

LONGITUDINAL ANALYSIS OF SPANISH DOCTORAL THESES IN EDUCATION (1841-2012)

[*Análisis longitudinal de tesis doctorales españolas en educación
(1841-2012)*]

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Abstract

This article analyzes the research output of doctoral theses in the field of Education defended in Spain from 1841-2012. It offers a quantified global and diachronic view of such series. As a landmark to note is the fact that until 1954, obtaining a doctoral degree was centralized at the Complutense University of Madrid. They are used as search engines bibliographic databases: TESEO and institutional repositories, and basic bibliography of the area to carry out the collection of the sample. The contrasting hypothesis is to verify whether the time series partially follows the pattern of growth of the science of Derek J. de Solla Price. The central finding is that the Spanish production of doctoral theses in education is adjusted to a quasi-logistic model with a worrying falling trend in the last twelve years.

Keywords

thesis; education; growth models of science; Price; scientific production.

Resumen

Este artículo analiza la producción investigadora de tesis doctorales del campo de la educación defendidas en España desde 1841 a 2012. Ofrece una visión cuantificada, global y diacrónica de tal serie. Como hito a destacar está el hecho de que hasta 1954, la obtención del grado de doctor estuvo centralizada en la Universidad de Madrid. Se utilizan como motores de búsqueda las bases de datos bibliográficas: TESEO y repositorios institucionales, y bibliografía básica del área para llevar a cabo la recopilación de la muestra. La hipótesis a contraste trata de verificar si la serie temporal se ajusta parcialmente al modelo de crecimiento de la ciencia propuesto por Dereck J. de Solla Price. El hallazgo central es que la producción española de tesis doctorales en educación sigue un modelo cuasi-logístico con una preocupante tendencia de caída en los últimos doce años.

Descriptoros

tesis; educación; modelos de la ciencia; Price; producción científica.

Doctoral theses are the highest level of academic research in all national education systems. They must therefore be considered for what they are and not as a mere bureaucratic formality towards obtaining a PhD in any particular area of specialisation. This type of research specifically combines the acquisition of high-level skills in a discipline and post-academic research competence and must

therefore be rigorously assessed (de Miguel, 2010). From a metonymical standpoint, doctoral theses also fulfil other functions, as sources and indicators of trends in research, indicators of research potential, educational functions, reflections of the production and dissemination of high-level research and tools for analysing the structures and influences of institutions (Jiménez-Contreras, Ruiz &

Delgado, 2014) or indicators of the methodological patterns used in the research of a given discipline (Torralbo, Vallejo, Fernández-Cano & Rico, 2004).

The term *thesis* as an entry in the dictionary of the Royal Spanish Academy of Language was not included until 1925, in the fifteenth edition, in which it was defined as a *disertación escrita que presenta a la universidad el aspirante al título de doctor en una facultad* ("written dissertation presented to the university by the doctoral candidate in a faculty") (Real Academia Española, 2001).

Doctoral theses and degrees have been associated with one another. However, doctoral degrees have changed over the years with every new educational law or syllabus that has been introduced in Spain. The most rigorous regulation governing doctorate studies in Spain dates back to the mid nineteenth century. The Napoleonic university model served as inspiration for successive university reforms that imposed a centralised and bureaucratised system, particularly intensive in the case of doctoral degrees, and which lasted until 1954 (Rodríguez & Segura, 2010).

Brief historical-legislative review

The first education plan introduced in Spain in the nineteenth-century was the "Caballero" Plan in 1807, which did not pay any special attention to doctoral degrees. The Calomarde Plan in 1824 was the first to legislate certain regulations governing doctorate degrees; although the General Public Education Law of 1836 developed by the Duke of Rivas "gave the existing education system the necessary direction required by the enlightenment of the century and the scope permitted by the resources available, in the conviction that this reform cannot be delayed any longer" (Ministry of the Interior, 1836). Article 99 of the latter plan considered that studies and tests required to obtain a bachelor's degree had to be of a higher level than those at baccalaureate level, and those required to obtain doctoral degrees had to be superior to those at undergraduate level (Rodríguez & Segura, 2010).

Following the adoption of the Plan of 1836 and after the death of Fernando VII, in October 1836 and during the following months the Complutense University began to move from its initial location in Alcalá de Henares to Madrid, where it was permanently established, continuing with the centralisation process described previously.

The most important nineteenth-century educational plan was undoubtedly the General Education Law of 17 September 1845, better known as the Pidal Plan after its promoter, Pedro Jose Pidal, minister of Interior at the time. This text clearly legislates the centralisation and standardisation of doctoral degrees in Spanish universities (see Fernández-Bautista, Torralbo, Vallejo & Fernández-Cano, 2013a). Doctoral degrees were conferred after the reading of a clearly formal presentation that had to address:

relevant topics worthy of the act, and which must conclude with a eulogy in Latin, to be delivered by the new doctor, in praise of the monarch who so zealously promotes general scientific studies relevant to religion and the state (Michael, 2000).

The transition towards the Napoleonic university model culminated in the Public Education Act, better known by the name of its creator as the Moyano Law of 9 September 1857. This is the general education law that was in force for longest time in Spain. Despite undergoing various amendments, it was not repealed until 1970 with the approval of Law 14/1970, of 4 August, known as the General Law on Education and Financing of Educational Reform.

PhD students enrolled for 1 or 2 years according to the faculty. This meant that they only had to study for one year to become doctors in Science, Literature, Theology and Jurisprudence and two years to obtain a doctorate in medicine or pharmacy (Rodríguez & Segura, 2010).

Theses in the field of education were primarily read at the Faculty of Medicine and

later at the Faculty of Arts, which had its own Education department, founded in 1932 during the reforms of the Second Republic. Many reforms were made after the adoption of the Moyano Law, but none introduced substantial changes in doctoral studies. Doctoral theses were clearly defined as papers written freely by the doctoral candidate on a point of doctrine or as scientific research, to be delivered in the act of requesting consideration for doctoral examination (Rodríguez & Segura, 2010). This formula was earlier reflected in a Royal Decree of 1886 (Miguel, 2000). This entire process of reforms culminated in the creation of the Board for the Extension of Advanced Studies and Research in 1907 by the Royal Decree of 11 January 1907. This Board prioritised the research nature of doctoral theses over their academic purpose as an additional requirement for obtaining a doctoral degree.

Over the years the system was decentralised and liberalised even more to allow any university to award a doctoral degree. In 1943, a new university law was approved by the Minister of Education Ibáñez-Martín (1939-1951), the University Organisation Law of 19 July 1943, which continued the decentralisation process initiated before the Civil War. Article 21 of this law stipulated that "all universities could award doctoral degrees in their different faculties." However, it was not until Ruiz-Jiménez became Minister of Education (1951-1956) that the regulations governing doctoral degrees were completed, by the Decree of 25 June 1954, authorising all Spanish Universities to confer PhDs as from the academic year 1954-55. Thereafter, the University of Madrid lost the secular privilege it had enjoyed as the only university authorised to award doctoral degrees. Soon doctoral theses were being read at all Spanish universities, prompting an increase the production of theses, albeit with one subtle exception until 1898: the Royal and Literary University of Havana, which, in certain periods, was allowed to have its students present and read their doctoral theses (see Fernández-Bautista, 2012; Fernández-Bautista, Torralbo, Vallejo & Fernández-Cano, 2013b).

Organic Law 11/1983, of 25 August, on university reform, known as the "LRU" (*Ley de Reforma Universitaria*) -Law of University Reform-, was implemented by the Royal Decree 185/1985 of 23 January governing the obtainment of doctoral degrees and other postgraduate studies. One significant modification introduced by this law was the transfer of powers regarding the organisation of monographic courses to university departments. The Law on doctoral degrees was not reviewed until 1998 by virtue of Royal Decree 778/1998 of 30 April, which regulated the third cycle of university studies, the obtainment and issuance of PhDs and other postgraduate studies. This law prioritised quality, encouraging inter-university, inter-departmental and interdisciplinary doctoral programmes (Cebreiros, 2004).

Significantly, as revealed in this study, which seeks to analyse the evolution of doctoral theses in education, that no specific Education faculties dedicated to doctoral studies existed until the late twentieth century. The establishment of eminently pedagogical faculties was late, complex and highly irregular in Spain, the first model perhaps being the one introduced at the Complutense University of Madrid. It was not until the academic year of 1975/1976 that the Faculty of Arts was effectively restructured, subsuming higher education studies and becoming the Faculty of Philosophy and Education Sciences. In 1991, after the segregation of the Education department and its incorporation in Teacher Education Schools, various education faculties were created with the nominations as Faculty of Education or Faculty of Educational Sciences.

Rationale for this study

The main objective of this study was to perform a diachronic analysis of education theses in Spain. This analysis allowed us to confirm the hypothesis proposed in 1963 by Derek J.S. Price in his law on the growth of science presented in his work "Little science, big science", which was later translated by José María López Piñero and published in 1973 with

the Spanish title *Hacia una ciencia de la ciencia*. This hypothesis, even now with force of law, identifies four different phases of scientific growth over time:

- First: constant development phase.
- Second: linear growth phase.
- Third: exponential growth phase.
- Fourth: logistic stabilisation phase.

Price's growth model has been studied in depth by Fernández-Cano, Torralbo & Vallejo (2004) through an integrative review of partial studies. These authors observed that this model has been used in multiple disciplines and measurement indicators in science. A later study by Fernández-Cano, Torralbo & Vallejo (2012) also confirmed that the growth of doctoral theses in Spain from 1848-2009 fitted the final model proposed by Price (1986).

Bibliometric studies on theses in the field of education are available: Ferrer, Parrilla, Rubio and Sancho (1992) analyzed doctoral theses in Educational Sciences at the University of Barcelona over a ten-year period. A preliminary analysis of doctoral theses in Spain in Education in Spanish universities from 1976 to 2006 was conducted by Fernández-Cano, Torralbo & Vallejo (2008).

Method

The method used in this study employed an eminently pro-quantitative descriptive, longitudinal and scientometric design. The most complex aspect of the study consisted in the formation of the working data sample.

Documentary sources

The study consisted of an intensive search for primary sources (theses) based on the consultation of the databases and library catalogues of Spanish universities. The book by Escolano, García & Pineda, *La investigación pedagógica universitaria en España (1940-1976)* – The pedagogical research in Spain (1940-1976)- was very useful. It was sometimes difficult to identify the doctoral theses read during this period since, as

mentioned previously, after 1954 doctoral theses were no longer only presented in Madrid, resulting in the loss of a single, centralised source of documentation on these theses. This book contains an extensive list of dissertations and doctoral theses in the field of education, and was therefore useful for cross-validating searches in databases and repositories. However, not all such theses mentioned in this book belong exclusively to the field of education, since some are eminently psychological, theological or sociological.

A very useful catalogue is the "Catálogo Cisne" of the Complutense University of Madrid (UCM-AECID) <http://cisne.sim.ucm.es>. This website provided access to the university library and was used to perform advanced searches. After 1954 theses were not only read in Madrid; these were recovered from other universities through the *web sites* of university repositories. These universities were Barcelona, the Autonomous University of Barcelona, Valencia and Salamanca, the only centres where specific post-graduate studies in education were offered until 1976.

However, the main source used to recover theses was the database of doctoral theses of the Ministry of Education, TESEO, which has stored and indexed Spanish doctoral theses since 1977. There was a transition period between 1976 and 1977 when some theses were recovered from the Catálogo Cisne, institutional repositories and the book by Agustín Escolano, and others gradually began to appear in the TESEO database. From 1977 inclusive, all the theses collected come from this ministerial database. Its shortcomings had to be corrected in order to take full advantage of its many potentialities.

The TESEO database had numerous shortcomings, notably the lack of versatility of the computer application itself. There were serious errors in the names of authors, tribunal supervisors and members. Some bibliographic records of theses were incomplete, notably in the years 1984 and 1986 and in the period 1987 to 1990, in which the important "supervisor"

field was omitted. TESEO could be more flexible when it comes to handling and managing information, since record searches cannot be exported at once but only one by one. These are just some of the shortcomings of this bibliographic database, which had to be corrected in order to make it more operational and dynamic like the following international databases: *University Microfilms International (UMI)* or *ProQuest*.

Conformation of the thesis census

The sample of doctoral thesis identified with titles or descriptors referring to educational topics numbered 6,278. As mentioned above, the meticulous task of locating and identifying these theses is of great educational, cultural and scientific value because research available in the form of doctoral theses dates back over 170 years.

The sampling process used intentional or purposive, i.e. not probabilistic or for subsequent census purposes, in which the decision whether or not to consider a thesis as an education thesis was taken by the consensus of experts. The population consisted of all the education theses stored in the computer databases of national university libraries. The aim was to ensure the population coincided with the working sample; hence, the census nature of the study. The sequence introduced for consultations in the catalogues was as follows: *tesis and (educ* or pedag*)*; although this search excluded certain theses; to anticipate this threat, other terms similar to education were used, such as: *escuel*, escol*, enseñ*, didact*, aprend* and infan* -school*, teach*, didact*, learn* and child**.

Since 1976, when the Ministry's TESEO database was created, and managed at the ministry responsible for science in Spain at any moment in time, another method had to be used to conduct searches taking into account the possibilities offered by the database. In fact, the search was divided into two main queries: the first consisted of all theses containing the descriptor *Pedagogía* –Pedagogy– (UNESCO code 580000) in their record and yielded a large

number of theses on education; the second was more difficult and complex. The solution was obtained by searching for terms related to education using the truncated tool: *enseñ*, escolar*, aprend*, didact*, escuel*, educ* -teach*, school*, didact*, learn*, educat*-* and discarding those containing terms such as: *nutric* and aliment* -nutrit*, feed*-* which appeared as a result of the first search condition. Obviously in the case of the second query, records that already contained the descriptor *Pedagogía* were discarded.

However, in some cases it was not entirely clear whether a thesis could be considered within the field of education since this was not completely clear from the descriptors and title. In these cases, the abstract was consulted (if available) in the bibliographic record in order to confirm the educational content of the thesis.

The UNESCO code employed in TESEO and the generic descriptors used in the search enabled the conservative recovery of thesis, insofar as if the authors did not index their theses, which adopted a more specialist approach, these theses would not be recoverable with our search algorithm. For this reason, it would always be advisable for all education theses to include at least the general code 580000 corresponding to *Pedagogía*, or at least a code with root 58####.

Indicators/variables

The variable considered for the study was the year in which the thesis was read. Theses were then grouped by relevant time periods. Thus, the production of theses over the last 170 years and by time cycles was analysed diachronically. The year 2013 was not considered since the data for that year had been fully updated at the time of the study.

Results

Below is a list of findings relating to diachronic productivity indicators.

General diachronic productivity

First, the total list of theses recovered resulted in the following time series, 1841-2012

(Figure 1). The trend line corresponding to the growth in the production of theses reveals a deterministic fit to the three-year moving average. This indicates that the production of

theses in a given year is conditioned by that in the previous three years, resulting in three-year periods of production.

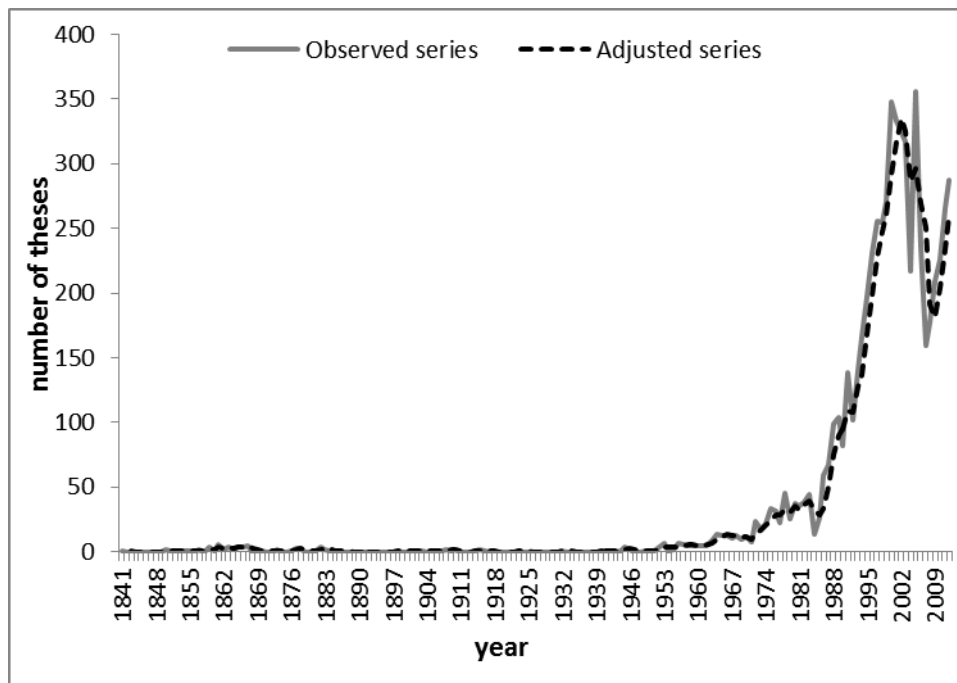


Figure 1. Linear diagram of the annual production of doctoral thesis in the field of education in Spain (1841-2012)

Until 1955 the number of theses almost always remained below 7 theses per year. In fact, in some years no theses on education were presented, resulting in a monotone linear production period. From 1955 production increased almost always linearly until 1984, with more than 40 theses per year. Thereafter, production increased exponentially from 1985 to 2000 without interruption. Finally, there was a linear downward trend in the production of education theses.

In view of the results, the following four periods of production may be defined: the first from 1841 to 1955 (Price called this "Little Science"; the second from 1956 to 1984, the third from 1985 to 2000 (he called the latter two stages "Big Science") and the fourth from 2001 to 2012 (which Price called "Beyond").

As shown, the number of doctoral theses focusing on education has increased over time,

following similar patterns to those reported in other disciplines as described in Fernández-Cano, Torralbo & Vallejo (2004). This development has been subject to the vagaries and influences of Spanish research in general, and is not particularistic. The findings obtained were similar to those reported by Fernandez-Cano et al. (2012); the graph for this period shows a very similar production curve.

To obtain a graph with a smoother growth curve from which to draw interpretations more in line with other disciplines, and in order to compensate for the many shortcomings of the database, the theses were grouped into quadrenniums, adding the trend line corresponding to a 4-year moving average, which is very close to Price's hypothesis, resulting in the following graph (Figure 2).

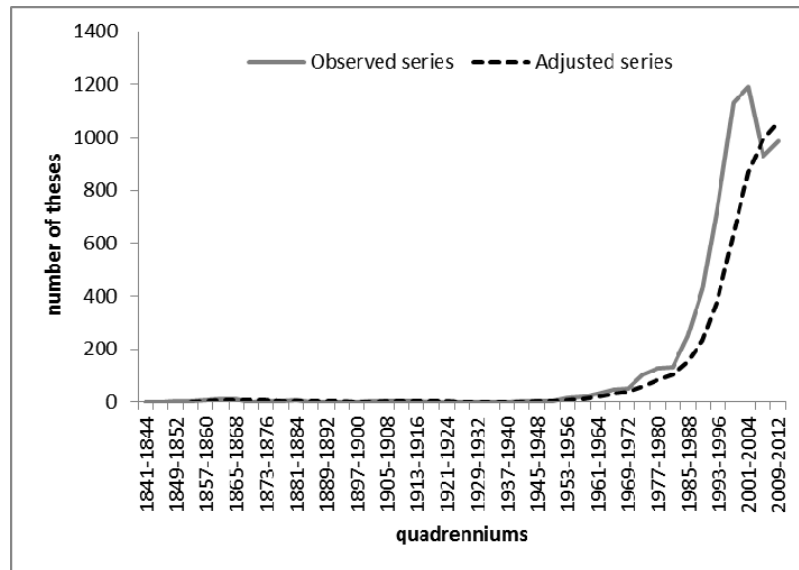


Figure 2. Linear diagram of the annual production of doctoral theses on education in Spain (1841-2012)

The cycles observed in the total time series (1841-2012) are discussed below.

Small Science Cycle: Monotone linear evolution (1841-1955)

Price's hypothesis could be confirmed simply through visual inspection of the 1841-2012 series, and also using correlational and adjustment comparative statistics in time series. As mentioned previously, different stages or cycles can be divided into various stages or cycles according to the series in question. Until the Pidal Plan, theses were written in Latin, even with the author's name; thus, the initial

thesis *Dissertatio de infanticidio* by Michael Hernandez Montero (1841) was read at the San Carlos Royal College of Surgeons in Madrid, an institution that later became the Faculty of Medicine. That first compiled thesis could be considered an outlier because it appears in 1841; and although no theses on education were read until 1850, a first period can be defined from 1841 to 1955.

This first stage would correspond to the series of doctoral theses presented at the Central University of Madrid from 1841 to 1955 and shown in Figure 3 below.

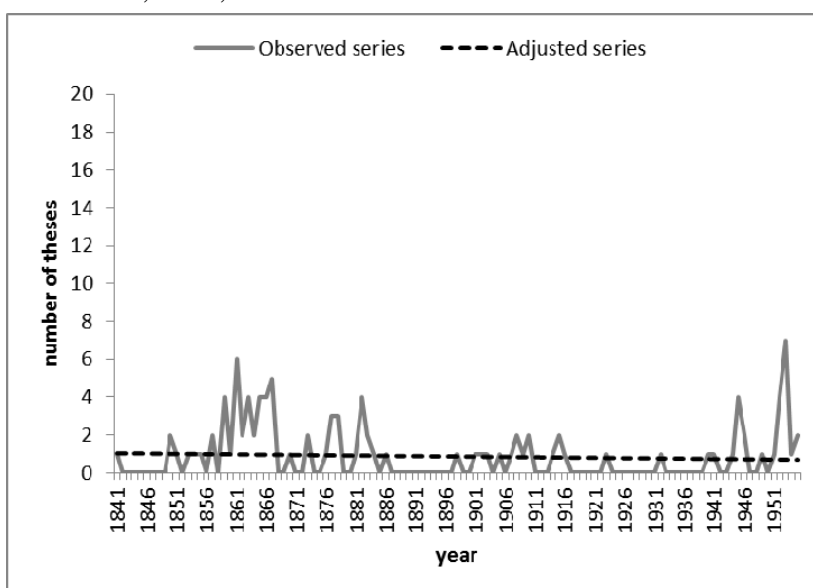


Figure 3. Stage of production of doctoral theses (1841-1955): monotone linear development

In this first period, except in 1861 when 6 theses were read and 1953 when 7 were presented, the number of theses presented per year was very low, only 1.58% of the total. Evidently, doctoral theses on education were not very common in university research at that time.

This stage, which could be defined as the start of production of theses on education, included important theses such as those presented by Miguel de Lamadrid (*Discurso sobre la importancia de la enseñanza y sus métodos*, 1850) - Discourse on the importance of education and its methods- or Acisclo Fernández Vallín y Bustillo (*El estudio de las matemáticas es el más general y necesario como organizador de la inteligencia y auxiliar de las demás ciencias*, 1857) -The study of mathematics is the most general and necessary as organizer and assistant of the intelligence and other sciences. Despite this low level of production, it is worth highlighting a number of prototypical thesis dating from this period presented by authors who later became noteworthy teachers, namely Luis de Zulueta y Escolano (*La pedagogía de Rousseau y la*

educación de las percepciones de espacio y de tiempo, 1909) - The Rousseau's pedagogy and the education of the perceptions of space and time -, Victor Garcia Hoz (*El concepto de lucha en la ascética española y la educación de la juventud*, 1940) - The concept of struggle in the Spanish ascetic and the youth education-, María Ángeles Galino Carrillo (*Los tratados sobre educación de príncipes: (siglos XVI y XVII)*, 1944) - The treaties of princes education (16th and 17th centuries)-, José Fernández Huerta (1950) with *Escritura: didáctica y escala gráfica* - Writing: didactics and graphic scale- or the dissertation by Joan Tusquets i Terrats (1952), *La pedagogía de Ramón Llull* - The Ramón Llull's pedagogy. These Spanish teachers acquired great prestige since they supervised many of the theses on education that were presented in subsequent years.

Big Science Cycle: Growing linear development (1956-1984)

The next period identified started in 1956 and continued until 1984. Production during this period displayed the following pattern (Figure 4).

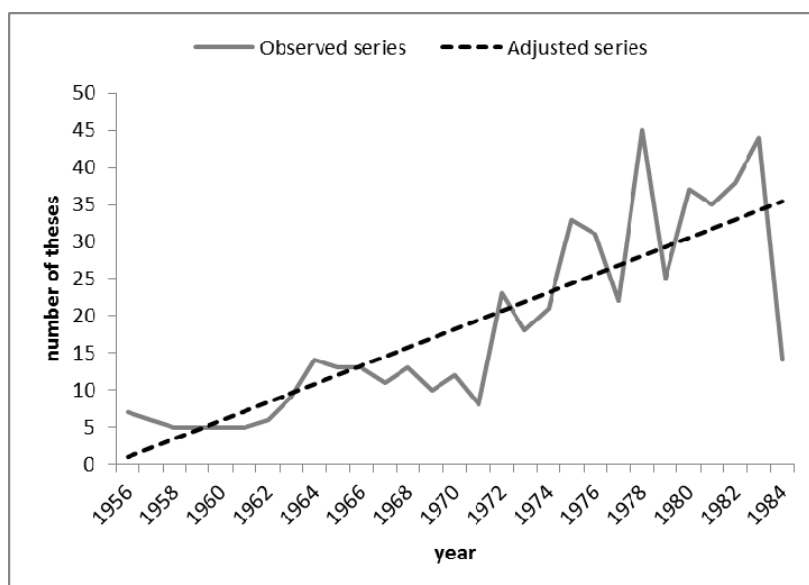


Figure 4. Stage of production of doctoral theses (1956-1984): growing linear development

This intermediate stage was characterised by a moderate increase in the production of doctoral theses on education, resulting in sustained linear growth for the first time.

In 1981, the Ministry of Education split into two divisions: the Ministry of Education and the Ministry of Universities and Research. This split lasted only a few months, but those were

very turbulent years in which teachers and society in general were more attentive of political than academic issues. After 1984, the academic and professional status of untenured professors (colloquially referred to as *PeNeNes*) was gradually consolidated with the introduction of the LRU, allowing them to prepare theses and thus acquire the status of full professors.

Big Science Cycle: Exponential growth (1985-2000)

The next period was between 1985 and 2000, the first year coinciding with Decree 185/1985 of 23 January, which implemented the reform of the doctoral programme introduced by the LRU of 1983, mentioned previously. The growth pattern during this period was as follows (Figure 5):

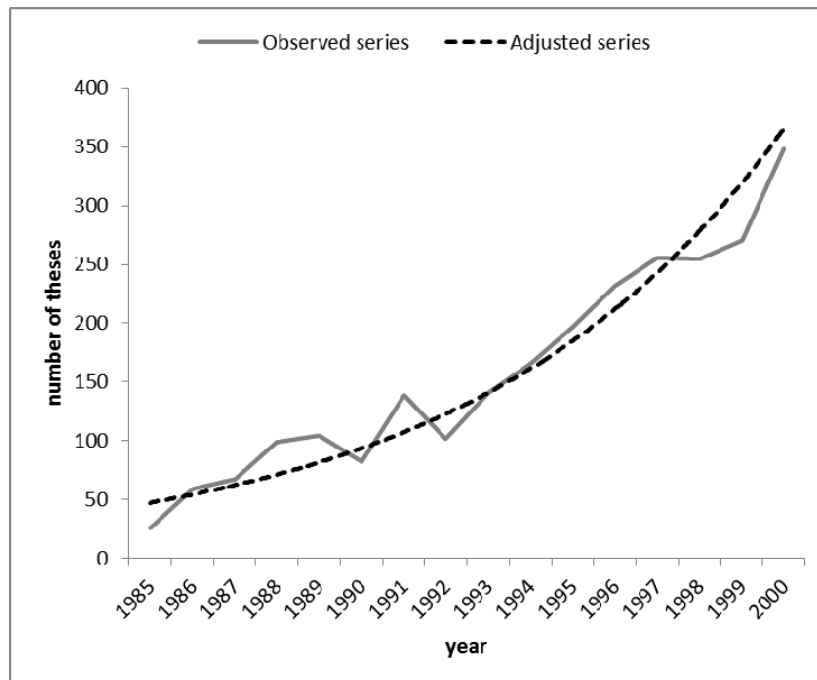


Figure 5. Stage of production of doctoral theses (1985-2000): exponential development

This period saw a boom in thesis production, as revealed by the corresponding trend line in the graph, with exponential growth especially in the final years of this stage. This boom in the 80s/90s was partly due to the conversion of so-called Normal Schools into education faculties, and faculty professors were required to have PhDs. Before that, doctoral degrees were not required and most professors who already had a PhD had completed their doctorates in the Education departments of Faculties of Arts.

As Price predicts (1986), the exponential model is reached following an inflection point in growth. This moment of change occurred in around 1985 and in virtually every year thereafter the number of theses presented in the field of education increased, with only minor

decreases and a very clear upward trend with the passing of the years.

"Beyond" Cycle: Logistic development? (2001-2012)

The last period studied ran from 2001 to 2012, and reveals another important point of inflection in the trend of production of doctoral theses on education. Price had already referred to a period of logistic stability, which he did not verify in his studies with growing and exponential series, since according to pure logic infinite growth would be unthinkable. Martin, Irvine, Narin, Stevens & Sterritt (1990) had already identified this logistic pattern as a warning sign for British science. In the present study, this logistic pattern was not categorically verified; see Figure 6:

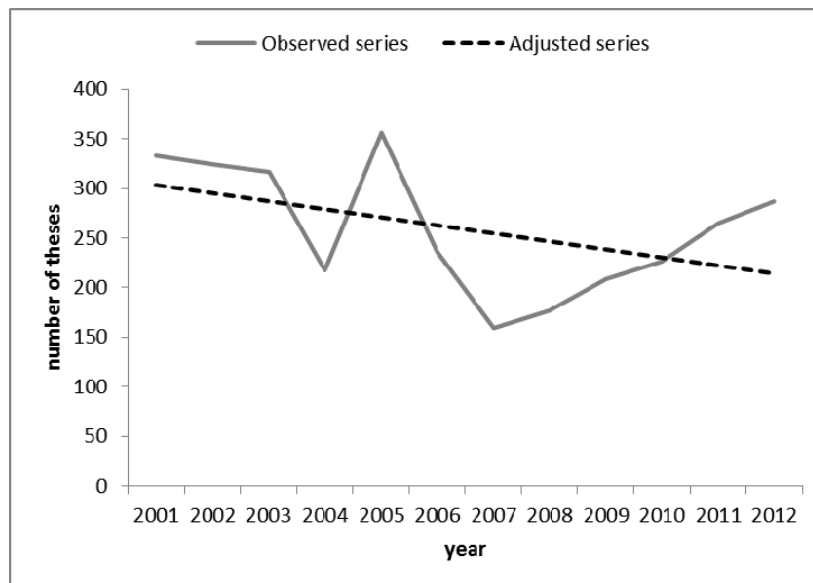


Figure 6. Stage of production of doctoral theses (2001-2012): downward trend

The graph clearly shows the downward trend in the production of educational theses; however, in recent years a small recovery in growth has been observed, but it is advisable to be very conservative rather than draw any far-reaching conclusions. We will have to wait until the next decade to see whether doctoral research in the field of education is declining or whether the production of doctoral theses stabilises.

The numerical adjustment function model for each cycle denotes similar patterns to those in the figures showing the production of each cycle studied previously (Table 1). Moreover, for a more operative series than the total series, without structural zeros limiting the calculation of fitness models, as provided for the period 1951-2012, fit adjustment values were calculated using the *Statgraphics* package with a high and statistically significant R^2 , and with its fit adjustment function to a quasi-logistic S curve.

Table 1. Fit adjustment to Price's historical cycles model

Cycle	R^2	p	Fit adjustment function	Model
1 (1841-1955)	.01	.44	$T = -0.003a + 1.0632$	Monotone linear
2 (1956-1984)	.69	.00	$T = 1,2286a - 0,2217$	Increasing linear
3 (1985-2000)	.90	.00	$T = 41,257^{0,1364a}$	Exponential
4 (2001-2012)	.21	.14	$T = -8.14a + 311,74$	Decreasing linear
(1951-2012)	.91	.00	$T = e^{(174.3-338203/a)}$	Quasi-logistic S curve

T = Thesis; a = years; statistical significance $p < .05$

Although no appreciable R^2 was obtained in the first cycle, it did correspond to a linear function as shown in the adjustment equation. It is not statistically significant due to this series of ups and downs in production that continued until 1955. However, the second and third

cycles follow the trend reflected in the Price model, resulting in a high, statistically significant R^2 value. The trend in the last cycle bears a certain resemblance to that in the first, given the level of variability occurring in those years, although it does not exactly present a

high level of significance. However, it may be indicative of a process of stabilisation, which, after this period, will see the production of theses level out.

Conclusions

The first period, from 1841 until 1955, would correspond to the first phase of monotone or constant linear development described by Price (1986). The period from 1956 to 1984 could be considered as a linear growth phase. However, in the third phase from 1985-2000, production increased exponentially in terms of the number of doctoral theses presented per year. From 2001 production clearly stagnated before declining in subsequent years. Signs of recovery have been observed in recent years, but the trend is clearly downward. There are no signs to confirm that the production of theses may stabilise; this would correspond to the fourth phase of Price's hypothesis. It is foreseeable that in the years after 2012, and since resources, agents and means are not unlimited, production will tend to level off, resulting in a period of logistic stabilisation. This hypothesis will have to be confirmed in future studies. Some studies, such as the one by Fernández-Cano *et al.* (2008), suggest the production of theses on education may grow in the not too distant future after reaching the stability plateau.

The general trend observed in the period studied (1841-2012) does not entirely fit the model proposed by Price, as explained above. However, the three periods in science identified by Price (1973; 1986) in his works - monotone development, linear growth and exponential growth - are well defined.

This longitudinal study could be extended to encompass the "genealogies" in the process of supervision of doctoral theses through the successive supervisor-author series. According to the data obtained, Juan Zaragüeta Bengoechea (1883-1974) may have been the "initial promoter".

To use a hackneyed expression, further research is necessary in this respect. There is no

simple recipe; the question of doctoral theses in education in Spain is complex and broad and must therefore be addressed using different methodological considerations and conceptual approaches.

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Abstract / Resumen	<p><i>This article analyzes the research output of doctoral theses in the field of Education defended in Spain from 1841-2012. It offers a quantified global and diachronic view of such series. As a landmark to note is the fact that until 1954, obtaining a doctoral degree was centralized at the Complutense University of Madrid. They are used as search engines bibliographic databases: TESEO and institutional repositories, and basic bibliography of the area to carry out the collection of the sample. The contrasting hypothesis is to verify whether the time series partially follows the pattern of growth of the science of Derek J. de Solla Price. The central finding is that the Spanish production of doctoral theses in education is adjusted to a quasi-logistic model with a worrying falling trend in the last twelve years.</i></p> <p>Este artículo analiza la producción investigadora de tesis doctorales del campo de la educación defendidas en España desde 1841 a 2012. Ofrece una visión cuantificada, global y diacrónica de tal serie. Como hito a destacar está el hecho de que hasta 1954, la obtención del grado de doctor estuvo centralizada en la Universidad de Madrid. Se utilizan como motores de búsqueda las bases de datos bibliográficas: TESEO y repositorios institucionales, y bibliografía básica del área para llevar a cabo la recopilación de la muestra. La hipótesis a contraste trata de verificar si la serie temporal se ajusta parcialmente al modelo de crecimiento de la ciencia propuesto por Derek J. de Solla Price. El hallazgo central es que la producción española de tesis doctorales en educación sigue un modelo cuasi-logístico con una preocupante tendencia de caída en los últimos doce años.</p>
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