctuation	0.627	Low reliability

Examining Table IV, it is observed that the category with the highest agreement between the scores given at three different times is the “setting” category, while the category with the lowest agreement is the “title” category. Interpreting the values in Table 4, it is observed that the agreements for all categories are low reliability.

**FIGURE II.** A comparison between TAT and default ChatGPT concerning agreement with actual scores (left) and the stability of scores (right)

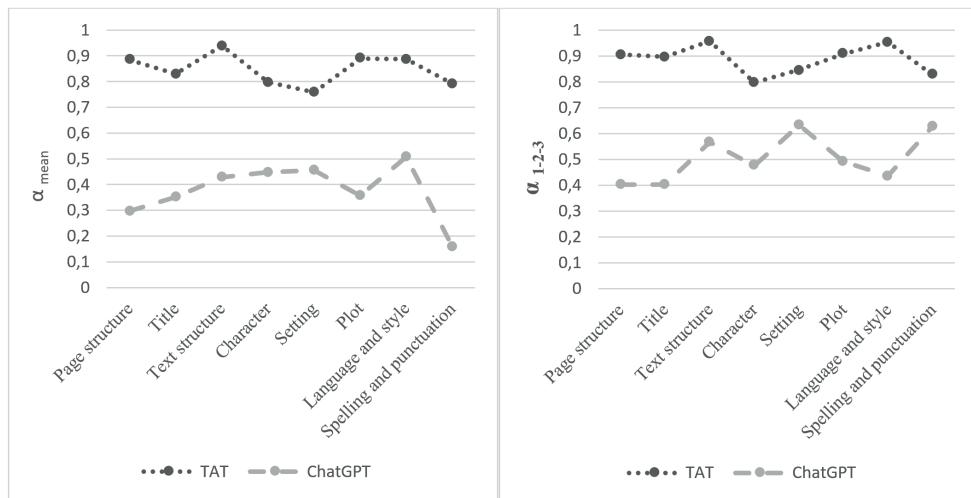


Figure II illustrates the mean alpha values from Tables 1 and 3, as well as the alpha values from the three distinct time points (intra-rater reliability) detailed in Tables 2 and 4. The figure highlights significant discrepancies between the scores given by ChatGPT and those assigned by TAT in terms of both their agreement with actual scores (left) and stability (right)

Based on the evidence regarding the agreement of TAT's rubric-based scoring with the actual scores of the texts and the stability of its scores over different time points, it was concluded that the research hypotheses H1 and H2 were addressed.

To investigate hypothesis H3, the effectiveness of TAT's feedback, given in line with the rubric used in the study, was analysed against the criteria for effective feedback. The feedback provided by TAT was evaluated by researchers using criteria that included being performance-oriented, clear & comprehensible, constructive, developmental, and task-specific, as outlined in the introduction of the study. During these evaluations, it was found that TAT occasionally provided feedback to a category different from the one it should have addressed. To quantify these instances, an additional criterion named

“category appropriateness” was defined alongside the effective feedback criteria. The results, including the total number of feedback instances analysed and their success rates, are presented in Table V.

**TABLE V.** Feedback performance of TAT

Category	Total Feedback	Successful Feedback (%)
Category appropriateness	160	91.88
Performance-oriented	160	100
Clear & comprehensible	160	86.25
Developmental	160	83.75
Constructive	160	100
Task-specific	160	89.38

An examination of Table V reveals that all feedback provided by TAT is performance-oriented and constructive. The criterion with the lowest adherence rate is the developmental criterion, met at 83.75%. Despite the inherent difficulty in crafting feedback that supports student development, TAT’s performance in this area is commendably high, as well as high performance being observed across all other criteria.

When feedback is sequentially examined in terms of the criteria that effective feedback should possess, it is observed that 91.88% of the feedback meets the category appropriateness criterion, while 8.12% does not. An example of feedback considered unsuccessful according to this criterion is provided below.

*Example Feedback 1: Since the text consists of a single paragraph, the page structure is insufficient. In your next writing, try to use at least three paragraphs, including an introduction, body, and conclusion. By using a different paragraph for each section, you can improve the flow and understandability of your text. For example, in the introduction paragraph, you can describe Can starting to look for his father, in the body paragraph, finding his father and their experiences in the laboratory, and in the conclusion paragraph, provide information about Can’s future.*

Example Feedback 1 is the feedback provided by TAT for the page structure category of Story 80. However, Example Feedback 1 focuses on suggestions regarding the flow, clarity and elaboration of the story, not the

page structure. Although these suggestions are valuable for the development of the text, they do not comply with the rubric criteria for the page structure category. In contrast, Example Feedback 2 is considered suitable for the page structure category.

*Example Feedback 2: The text contains two paragraphs that are currently unintended. To enhance the organization and readability of your writing, it is recommended to indent each paragraph in future compositions.*

When examining whether the feedback provided by TAT is performance-oriented, it is observed that all 160 pieces of feedback meet this criterion. Example Feedback 3 is an example of feedback provided by TAT that meets this criterion:

*Example Feedback 3: The name and some characteristics of the character are mentioned. However, you can add emotional characteristics of the character to help the reader understand the character better and add depth to your story. For example, you can describe Cem's excitement and curiosity during the discovery while progressing through the tunnel. "Cem's heart was pounding as he progressed through the tunnel. He experienced the excitement of a new discovery with every step."*

When examining whether the feedback provided by TAT is clear and comprehensible, it is observed that 86.25% of the 160 pieces of feedback are successful according to this criterion. Example Feedback 4 is presented below:

*Example Feedback 4: The events progress logically, but you can increase the fluency of the story by adding more details. The story has a clear beginning, development, and conclusion. The preparations for Kaan's party, the fun moments of the party, and his gratitude for the gifts at the end are well described.*

Example Feedback 4 is feedback provided by TAT for the plot category for Story 53. This feedback exemplifies clarity and comprehensibility, which are essential principles of effective feedback. It avoids using suggestions that might confuse the student or words that the student might not understand.

An analysis conducted to evaluate the quality of TAT's feedback found that 83.75% of the feedback provided supports the student's development. This is exemplified in Example Feedback 5.

*Example Feedback 5: The place and time where the event take place are mentioned, but no detailed information is given. You can strengthen the atmosphere of the story by describing the place and time in more detail. For example, “On a summer day, Mehmet found a silent violin while wandering in the music shop. The shop was filled with old musical instruments.”*

Example Feedback 5 is feedback provided by TAT for the setting category for Story 15. When this feedback is examined, it is observed that the provided suggestions and examples consist of expressions that support the student's development.

One of the principles of effective feedback is that it should be constructive. According to this criterion, feedback provided to students should encourage them and offer various options instead of rigid commands or instructions. From this perspective, it is observed that all the feedback provided by TAT is delivered in a constructive manner, encouraging the students. This can be seen in the following feedback provided for the setting category for Story 22.

*Example Feedback 6: The place and time where the event take place are described in detail. The journey to the library, the ruins, and the manuscripts and books inside the library are clearly described. The contribution of the setting to the story is well emphasized.*

One of the qualities that effective feedback should have been that it should be task-specific rather than general. According to this criterion, effective feedback should not use the same expressions for everyone but should be tailored specifically to the student's text. When examining the feedback provided by TAT, it is observed that TAT is quite successful in this regard, with 89.38% of the feedback meeting this criterion.

*Example Feedback 7: The events progress logically and in detail. The story has a clear beginning, development, and conclusion. The preparations for Selin’s birthday party, the fun moments of the party, and finally, her opening the presents and thanking are well described.*

Example Feedback 7 is feedback provided by TAT for the plot category for Story 97. When this feedback is examined, it is observed that it is specific feedback directly related to the text, not general.

## Conclusion and Discussion

This study aims to determine if narrative texts can be accurately and stably scored through human-AI collaboration and if effective formative feedback can be provided. Additionally, the performance of the GPT trained for this purpose was compared to ChatGPT, which was not specifically trained for this research, to highlight performance differences.

## Conclusion

### Scoring accuracy and reliability

Agreement with actual Scores: TAT scored 114 narrative texts using a rubric and the agreement level between the scores and the actual scores for each rubric category was examined. The Krippendorff's  $\alpha$  values indicated a strong agreement with actual scores across all criteria, with reliability exceeding the threshold ( $\alpha \geq 0.667$ ). The highest agreement was observed in the "Text Structure" category ( $\alpha = 0.940$ ), while the lowest agreement was in the "Setting" category ( $\alpha = 0.758$ ).

Stability over time: When examining the agreement levels between TAT's scores at three different times, it was found that Krippendorff's  $\alpha$  values were above the threshold ( $\alpha \geq 0.667$ ) across all criteria. The scores for the "Text Structure" category demonstrated the highest stability ( $\alpha = 0.957$ ), while the scores for the "Character" category showed the lowest stability ( $\alpha = 0.797$ ).

Both in terms of agreement with actual scores and stability, relatively low alpha values were identified in the categories of character, setting, and spelling and punctuation. For the character category, the rubric reveals a subtle distinction between awarding two points and three points. The rubric stipulates that two points should be given when the physical and psychological traits of the characters are described. When these traits, along with the emotions and perspectives that affect the narrative flow, are identified, three points are warranted. Determining which emotion or perspective influences the narrative

or distinguishing them can be challenging. This difficulty would challenge a human evaluator as well as TAT's evaluations. In the setting category, the challenge is thought to stem from inconsistencies in the combined portrayal of "place" and "time" elements in the narratives. For example, a story may provide detailed information about the place and its impact on the narrative, but neglect the aspect of time, making it difficult to score according to the rubric, which requires their joint assessment. Further disaggregation of these criteria in the rubric into smaller and clearer components could enhance AI scoring performance. Regarding the spelling and punctuation category, we had to use numerous datasets explaining Turkish spelling and punctuation rules to improve TAT's performance. This necessity is paradoxical because using a large number of datasets can confuse the AI during training. If the stories were in English, fewer datasets would likely have been needed, resulting in better performance. Overall, all performances were above the threshold and satisfactory. Relatively lower performances could be addressed through interventions such as revising the rubric, and these are not viewed as significant issues for text evaluations in AI collaboration.

Default ChatGPT's performance: Tests with default ChatGPT revealed findings of low reliability in both agreement with actual scores and internal stability when scoring narrative texts. This was evident even in simple tasks such as evaluating the title of a text. The default model, untrained for text evaluation and unrestricted by specific tasks, often undertakes unwanted tasks such as corrections. For instance, it might add a title to a text that lacks one and then proceed to score the title it added. When examining the scores across different categories, some categories showed very poor performance. For example, the mean alpha value for spelling and punctuation category was 0.159. The default model was particularly weak in examining spelling and punctuation in Turkish texts. This underscores the substantial improvements achieved in initially lower-performing categories following specialized training.

## Feedback effectiveness

Criteria compliance: The feedback provided by TAT was evaluated according to the criteria established for effective feedback. The tool demonstrated performance success rates exceeding 83% across all criteria, particularly excelling in delivering performance-oriented, constructive, and task-specific feedback.

Category Appropriateness: Only about 8.12% of the feedback samples were deemed inappropriate for their respective categories, demonstrating TAT's high performance in delivering feedback within the context of each rubric category and effectively reminding students of the relevant criteria. Furthermore, the feedback considered inappropriate was not due to fabricated issues but rather to the confusion between some subtle distinctions among different rubric categories.

## Comparative analysis with existing literature

In the study by Yavuz et al. (2024), large language models ChatGPT and Bard were compared for essay evaluation. ChatGPT was used in both its default mode and in a fine-tuned mode with the temperature level reduced to 0.2. The scores given by the AI were compared with those given by human evaluators. The results indicated that both default ChatGPT and fine-tuned ChatGPT, as well as Bard, provided reliable scores. Notably, the fine-tuned ChatGPT showed a very high agreement with human evaluators. In the aforementioned study, the language models were not specifically trained for the task. Fine-tuning was achieved by simply adjusting the temperature setting, which limits the variability of the model's responses. In our study, however, no temperature adjustment was made, and default ChatGPT was used for comparisons. The results of the two studies diverge concerning the performance of default ChatGPT. We considered that the language of the essays being evaluated might be a significant factor. One study used English texts evaluated with an English rubric, while the other used Turkish texts evaluated with a Turkish rubric. To substantiate this claim, more research comparing performances

across different languages is required. Another factor contributing to the differing results could be the number of texts evaluated. In the study by Yavuz et al. (2024), only three texts were evaluated, while in our study, 114 texts were evaluated. We observed that as the number of texts to be scored by ChatGPT increased, it produced undesirable automatic responses and applied similar scoring patterns to qualitatively different texts. Thus, the other study may have achieved better performance by evaluating a small number of texts with appropriate prompts and human-AI collaboration. However, we argue that a model specifically trained for a purpose performs much better when there is a heavy lifting to be done.

Awidi (2024), compared human evaluators and default ChatGPT in the evaluation of 108 texts. The intraclass correlation coefficient (ICC) for single measures was 0.349, indicating low agreement, which is consistent with our study's results. Awidi (2024), noted that the agreement increased when looking at average measures and advocated for AI collaboration in text evaluation to achieve more consistent results and significantly reduce human workload.

Regarding the quality of feedback provided to texts, Steiss et al. (2024) compared the feedback quality from humans and ChatGPT on student writings. The study compared 200 pieces of feedback from humans and 200 from AI. The results showed that human raters were more successful in providing high-quality feedback in all categories except for criteria-based feedback. Based on this, the authors argued that ChatGPT can be beneficial in the absence of a well-trained educator. In our study, we achieved quite good results regarding the quality of AI-provided feedback. The difference in results between the two studies is largely due to whether the language model was specifically trained for the purpose. We used a model trained for text evaluation and feedback provision, whereas the other study used a default model. Our study showed that a trained language model excels in delivering effective feedback, which is believed to support student development. Regarding this topic, Escalante et al. (2023) conducted a study to determine how AI feedback and human feedback affect students' writing performance and which type of evaluator the students preferred. The study found no significant difference in performance between the groups receiving AI feedback and those receiving

human feedback, and students' preferences for evaluators were evenly split.

## Discussion

The results of this study underscore the potential of human-AI collaboration in reliably and objectively scoring narrative texts, even in contexts that require subjective evaluations. The high levels of agreement and stability achieved by TAT, a GPT developed for this study, demonstrate that AI tools, when sufficiently trained, can match human performance in scoring texts and providing effective feedback. The strong potential of AI to support formative assessment processes is particularly significant in densely populated regions and large classrooms, as it can contribute to more consistent and scalable evaluation practices for students while also reducing teachers' workload in monitoring and supporting individual student development. This, in turn, may contribute to a higher quality educational process.

## Impact of AI training

The study emphasizes the need for specialized training to improve AI models' proficiency in specific tasks. While ChatGPT excels in general language processing, targeted training is crucial for tasks like evaluating narrative texts. Without task-specific constraints, ChatGPT can produce inconsistent results, which is problematic for both scientific research and practical applications. Thus, the authors advise against using default ChatGPT for critical tasks and recommend employing a trained model with demonstrated reliability.

## Not just AI, but human-AI collaboration

The statistical strength of the results produced by the AI in this study provides significant evidence for its use. However, during the process of both training and utilizing the AI, we discovered that it could make unexpected errors in

unforeseen areas.

Beyond the difficulties inherent to the task and the influence of subjective decision-making in narrative text assessment, certain deviations in the agreement rates and temporal performance of both the default ChatGPT and TAT can be explained by the phenomenon of hallucination. Therefore, we argue that a completely AI-driven assessment process, devoid of human oversight, would be highly inappropriate. Beyond preventing errors, human-AI collaboration is essential for developing a system that can continually improve and effectively address varying tasks. Periodically feeding the model with appropriate data can greatly enhance its performance and make it more capable of handling diverse situations.

## Limitations and recommendations for future research

In the present study, narrative texts were purposefully constructed by the researchers, strictly adhering to a predefined rubric, with intentional incorporation of specific omissions, inaccuracies, and predetermined scoring criteria. This methodological approach enabled a controlled evaluation of the model's proficiency in interpreting and applying evaluation standards. Nonetheless, this design choice introduces inherent limitations. Primarily, the absence of human evaluators and reliance on artificially generated texts may constrain the authenticity and variability that typically characterize genuine student compositions. Consequently, the results obtained from this method may not fully represent the model's potential performance in authentic, real-world educational contexts.

Relatedly, the dataset comprised 114 standardized texts, which, although promoting controlled conditions, might inadequately reflect the diverse range of student profiles and varying writing competencies encountered within large-scale educational environments. To address these constraints, subsequent research could benefit from integrating authentic texts produced by actual students and involving human evaluators to comparatively analyze scoring alignment and temporal consistency of customized GPT models, such as TAT. Furthermore, expanding both the sample size and the dataset diversity might enhance the assessment of the model's generalizability and practical

applicability.

Additionally, variations observed between this study and others underscore the importance of investigating how AI language model performance differs across languages. Thus, initiating further practical and experimental research in this area would be beneficial.

## Bibliographic references

Alto, V. (2023). *Modern generative AI with ChatGPT and OpenAI models: Leverage the capabilities of OpenAI's LLM for productivity and innovation*. Packt Publishing.

Awidi, I. T. (2024). Comparing expert tutor evaluation of reflective essays with marking by generative artificial intelligence (AI) tool. *Computers and Education: Artificial Intelligence*, 6, 100226. <https://doi.org/10.1016/j.caeari.2024.100226>

Brookhart, S. M. (2008). *How to give effective feedback to your students*. ASCD.

Burke, D., & Pieterick, J. (2010). *Giving students effective written feedback*. Open University Press.

Chan, C. K. Y., & Colloton, T. (2024). *Generative AI in higher education: The ChatGPT effect*. Routledge.

Dalton, G. (2024). *Artificial intelligence: Background, risks and policies*. Nova Science Publishers.

Elsayed, H. (2024). The impact of hallucinated information in large language models on student learning outcomes: A critical examination of misinformation risks in AI-assisted education. *Northern Reviews on Algorithmic Research, Theoretical Computation, and Complexity*, 9(8), 11–23.

Escalante, J., Pack, A., & Barrett, A. (2023). AI-generated feedback on writing: Insights into efficacy and ENL student preference. *International Journal of Educational Technology in Higher Education*, 20(57). <https://doi.org/10.1186/s41239-023-00425-2>

Fell Kurban, C., & Şahin, M. (2024). *The impact of ChatGPT on higher education*. Emerald Publishing.

Fitria, T. N. (2023). Artificial intelligence (AI) technology in OpenAI ChatGPT application: A review of ChatGPT in writing English essay. *ELT Forum*, 12(1), 44-58. <https://doi.org/10.15294/elt.v12i1.64069>

Holmes, W., & Miao, F. (2023). *Guidance for generative AI in education and research*. UNESCO Publishing.

Irons, A. (2008). *Enhancing learning through formative assessment and feedback*. Routledge.

Jia, Q., Cui, J., Xi, R., Liu, C., Rashid, P., Li, R., & Gehringer, E. (2024).

On assessing the faithfulness of LLM-generated feedback on student assignments. In *Proceedings of the 17th International Conference on Educational Data Mining* (pp. 491–499). <https://doi.org/10.5281/zenodo.12729868>

Johannesson, P. (2024). *Writing your thesis with ChatGPT: Research, scholarship and academic writing in the age of generative AI*. Kindle Direct Publishing. <https://writingyourthesiswithchatgpt.wordpress.com/>

Juwah, C., Macfarlane-Dick, D., Matthew, B., Nicol, D., Ross, D., & Smith, B. (2004). *Enhancing student learning through effective formative feedback*. The Higher Education Academy.

Kolbjørnsrud, V. (2024). Designing the intelligent organization: Six principles for human-AI collaboration. *California Management Review*, 66(2), 44–64.

Krippendorff, K. H. (2004). *Content analysis: An introduction to its methodology* (2nd ed.). Sage.

Miles, M. B., & Huberman, A. M. (1994). *Qualitative data analysis: An expanded sourcebook*. Sage.

Steiss, J., Tate, T., Graham, S., Cruz, J., Hebert, M., Wang, J., Moon, Y., Tseng, W., Warschauer, M., & Olson, C. B. (2024). Comparing the quality of human and ChatGPT feedback of students' writing. *Learning and Instruction*, 91, 101894. <https://doi.org/10.1016/j.learninstruc.2024.101894>

Turkish Ministry of National Education. (2024). *Ortaokul Türkçe dersi öğretim programı*. Millî Eğitim Bakanlığı.

Venter, J., Coetzee, S. A., & Schmulian, A. (2024). Exploring the use of artificial intelligence (AI) in the delivery of effective feedback. *Assessment & Evaluation in Higher Education*, 50(4), 516–536. <https://doi.org/10.1080/02602938.2024.2415649>

Wang, Z. (2022). Computer-assisted EFL writing and evaluations based on artificial intelligence: A case from a college reading and writing course. *Library Hi Tech*, 40(1), 80–97. <https://doi.org/10.1108/LHT-05-2020-0113>

Xiao, C., Xu, S. X., Zhang, K., Wang, Y., & Xia, L. (2023). Evaluating reading comprehension exercises generated by LLMs: A showcase of ChatGPT in education applications. In *Proceedings of the 18th Workshop on Innovative Use of NLP for Building Educational Applications*

(BEA 2023) (pp. 610–625). Association for Computational Linguistics.

Yavuz, F., Çelik, Ö., & Yavaş Çelik, G. (2024). Utilizing large language models for EFL essay grading: An examination of reliability and validity in rubric-based assessments. *British Journal of Educational Technology*, 56, 150–166. <https://doi.org/10.1111/bjet.13494>

Ziqi, C., Xinhua, Z., Qi, L., & Wei, W. (2024). L2 students' barriers in engaging with form and content-focused AI-generated feedback in revising their compositions. *Computer Assisted Language Learning*, 1–21. <https://doi.org/10.1080/09588221.2024.2422478>

**Contact address:** Dokuz Eylül University, Faculty of Education, Department of Educational Measurement and Evaluation, Izmir, Turkey. E-mail: sait.cum@deu.edu.tr

## APPENDIX I. The characteristics of effective and ineffective feedback

Category	Effective Feedback Characteristics	Ineffective Feedback Characteristics
Performance-oriented	<ol style="list-style-type: none"><li>1. Feedback is directed towards the performance itself, not the performer.</li><li>2. Feedback focuses on specific aspects of the performance rather than general comments.</li></ol>	<ol style="list-style-type: none"><li>1. Contains biases towards the student and includes statements targeting their personality.</li><li>2. Uses general comments that are not specific to the performance.</li></ol>
Clarity & Comprehensibility	<ol style="list-style-type: none"><li>1. Feedback is expressed using words and sentence structures appropriate for the student's age group or developmental level.</li><li>2. It clearly specifies what is expected and what constitutes a good performance.</li><li>3. Feedback should be detailed and explanatory enough to avoid causing confusion for students.</li></ol>	<ol style="list-style-type: none"><li>1. Contains technical and complex expressions that make it difficult for students to understand.</li><li>2. Uses vague statements like 'you can do better' instead of specifying what is expected.</li><li>3. Feedback is superficial and random, making it unclear what is expected from the student.</li></ol>
Developmental	<ol style="list-style-type: none"><li>1. Feedback should include suggestions to help students address deficiencies and achieve the expected performance.</li><li>2. Similar tasks or strategies that can be used by the student to facilitate self-learning may be recommended.</li><li>3. Emphasize what the student should do first to improve subsequent performances.</li></ol>	<ol style="list-style-type: none"><li>1. Emphasizes deficiencies and inadequacies without suggesting ways to address them.</li></ol>
Constructive	<ol style="list-style-type: none"><li>1. Feedback should highlight strengths as well as weaknesses in the performance. Good performances should receive feedback as well as poor ones.</li><li>2. Use language that encourages the student and supports their self-esteem.</li><li>3. Provide options for the student on what they can do, rather than strict commands or instructions</li></ol>	<ol style="list-style-type: none"><li>1. Uses patronizing language and statements that passive the student.</li><li>2. Includes judgmental or threatening expressions that discourage the student.</li></ol>
Task-specific	<ol style="list-style-type: none"><li>1. Feedback should not contain general statements; instead, it should highlight specific points in the student's work and be given specifically in relation to its content.</li></ol>	<ol style="list-style-type: none"><li>1. The feedback contains generic statements that could be used for all similar tasks, making the feedback for different tasks appear repetitive and formulaic.</li></ol>

## APPENDIX II. Analytical rubric for assessing narrative texts (Turkish Ministry of National Education, 2024)

Category	1 Points	2 Points	3 Points
Page structure	The text is not written in paragraphs and is visually disorganized on the page.	The text is written in paragraphs, but the indentations and/or line endings are not properly aligned.	The text is written in paragraphs with proper indentations and line endings, creating a visually organized page.
Title	The text does not have a title.	The text has a title, but it either does not reflect the content or is a common cliché.	The title is relevant to the topic, reflects the content, and is engaging.
Text structure	The text is missing one or more key sections: introduction, climax, and resolution.	The text has an introduction, climax, and resolution, but the transitions between sections are disjointed.	The text has an introduction, climax, and resolution, with logical relationships and smooth transitions between the sections.
Character	Characters are only mentioned by name without any additional information.	Characters are named, and their physical and/or psychological traits are described.	Characters are named, their physical and psychological traits are described, and their emotions, perspectives, and attitudes, which influence the story's flow, are explained or suggested.
Setting	Either the place or the time element is missing or unclear.	The place and time are mentioned, but no detailed information is provided.	The place is well described with auditory and visual details, and the time is detailed, indicating its impact on other story elements.
Plot	There is no clear plot.	There is a clear plot, but the transitions between events are disjointed.	There is a clear plot with strong transitions between events.
Language and style	Most sentences are unclear, lacking semantic and grammatical connections, and the story uses very limited vocabulary.	Sentences are clear and understandable, with some semantic and grammatical connections, but the story uses limited vocabulary.	Sentences are clear and understandable, with well-made semantic and grammatical connections, and the story uses rich vocabulary.

<b>Spelling and punctuation</b>	There are 11 or more spelling and punctuation errors in the text.	There are 6-10 spelling and punctuation errors in the text.	There are no more than 5 spelling and punctuation errors in the text.
---------------------------------	---	---	---

### APPENDIX III. Example Prompts Used in the GPT Training Process

Steps	Example Prompts
<b>Goal Setting and Initial Assessment</b>	As a language teacher, you will evaluate your students' narrative texts and provide them with effective feedback to help them improve. To do this, you will use the rubric and effective feedback principles documents that I will upload for you.
<b>Criteria Introduction</b>	We will discuss the category of setting. When you examine the criteria, do you see any item on which you might have difficulty deciding? Where do you think you might encounter problems while scoring?
<b>Example Analysis</b>	If the event in the story takes place in the summer, the time is clear; however, if there is no information about the specific details of the time, you should assign a score of 2. The same principle applies to the place element. If the event occurs at an inn and this is mentioned, but there are no detailed descriptions about the inn, you should also assign a score of 2.
<b>Upload Sample Files</b>	Paragraph indentation is when the first line of a paragraph starts further in than the other lines. Now, I will upload a single-paragraph story example without indentation for you. You can use this file as a basis for your evaluation.
<b>Structured Practice</b>	I am going to upload a text for you. Based on our discussions, I would like you to evaluate all sections of the rubric for this text.
<b>Final Evaluation and Confirmation</b>	Now, describe the files I have uploaded to you, summarize the decisions we have made, and specify the rules you will pay attention to during the evaluation.



## Reviews

**Cody Dingsen. (2025). Regression and Machine Learning for Education Sciences Using R. New York: Routledge. 376 pp. ISBN: 978-10-32510-08-8**

In the evolving landscape of educational research, the integration of robust statistical methods and machine learning techniques has become indispensable for uncovering insights that drive more effective teaching strategies and learning outcomes. Cody Dingsen's *Regression and Machine Learning for Education Sciences Using R* serves as an invaluable resource for those looking to understand the intersection of educational research and data analytics. Aimed primarily at students and practitioners within the fields of education and psychology, the book offers a clear, methodical exploration of regression analysis and machine learning techniques tailored for educational data.

The book is a comprehensive resource, systematically organized into two main parts covering a total of 14 chapters, each building progressively upon the last. This layout is strategically designed to guide readers from basic to advanced concepts in statistical analysis and machine learning within the context of educational sciences. The Introduction sets the stage for the book by equipping readers with a fundamental understanding of R and R Studio. This chapter is crucial as it ensures that all readers, regardless of prior exposure to programming, start on equal footing with the basics of data entry, manipulation, and preliminary analysis in R.

In Part 1, the text delves into the core of regression analysis. Starting with simple regression analysis (Chapter 1), the book establishes a foundational knowledge that is essential for tackling more complex models. The progression to multiple regression analysis (Chapter 2) introduces readers to the intricacies of dealing with multiple predictors and the potential issues of multicollinearity and partial correlations, which are vital for robust data analysis in any research setting. The exploration of interaction effects in regression (Chapter 3) and the subsequent discussion on the assumptions underlying regression models (Chapter 4) deepen the reader's understanding of the conditions necessary for the validity of these models. The following

section of this part culminates with an examination of non-linear relationships through curvilinear and robust regression techniques (Chapter 5), expanding the toolkit for researchers dealing with non-standard data scenarios. The discussion transitions smoothly into logistic regression models (Chapter 6), which are particularly relevant for categorical data analysis, a common scenario in education research involving binary or ordinal outcomes.

Part 2 shifts focus towards machine learning, starting with an overview that contextualizes its importance against the backdrop of big data (Chapter 7). The subsequent detailed walkthrough of the machine learning process (Chapter 8) from data collection to model application, underscores the critical stages of building predictive models. As machine learning models grow in complexity, the need for regularization to prevent overfitting is introduced (Chapter 9). This chapter is particularly important as it bridges traditional statistical methods with modern machine learning techniques, providing a practical approach to handling high-dimensional data. The discussions on ensemble methods using random forests (Chapter 10) and the principles behind support vector machines (Chapter 11) offer advanced strategies for improving model accuracy and handling various data types, from continuous to categorical. A fascinating foray into artificial neural networks (Chapter 12) provides readers with insights into the more sophisticated aspects of machine learning that mimic human cognitive processes. This is complemented by an exploration of Bayesian networks (Chapter 13), which are presented as tools for uncovering causal relationships, a critical aspect in educational research aiming to derive actionable insights from observational data. Finally, the book concludes with a chapter on multivariate data visualization (Chapter 14), highlighting the importance of visual techniques like MDS (multidimensional scaling) preference plots for revealing patterns in complex data sets. This chapter not only encapsulates the analytical journey through regression and machine learning but also emphasizes the crucial role of effectively communicating findings. Taken together, Dingsen's book serves as both a textbook and a practical guide, carefully threading theoretical concepts with real-world applications. Each chapter (reflected upon here in sequence from Introduction to Chapter 14) builds upon the previous, crafting a narrative that is both educational and immensely applicable for researchers and practitioners.

in the field of education sciences.

This book emerges as a pivotal resource in the landscape of educational research, illustrating a seamless blend of comprehensive coverage, practical applications, and accessibility that makes it especially valuable for both students and practitioners in educational sciences and psychology. The book's structure and content strategically guide readers through the complexities of regression analysis and machine learning, demonstrating Dingsen's deep understanding of both the subject matter and the needs of his audience.

The book is distinguished by its thorough exploration of a wide array of statistical techniques, ranging from fundamental regression models to sophisticated machine learning algorithms. This comprehensive approach is meticulously designed to ensure a cohesive progression, starting from simple linear and logistic regression models that form the analytical backbone for many educational studies, advancing through to more complex procedures such as curvilinear regressions and sophisticated ensemble methods like random forests and neural networks. Such depth ensures that readers gain not only the theoretical knowledge necessary to understand these techniques but also the practical skills to apply them effectively in their research endeavors.

Another major strength of Dingsen's work is its strong applications-oriented approach. Each chapter is anchored in real-world educational research scenarios, enhancing the practical relevance of the statistical methods discussed. This is complemented using R and R Studio, providing readers with hands-on experience in applying these techniques directly to data. This practical component is critical as it bridges the gap between theoretical statistical concepts and their application in real educational settings, thereby enhancing the learning experience and applicability of the content.

Moreover, the book excels in its clarity and accessibility, making sophisticated statistical content comprehensible for readers with varying levels of prior exposure to statistics. Dingsen's articulate and approachable writing style, coupled with his methodical breakdown of complex concepts and the strategic use of educational examples, makes the book an invaluable learning tool. This accessibility not only demystifies advanced statistical procedures but also ensures that readers are engaged and able to apply what they learn in practical settings.

Finally, the multidisciplinary appeal of this book broadens its usefulness beyond the primary fields of education and psychology. Its clear explanations and comprehensive coverage of essential data analysis techniques make it a beneficial resource for a wide array of disciplines that deal with data analysis and require robust methodological approaches.

While the book offers a comprehensive introduction to statistical methods within educational contexts, its specificity to educational datasets may limit its direct applicability to other fields where data dynamics can differ markedly. Secondly, the book primarily utilizes R and R Studio, which might pose a challenge for readers accustomed to other statistical software, potentially necessitating additional resources to translate these skills. Additionally, the progression from foundational concepts to advanced machine learning techniques, although well-structured, may be brisk for readers with limited statistical backgrounds, potentially requiring supplemental learning to fully grasp more complex topics. Despite these limitations, the book remains an invaluable resource for its intended audience, providing robust insights and practical applications tailored to educational research.

All in all, *Regression and Machine Learning for Education Sciences Using R* is a comprehensive guide that responds to the growing need for advanced analytical skills in the education sector. By demystifying complex regression and machine learning techniques and emphasizing a hands-on approach to learning, Dingsen's book is an essential resource for anyone looking to enhance their research capabilities and impact in the field of education. Whether you are a student new to data science or a seasoned educator/researcher seeking to update your analytical tools, this book offers the insights and practical guidance needed to navigate the complexities of modern educational research.

**Zilong Zhong**

**Jover, G. González, M<sup>a</sup>. R. González-Marín y Serrano, L. (2025). Pensamiento crítico, redes sociales y educación. Madrid: Síntesis, 196 pp. ISBN: 978-84-1357-401-1**

In Critical Thinking, Social Media and Education, the authors offer a broad, in-depth and up-to-date look at one of the greatest challenges facing contemporary society: how to educate citizens to think critically in an environment dominated by digital platforms that shape the way we inform ourselves, communicate and interact. It is simply a matter of understanding the cultural, technological and cognitive changes implicit in the digital age, and how these changes force us to rethink educational practices.

Overall, the book presents a coherent structure that moves from the theoretical to the practical, from the philosophical to the empirical, from the individual to the social and political. Its greatest strength lies in the plurality of perspectives: philosophy, pedagogy, psychology, sociology, communication, law, and technology are integrated to offer a holistic view of critical thinking in the digital age.

In terms of its target audience, the book is particularly useful for teachers at any educational level, as it provides solid theoretical foundations and practical examples of application. It is also valuable for researchers in education, communication, or social sciences interested in the relationship between young people and technology. Educational policy makers, institutional leaders and teacher trainers will find in this work a rigorous framework for developing media literacy and digital critical thinking programmes. Finally, it can be an inspiring read for university students, especially those studying education, pedagogy, psychology, communication and social sciences, as it allows them to critically understand their own relationship with social media.

In the first two chapters, the work opens with a conceptual basis that links critical thinking, social media, and education. It recognises the ambivalence of digital platforms: they enable participation and expression, but they also amplify manipulation, polarisation, and superficiality. School emerges as a key space for equipping students with cognitive and ethical tools that enable them to navigate this information-saturated environment without falling into technophobic or techno-utopian views.

On this basis, a historical overview of critical thinking is provided, from classical philosophy to its configuration as a cross-cutting competence. The great conceptual leap consists of distinguishing between traditional critical thinking and digital critical thinking. In digital environments, variables such as speed, emotionality, algorithms and anonymity come into play, requiring the integration of cognitive, emotional, ethical and civic dimensions. Likewise, the need for in-depth media literacy and a democratic ethos that allows resistance to manipulation and polarising discourses is highlighted.

It then goes on to analyse the university as a strategic actor. Digital competence is redefined beyond the instrumental, incorporating cultural, social and ethical dimensions. The myth of the “digital native” is debunked, showing that intensive use does not equate to critical use. Media literacy models geared towards participation are presented, and it is emphasised that the development of students’ critical digital thinking depends largely on teacher training. The university is conceived as a driver for cultural change in the digital society.

Chapter 4 delves into the validation of an instrument for assessing young people’s self-perception of digital critical thinking. It provides methodological rigour and offers teachers and researchers a concrete tool for diagnosing and reflecting on how students analyse, question and evaluate the information they consume and share.

The fifth chapter introduces a psychological and social approach to understanding how users construct their identity on social media. Using personality models (Cattell, Big Five, IBM, Symanto, etc.), it analyses how online image is projected and how self-representation is regulated. The key point is that self-reflection on digital identity is interpreted as a form of critical thinking.

The book then focuses on the usage habits of Twitter, now X, among different generations through quantitative and qualitative analysis. The authors detect differences not only in activity and shared content, but also in the way of thinking through the platform. They pose a key question: do networks shape critical thinking, or does critical thinking determine the use of networks? Tensions arise between superficiality and depth, speed of information and the search for reliable sources.

After this analysis, the work introduces us to the ethical and axiological dimension. Based on the Hall-Tonna model, it explores how the values and counter-values of Generation Z manifest themselves on social media. It reveals a coexistence of collaboration and inclusion versus egocentrism or intolerance. And it dismantles the simplistic idea that young people are uncritical: context, role models and participation have a huge influence.

Chapters 8 and 9 focus on the institutional and political arena, first addressing the right to digital civic education as a response to electoral disinformation. They outline how fake news threatens democracy and propose educational strategies and international regulatory frameworks to strengthen critical and empowered citizenship. They then delve deeper into digital political communication through ‘the three Ps’: sentimentalisation, polarisation and populism. It examines how algorithms enhance emotional content and simplify debate, eroding rational deliberation. This part is one of the most powerful in the book, connecting critical thinking, politics, ethics and technology.

Finally, the book closes with a socio-technological look at the crisis at Twitter following its purchase by Elon Musk. It analyses user reactions, changes in reputation and alterations to the information ecosystem. Beyond the specific case, it reflects on the fragility of critical thinking when digital spaces change their rules. Twitter is shown to be a tool for both protest and participation, as well as risk and manipulation.

In short, *Critical Thinking, Social Media and Education* is a necessary and timely work that provides a broad, in-depth and proactive vision of one of the key challenges of the 21st century. It brings together theory, research, practice and ethical reflection around a single idea: educating citizens to think critically in the digital society is not optional, it is an educational and democratic imperative. Its balance between rigour and accessibility makes it a valuable tool for both academia and educational practice, offering keys to understanding the complexity of networks, young people and education in the digital age.

**Mario Cerezo-Pizarro**

**García-Pérez Calabuig, M. (2025, Dir.). Artificial Intelligence and other demons in education. Dykinson. ISBN: 979-13-7006-305-4**

The book titled *Artificial Intelligence and other demons in education* coordinated by María García-Pérez Calabuig of the National Distance Education University (UNED), presents a compilation of reflective discussions about how Artificial Intelligence (hereinafter AI), has burst into our daily lives and routines, achieving a notable prominence in educational activities. Its six chapters highlight some of the challenges we face from an ethical perspective, current regulations and issues related to digital competence, and other demons (digital stigma, the digital divide, dysfunctional uses and risks). The book begins with a prologue that arises some questions that lay the foundations for the subsequent discourse. Will AI shake up the education system? Are education and its mechanisms (teachers, students, administrators, families) trained to receive it? In fact, it has already arrived without us realizing....

In the first chapter, Suárez-Guerrero and Kuhn confront the reader with several revealing ideas. They argue that AI changes our perception of reality and offers us new supports for thinking. We do not think through it but with it, generating an inescapable relational binomial in which the human commitment is the key, mainly in the educational context. We start from the conception that, “although machines are programmed, they progress because of the human feedback and only makes sense in interaction with people” (Mancuso, 2024, p. 192). The metaphor of IA is drawn from the reinvention of the human being as the backbone, generating greater opportunities within teaching and learning processes and with greater social impact. AI not only allows us to generate new ways of thinking about the word but also create new challenges for education.

Following this reflection, the second chapter addresses an issue that complements the metaphorical and conceptual discourse of AI. In terms of equality, what biases are generated by the technological revolution associated with AI? Is AI inclusive or can it contribute to magnifying the digital stigma of certain groups? In the infinity of cyberspace, it is assumed that digital rights exist and protect human beings in the same way as outside

the virtual world. The authors discuss the presence of digital stigma (e.g., the excessive profusion of the hate speech) as a form of discrimination that threatens certain vulnerable groups, questioning the need for a regulating framework that control its limits and effects. Against, early digital literacy contributes to educate to responsible citizens as its uses as the consequences and impact on themselves and others.

Based on that, Nieto-Márquez and Moraleda-Ruano addresses in the third chapter the skills that intertwine the teaching role in virtual environment and how AI emerges as a useful and applicable tool to catalyse and support teaching processes. The teaching competency framework is built around three areas: i) data management, content creation and materials competences; ii) pedagogical, collaborative and professional development competences; and iii) ethical and digital responsibility competences. Digital technology, and AI in particular, has brought about an unavoidable transformation in teaching performance, forcing us to rethink how technology is an integral part of education and how to link pedagogical practice with students.

The other side of the argument highlights the challenges and the influence of AI on teacher well-being. In the fourth chapter, the authors analyse the impact on teachers, emphasising cognitive overload and the pressure to constantly readjust to new advances without time for reflection. Well-being encompasses different dimensions which, in the best of cases, translate into life satisfaction, emotional balance and the ability to manage stress. On the contrary, although AI seems to mitigate teacher workout overload (Ortega et al., 2025), it can also contribute to infoxication and overshadow human interaction, calling into question the well-being of teachers in the digital century.

What about the ethical issue? Hueso and Vasco go deep into the ethical challenges of AI and education. They invite to a critical discussion in which, without demonising technology, draws our attention to this dark side of the balance. Some basic ethical principles are described related with justice and equity (avoiding the reproduction of stereotypes of social exclusion), the principle of transparency and explainability, and the principle of privacy and security. In the educational context, these principles take on greater meaning, together with the challenge of data protection and the dehumanisation of

processes due to the widespread, disjointed and exclusionary use of AI.

Maybe, on the demons in the virtual space are the multiple risks in which minors, adolescents and young people are exposed by their daily connectivity. In this latest contribution, Giménez-Gualdo, Ríos-Ariza and Rumuche-Chávarry show current data of FOMO (fear of missing out) among university students as one of the examples of many risks associated with the dysfunctional use of ICT.

In a hyperconnected world, where space-time boundaries are almost invisible and the frontier between human and AI is blurring, this book invites us to reflect on the balance between lights and shadows of AI and education. At the mercy of “God’s nad and Adam”, the educational, technological and digital landscapes make a triad of necessary understanding. A bond that requires us to stop, reflect and question ourselves about ethical limits and healthy disconnection to experience digital well-being towards a world more balanced between humans and technology.

## References

Mancuso, H. R., (2024). The metaphor of artificial intelligence. *Latin American Journal of Psychiatry and Psychology*, 70(4), 191-194.

Ortega, Á. S., Padilla, J. E. A., y Ortega, J. S. (2025). Work overload and artificial intelligence in teachers: a systematic review. *Impulso, Journal of Administration*, 5(10), 227-242. <https://doi.org/10.59659/impulso.v5i10.113>

**Ana M<sup>a</sup> Giménez Gualdo**





# Compulsory Education: An Open Debate

SUMMARY OF THE MONOGRAPHIC SECTION

ENRIC PRATS, TANIA ALONSO-SANZ

Compulsory Education: An Open Debate.

LAURA FONTÁN DE BEDOUT, ERIC ORTEGA GON-  
ZÁLEZ, BELÉN SÁNCHEZ GARCÍA

Another brick in the wall? The extension of compulsory education in the contemporary education debate.

CARMEN ÁLVAREZ-ÁLVAREZ, EDWIN JOSÉ TRIA-  
NA-TEHERÁN

Policy research on the expansion of compulsory education: a systematic review (2015-2024).

PAULA SÁNCHEZ GIL

Education counter-reform: critical review or back-tracking?

MIRIAM PRIETO EGIDO, NOELIA FERNÁNDEZ GON-  
ZÁLEZ, PATRICIA VILLAMOR MANERO

The (manufactured?) pedagogical debate behind Compulsory Secondary Education.

KARINE RIVAS GUZMÁN, ISAAC CALDUCH PÉREZ

Teacher education in response to the expansion of compulsory schooling: reflections from the Autonomous Community of Catalonia.

ALEX EGEA ANDRÉS, ADRIÀ PAREDES SANTÍN

Reading Culture in Compulsory Education: Between Institutional Transmission and Vital Meaning.

CECILIA DEL BARRO

Scope of Compulsory Schooling in Buenos Aires City (Argentina, 1880-1916).

ENRIC PRATS, TANIA ALONSO-SAINZ

The debate on compulsory education: between politics and pedagogy.



GOBIERNO  
DE ESPAÑA

MINISTERIO  
DE EDUCACIÓN, FORMACIÓN PROFESIONAL  
Y DEPORTES