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Production of educational theory doctoral theses in Spain (2001–2015)

Francisco Javier Ramos-Pardo[1] · **Pablo Sánchez-Antolín**[1]

Abstract The essential function of scientific disciplines is to generate knowledge using the scientific method. In a context characterised by acknowledgement of methodological complementarity and the existence of innumerable mechanisms for production (articles, theses…) and dissemination (databases, platforms…), production is a measure of any given discipline's normative development and projection. As a result of this situation, in Pedagogy—and, more specifically, in Educational Theory—we can witness a growing concern with systematising knowledge in a complex and dynamic context and based on reference frameworks. Therefore, this article aims to describe scientific production in Educational Theory, with the intention of discovering the creation and dissemination processes involved in theses retrieved from the Spanish doctoral theses database TESEO (2001–2015). A descriptive-comparative census study was carried out, with a total of $n = 229$ sampling units. The results show the following: thematic axes, which categorise thesis content into groups, are present; dissemination is influenced by the non-specific use of keywords, as well as by the area's organisation and structure in different universities; there are no statistically significant differences in terms of author gender. In conclusion, we can identify an ever greater intention to provide the area with more scientific content but little concern with increasing this content's visibility in databases such as TESEO. All in all, research production in Spain relating to Educational Theory is a good representative sample of researchers' efforts to project their interest in discovering, understanding and improving education. Therefore, special care should be taken when compiling production data in databases.

Keywords Educational theory · Scientific production · Doctoral theses · Pedagogy · Educational research

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Introduction

The purpose of all scientific disciplines is to generate knowledge substantiated by evidence using the scientific method. In the social sciences, this task acquires a significant degree of difficulty, partly due to the complex and dynamic nature of the social phenomena upon which their studies focus. This said, ontological, epistemological and methodological development allows us to move closer to discovering, understanding and explaining social reality and we can particularly witness this evolution in the educational field. A good example of this can be seen in the area of Educational Theory. This scientific area has been forged by contributions, since the mid-twentieth century, from numerous authors and schools of thought concerned with gaining a deep understanding of education. Thanks to these efforts, light has been shed on multiple, very varied challenges relating to this field. In the context of Spain, innumerable authoritative voices have encouraged the development of Educational Theory as a scientific area. An important selection of these are: Castillejo (1981, 1983), Castillejo and Colom (1987), Colom (1982), Escámez (1983), Esteve (1983), García Carrasco (1980, 1987), Sarramona (1980) and Vázquez (1980). In this sense, we can verify that this first impetus has resulted in a growing concern with increasing scientific content within the area of Educational Theory—in a university framework—and with social projection of this discipline. We only need to look to research carried out by Gargallo (2002), Gil Cantero (2011) and Touriñán (2008), or to certain university reference manuals: Colom and Núñez Cubero (2001), García Carrasco and García del Dujo (1996), Medina Rubio (2001), Naval (2008) and Sarramona (2008).

Concern with increasing scientific content relating to Educational Theory has been influenced, to a great extent, by: (a) a constructive attitude: articulating existing knowledge in an epistemological reference framework for the Scientific Community; (b) an attitude based on understanding: responding to the demands and challenges of a pedagogical reality undergoing constant change and transformation; and (c) a critical attitude: the need to revise and critique this framework of knowledge in order to update it, as Colom previously indicated:

> Constructing an educative theory consistent with new metaphors used by the latest narratives to better explain who and where we are is and will be, I believe, an exciting exercise which, fortunately, has not yet been developed; in other words, it is still in the desire phase. If we can bring together thought and desire, hedonism and knowledge, alongside sufficient alchemy of the verb, what this theory offers us is nothing more than an aspect of necessary passion for life (2005, p. 302).

Since the beginning of Educational Theory, and to wide approval, the meaning of this discipline has been explaining the educative phenomenon and its related activities. In Touriñán's words, the objective of Educational Theory is to "justify and explain pedagogical intervention and construct a theoretical structure of the "education" phenomenon" (1987, p. 74). According to Colom, Educational Theory can be understood as "(a) a theory for improving educational practices; in other words, in a pragmatic sense, what we understand as praxeological knowledge (2006, p. 143) and (b) a rational foundation for educative studies" (2006, p. 143). On occasions, the possibility of building a theory based on the educational act (Carr 2006; Skudlarek 2014) has been reflected upon and Educational Theory's meaning and pertinence has been nuanced, widened and ratified (Gil Cantero 2011; Phelan 2014). Evidently, therefore, the discipline must remain open to the evolution of theories to which it is linked and changes which affect its object of

knowledge, as well as to its own development as a scientific and academic discipline (Touriñán 2008).

The present study coincides with what Touriñán calls research into Educational Theory as an academic discipline and aims to shed light on the status of research within this area. In order to do so, we will analyse a section of scientific production which we believe to accurately reflect the academic status of Educational Theory, its researchers' training and its concerns and trends: doctoral theses. Furthermore, theses may highlight relevant trends in research in each area of knowledge (Jiménez-Contreras et al. 2014).

This study, therefore, aims to describe the characteristics of doctoral thesis production within the Educational Theory field over the last fifteen years. More specifically, we will focus on:

- Describing the main research topics in the production of Educational Theory doctoral theses registered in TESEO from 2001 to 2015.
- Analysing this production using variables such as the associated university, type of research employed, doctoral students' gender and number of participating supervisors.

In an area with plenty of full professors in many Spanish universities, the scientific production in Educational Theory is often related to some major traditions and schools of thought. Nevertheless, given the shortage of bibliometric studies about doctoral theses in this area, we think the importance of our study is to get a feel for the recent production and its characteristics.

Although this study specifically belongs to the area of Educational Theory, it is also linked to a consolidated research background in scientific communication and production in education, both on a general level (Diaz and Sime 2016; Fernández-Cano 2011; García Aretio 2015; Ruiz-Corbella et al. 2014) and in terms of other educational areas or specific topics (Coutinho et al. 2012; da Luz Stelmachuk and Piumbato Hayashi 2014; Díaz-Campo 2016; Ferreira-Villa et al. 2013; Hofstetter et al. 2014; López Gómez 2016; Mill and Oliveira 2014; Sanchidrián Blanco 2016; Vallejo et al. 2016).

Method

The study in question is a census study with intentional selection ($n = 229$) of theses published in the TESEO Database during the period 2001–2015. This period was chosen as it allows us to identify trends in doctoral thesis topics in the area from the beginning of the current century and facilitates analysis in five-year segments.

The main source of information used for our study was the TESEO database. This database is the most common in studies on the production of doctoral theses (Fuentes Pujol and Arguimbau Vivó 2010, p. 66) and despite its limitations in the standardization of its records other databases, such as TDR, have a smaller number of records than TESEO (Moreno-Fernández and Moreno-Crespo 2016). Besides, TESEO, "is the only tool that compiles the theses of all Spanish universities and practically the only one employed in the performance of quantitative studies" (Repiso Caballero et al. 2011a, 153). This implies that we depend on the fact that the theses are well registered and with the appropriate descriptors for the accomplishment of a good analysis. A first issue is that TESEO works with the descriptors that UNESCO encompasses within the general descriptor Pedagogy and in many theses almost all are collected. Thus, in the study of Repiso Caballero, Torres Salinas and Delgado López-Cózar, the titles of theses and abstracts were used to improve

their categorization (Repiso Caballero et al. 2011b, p. 419). At times, when the specific methodology did not appear in thesis abstracts, it was impossible to know which method had been followed, which is reflected in our results. On occasions, this weakness was rectified because the thesis in question had been published and was accessible online. Furthermore, despite collecting very updated information, TESEO does not register 100% of the theses that the Spanish Statistical Office (SSO) subsequently registers. Specifically, according to Fuentes Pujol and Arguimbau Vivó (2010), TESEO collects 87.3% of the theses defended in Spain, more than DIALNET or TDR and in a similar analysis carried out by Díaz-Campo the percentage of theses registered by TESEO reached the 92.5% (2014). This implies that there may be a gap between the theses analyzed and those that actually represent 100% of the population (Buela-Casal et al. 2011; Musi-Lechuga et al. 2011).

Thus, in line with a descriptive-comparative design, our information-gathering strategy was based on a primary review (keywords, titles, supervisor, university, abstract) validated by two experts, once all search sequences had been completed (Curiel-Marín and Fernández-Cano 2015).

Finding doctoral theses, sampling units for the purposes of this study, was made possible through a search for the aforementioned period (academic years 2000/2001–2015/2016, of which only theses defended in 2015 were extracted) and the keyword Pedagogy. This search was carried out in the second trimester of 2016. Of the resulting subjects and sub-subjects gathered using TESEO, we selected Educational Theory and Methods (UNESCO code: 580100) and Educational Theories (UNESCO code: 580104). Since theses are often linked to more than one subject, we excluded any theses with the descriptors Comparative Pedagogy (UNESCO code: 580102) and Statistical Analysis in Pedagogy (UNESCO code: 580206) from the search. Nevertheless, this filter did not sufficiently prevent the appearance of theses which, according to the experts, clearly belonged to other disciplines, for example Education History or Research Methods and Diagnosis in Education. In order to perfect and refine our search, the following criteria were used:

1. *General criterion* The thesis was defended in an Educational Theory department or departmental area.
2. *Adjustment criterion* The thesis was supervised by an Educational Theory university professor (at least one, in the case of theses with more than one supervisor).

This adjustment criterion was necessary because not every university has an Educational Theory department or because, in more general departments, this area is not specified in the database. In such cases, other sources of information were used, such as the DIALNET database—in which authors usually appear linked to particular area of knowledge—or university websites themselves. Had we not used these sources to identify supervisors' areas of knowledge, we would, ultimately, have trusted the experts' judgement.

Using the selected theses—on an individual basis and using as a starting point an analysis of titles, descriptors and abstracts produced by TESEO for each of them—we built a database with descriptive information relating to author gender, number of supervisors, etc. and the topic addressed. In the second phase, we proceeded to verify the information entered and to adjust our database. More specifically, the following variables were collected in the database: thesis title, year defended, author gender, associated university, number of supervisors, topic, sub-topic and research methodology.

For content analysis and thesis topic categorisation, we used Gargallo's (2002) proposal of fundamental Educational Theory topics, along with certain research works upon which this author builds his idea (García Carrasco et al. 1992; Martínez and Buxarrais 1992). Although it cannot be said that these are exclusive categories, we can verify that in these theses there is a higher level of proximity to some of them. This theoretical review initially resulted in ten topics (see Table 1), which allowed us to begin systematising Educational Theory theses from the selected period:

During the analysis and categorisation process, as we will see later, three new topics emerged: Education and its environment, primary educational processes and learning theories and models.

Results

The total number of doctoral theses gathered by TESEO using the most general UNESCO code relating to our field (Pedagogy) is 1549 for the selected period. If we consider the selected descriptors—Educational Theory and Methods and Educational Theories—and remove those of Comparative Pedagogy and Statistical Analysis of Pedagogy, the total number decreases to 967. Using as a starting point a review of thesis data (year defended, department, supervisor/s) and content analysis carried out on titles, descriptors and summaries of these, the sample was established at a total of 229 theses in the Educational Theory area, since we discarded any theses which did not meet the criteria mentioned in our Method.

During the analysed period, the evolution of doctoral thesis production is irregular. The most productive years are 2005, 2002 and 2007, with 31, 23 and 21 defended theses respectively.

During the first few years, an increase in defended theses (see Fig. 1) can be observed, coinciding with a trend highlighted in a previous study, which analysed defended Pedagogy theses up until 2005 (Fernández-Cano et al. 2008). The same study analysed the idea that this upward trend could be informed by the need to have a doctorate to ensure professional stability in academia.

This trend declines from 2006 onwards. If we analyse thesis production in five-year periods, this declining trend is confirmed: the 90 theses produced in the first 5-year period decrease to 73 in the second and 66 in the third. This trend corresponds to the evolution of passed theses, as registered in the SSO for the Pedagogy discipline. As can be observed in

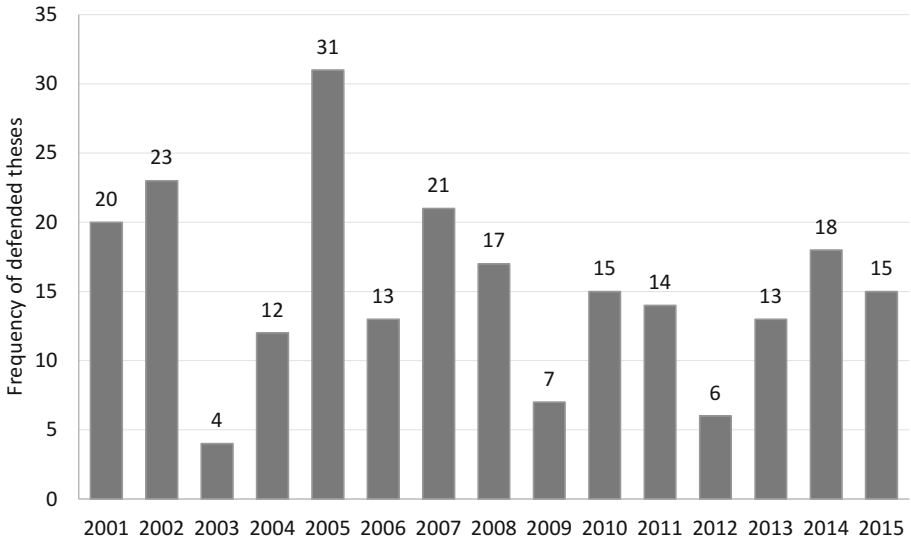|	
Table 1 Educational theory research topics	Axiology/aims/values
	Basic conceptual issues
	Epistemological issues
	Methodological issues
	The curriculum
	The educational subject
	Elements and agents involved in the educative process
	Education as communication
	Pedagogy in a work environment
	Theory of educative processes

Fig. 1 Evolution of number of educational theory theses gathered in TESEO
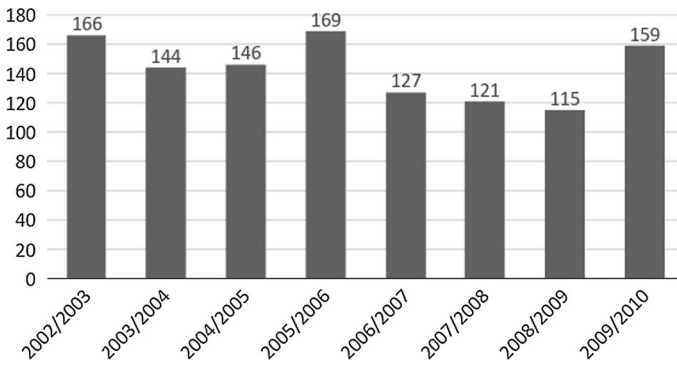

Fig. 2 Approved pedagogy doctoral theses by academic year. *Source*: Spanish Statistical Office: Education data and figures

Fig. 2, this trend continues until the 2009–2010 academic year, as also occurs in Educational Theory, at which point there is a slight rise in passed theses.

As far as author gender is concerned, it can be concluded from our study that, of those who have defended theses in this area, the percentage of men is slightly lower than that of women. More specifically, the former represent 34.5 and the latter 65.5% (see Table 2). In contrast, according to data supplied by the SSO for 2013 and 2014—the only data which

Table 2 Theses by Author Gender		f	%
	Men	79	34.5
	Women	150	65.5
	Total	229	100.0

does not include the area of Education within the Social and Behavioural Sciences—the difference between the genders was almost non-existent: 50.37 for women and 49.63% for men.

The most frequently-used methodology is qualitative (see Table 3), followed by quantitative and mixed. It should be noted that, in the summaries compiled in TESEO for a large number of theses, the research methodology followed is not specified. This issue could be resolved for theses with open access available; however, as they were not all accessible, in 33.2% of cases theses could not be categorised in line with any particular research methodology.

If we turn our attention to associated universities, the highest number of Educational Theory theses were defended at the University of Barcelona (53), which had a much higher percentage than any other Spanish university (see Table 4). This institution is followed, in terms of number of defended theses, by the National Distance Education University (NDEU), the University of Santiago de Compostela and the University of Salamanca, with respective totals of 28, 24 and 21 theses completed during the analysed period. These four universities account for more than half of defended Educational Theory theses: 126 of a total of 229.

At the other end of the spectrum are the following universities: Extremadura, A Coruña, Lleida, Jaume I, Huelva, Rey Juan Carlos, La Rioja and Deusto. In each of these institutions, only one thesis meeting all requirements described in our Method was defended. In the second quartile are the Public University of Navarre (10 theses), the University of Valencia (9), the University of Malaga (7), the University of Granada (6), the University of Burgos (5), Ramón Llull (5) and the International University of Catalonia (3). Where the number of theses is identical, the positioning criterion used is the ranking given by Buela-Casal et al. (2011) to doctoral theses.

We can observe that the most productive universities in this sense are those with a significant Educational Theory tradition and consolidated departments. On the other hand, the least productive universities are those in which the Educational Theory area belongs to a very general department named Pedagogy or Educational Sciences. Furthermore, this second group tends to have a lower number of teachers and professors in the area. However, figures for several large universities with consolidated departments are still lower than the average of 8.2 theses per university.

In accordance with the ranking by defended doctoral theses in Spanish public universities, carried out by Buela-Casal et al. (2011), the universities in which, according to our study, most Educational Theory theses were defended in the period 2005-2010 are presented as follows: the University of Barcelona in second place (of a total 48), the NDEU 18th place, Santiago de Compostela 11th place, Salamanca 8th place, Murcia 13th place, Seville 12th place and Complutense first place. With the exception of the NDEU and the University of Murcia, in both studies these universities feature in the first quartile in terms of production of defended doctoral theses. The differences in ranking in our study may be

Table 3 Theses by research methodology

	Quantitative	Qualitative	Mixed	Not specified	Total
Total	31	92	30	76	229
% Total	13.5	40.2	13.1	33.2	100.0

Table 4 Theses by Associated University

Quartile	Ranking	University	f	%
Q1	1	Barcelona	53	23.1
Q1	2	NDEU	28	12.2
Q1	3	Santiago de Compostela	24	10.5
Q1	4	Salamanca	21	9.2
Q1	5	Seville	13	5.7
Q1	6	Murcia	13	5.7
Q1	7	Complutense	11	4.8
Q2	8	Navarre	10	4.4
Q2	9	Valencia	9	3.9
Q2	10	Malaga	7	3.1
Q2	11	Granada	6	2.6
Q2	12	Burgos	5	2.2
Q2	13	Ramón Llull	5	2.2
Q2	14	Basque Country	3	1.3
Q3	15	Oviedo	3	1.3
Q3	16	International University of Catalonia	3	1.3
Q3	17	Autonomous University of Barcelona	2	0.9
Q3	18	Balearic Islands	2	0.9
Q3	19	Rovira i Virgili	2	0.9
Q3	20	Cordoba	1	0.4
Q3	21	Extremadura	1	0.4
Q4	22	A Coruña	1	0.4
Q4	23	Lleida	1	0.4
Q4	24	Jaume I	1	0.4
Q4	25	Huelva	1	0.4
Q4	26	Rey Juan Carlos	1	0.4
Q4	27	La Rioja	1	0.4
Q4	28	Deusto	1	0.4
			229	100.0

due to the specificity of our analysed topic; evidently, analysing a university's total thesis production is not the same as analysing thesis production for a particular area of knowledge.

Table 5 Theses by number of supervisors

	f	%
One	140	61.1
Two	85	37.1
Three	4	1.7
Total	229	100.0

61.1% of theses were supervised by a single individual (see Table 5). This percentage is somewhat higher than for other disciplines (see, for example, Fernández-Guerrero 2015). From 2012 onwards, theses supervised by more than two academics begin to be registered; furthermore, in the last year analysed, the number of theses supervised by more than one person supersedes those supervised by one individual (see Fig. 3).

In relation to thesis research topics for this discipline, the categories Theory of educative processes (26.5%) and Elements and agents involved in the educative process (19.4%) account for almost 50% of analysed theses (see Table 6). If we add Education as communication (11.2%), The curriculum (8.2%), The educational subject (7.6%), Axiology/aims/values (6.5%) and basic conceptual issues (6.5%), the sum of these seven categories accounts for more than 85% of our sample. More specific aspects, such as Primary educational processes (0.6%), Methodological issues (1.2%) or Learning theories and models (1.2%) are uncommon topics in these theses.

Within these categories, 90 sub-categories or topics were identified; however, for 67 of these, there was only one presented thesis. Below we can see the topics or aspects addressed by theses from each category:

1. Axiology/Aims/Values. This category comprises theses related to the basis and purposes of education, the axiological framework of education and the foundations of values education.
2. Basic conceptual issues. This category consists of theses which, fundamentally, deal with a specific educative dimension (intellectual, physical and psycho-motor, emotional, aesthetic, moral, social, etc.) and with education as a phenomenon.
3. Epistemological issues. Within this category we can find theses relating to scientific knowledge of education, modes of rationality (critical, liquid pedagogy…) and theoretical-practical integration in education.
4. Methodological issues. In this category are theses dealing with Pedagogy research methodologies, Educational Theory research and intervention methodologies and strategies.
5. The curriculum. This category includes theses which make reference to curriculum design and development, content selection criteria and skills and transversality in education (moral education, environmental education, education for health, education for peace.)
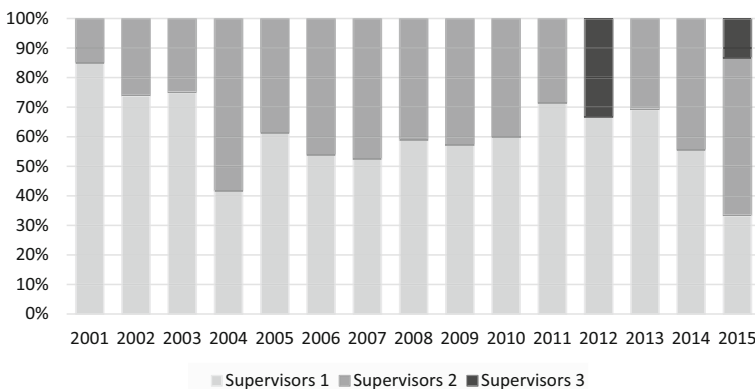

Fig. 3 Thesis evolution by number of supervisors

Table 6 Main categories
addressed in theses

	f	%
Theory of educative processes	61	26.6
Elements and agents involved in the educative process	45	19.7
The curriculum	26	11.4
Education as communication	22	9.6
Axiology/aims/values	17	7.4
The educational subject	13	5.7
Education and its environment	12	5.2
Basic conceptual issues	11	4.8
Epistemological issues	6	2.6
Pedagogy in a work context	5	2.2
Primary educational processes	5	2.2
Methodological issues	3	1.3
Learning theories and models	3	1.3
Total	229	100.0

6. The educational subject. This category compiles theses which address the anthropological foundations of education (cognitive and social development, human psychobiological structure and education, plasticity and educability, self-concept, adult education…).

7. Elements and agents involved in the educative process. This category groups together theses relating to the socio-political and cultural framework of education, conditioning factors of education, education professionals and their professional development, training needs and skills, different educational institutions and agencies, the family, the educational city, cultural policy and promotion of socio-cultural activity and non-official educative institutions.

8. Education as communication. In this category we can find research relating to personal communication and construction, distance learning and—to the greatest extent— Information and Communications Technology (ICT) and education.

9. Pedagogy in a work context. This category comprises theses dealing with this particular educational context, focusing on Pedagogy's role in socio-professional processes or on company-based training.

10. Theory of educative processes. This category groups theses concerning conceptual educational process models, learning-based pedagogical models, learning processes (development of autonomy, citizenship, values, identity, interculturality, emotions), evaluation processes (education plans, educational quality) and design and planning processes.

The sub-category with the highest number of theses was Education professionals (see Table 7). 22 theses relating to this topic were identified, together accounting for 9.6% of the total number of analysed theses. The second most common sub-category in terms of presented theses was ICT and education. 21 theses belonging to this sub-category were identified, together accounting for 9.2% of the total. The third most popular sub-category was Learning processes (citizenship, values, identity…), with 16 theses and 7%. Fourth and fifth were Transversality in education (environmental education, moral education, education for peace…) and The teleological and axiological framework of education, each with 14 theses and 6.1%. The ten most common sub-categories represented 55% of theses.

Discussion

The main challenge for this study, like other studies (Fernández-Guerrero 2015), was the doctoral theses selection process due to the absence of normalization of the Educational Theory area with a thesaurus code, the singularity of the scientific product analysed (doctoral theses) and the lack of versatility and retrieval of data from the database.

For this reason, the present study begins with a characterisation of the Educational Theory area of knowledge and a description of its object of study, goals, and main research topics. This served as a basis upon which to study doctoral thesis production within the area, with the intention of using these theses to describe research from the last 15 years. For these purposes, information gathered from the TESEO database was analysed.

In terms of volumes of scientific production, we could note that this database presents certain discrepancies in relation to the information systematised by the SSO on doctoral thesis production. This confirms Fuentes Pujol and Arguimbau Vivó's findings (2010) in research analysing the production of every Spanish doctoral thesis between 1997 and 2008. These authors concluded the SSO registered 5.3% more theses than TESEO.

In our study, we corroborated an upward trend in doctoral thesis production up until 2005, coinciding with the results obtained by Olivas-Ávila et al. (2012) in another specific area. As indicated by Fernández-Cano et al. (2008, 2012), this could be due to the Spanish University Reform Law (LRU in Spanish), by means of which a doctorate became essential for university teaching.

From 2005 onwards, a general downward trend can be observed in Educational Theory thesis production, coinciding with the results of another research work on Spanish Education doctoral theses (Fernández-Bautista et al. 2014). However, this trend does not match with the general increase in doctoral theses being produced in Spain. According to data from the Spanish Ministry of Education, Culture and Sport, between 2008 and 2013 the number of defended theses increased by 40% (Ministry of Education, Culture and Sport, 2015); furthermore, since 2008, the number of students enrolled in Social and Legal Sciences master's degrees has increased by 21.6%.

Table 7 Main Sub-Categories Addressed in Theses

	f	$\%$
Education professionals	22	9.6
ICT and education	21	9.2
Learning processes	16	7.0
Transversality in education	14	6.1
The teleological and axiological framework of education	14	6.1
Educative dimensions	9	3.9
Intervention methodologies and strategies	9	3.9
Evaluation processes	8	3.5
Curriculum design and development	7	3.1
The family	6	2.6
Total	126	55.0

If the number of passed theses is a measure of productivity levels and the ability to train researchers in this discipline, it seems that the level in this area is low in comparison to other disciplines in a Spanish context. For example, in Sports Sciences between 2004 and 2011, more theses (333) were defended than in the entire period analysed in this study (Ortega et al. 2015). However, the same cannot be said for other Education areas; for instance, in Education History between 2000 and 2015, 106 theses with this descriptor were published in the TESEO database (Sanchidrián Blanco 2016).

From 2016 and 2017 onwards we may possibly see a peak—although this is not yet clear in TESEO data—because these two years coincide with the completion date agreed by universities for doctoral plans before the establishment of the European Higher Education Area.

In terms of theses production by university, one conclusion drawn from our study is that the TESEO database's thesis registration method may be affecting certain universities' visibility as far as production in this area is concerned. There are several possible causes of this lack of visibility. On the one hand, the process for including thesis descriptors, later gathered in TESEO, is not the same in every university or department and does not have unambiguous criteria; for example, the Complutense University of Madrid appears in first place in the doctoral theses production ranking of Buela-Casal, Quevedo-Blasco & Guillén Riquelme (Buela-Casal et al. 2015) but is seventh in our study, with only 11 defended theses. In this sense, a basic understanding of UNESCO codes and a clear idea of the procedure to be followed when including thesis data in TESEO is fundamental for doctoral students. On the other hand, the use of only the more general descriptor Pedagogy to classify doctoral thesis topics is, perhaps, also contributing to this lack of visibility.

Although we did not exhaustively study the number of theses per department and their ratio-size—as this was not our study objective—considering the number of defended theses in certain universities, along with the teaching staff linked to their respective Educational Theory departments, this aspect does not seem to be decisively influencing the number of defended theses. In other words, universities with the most defended theses are those with a solid background and professors and a high number of teaching staff. Nevertheless, other universities with these same characteristics also have a lower-than-average number of defended theses in the area. In other words, productivity seems to be more closely linked to the casuistry of the area's components in each university than with numbers and professional categories.

A significantly higher percentage of women than men completed defended theses. This is a very different percentage as compared to other disciplines. For example, in Sports Sciences between the 2004–2005 and 2010–2011 academic years, the percentage of women defending theses was much lower (31.8%) (Ortega et al. 2015). However, when compared with other Pedagogy areas, these percentages are less notable. For instance, in Educational Guidance between the 2001–2002 and 2011–2012 academic years, theses defended by women accounted for 56%, in contrast to 44% by men (Pascual García and Ferreira Villa, 2013). In order to explain these gender-based differences, we must remember that in Spain university qualifications relating to Education have, traditionally, always been highly feminised.

Although working with a single supervisor was the most common scenario in our area, an increasing number of theses are now supervised by two or more individuals; in fact, in the last few years, theses supervised by more than one academic have become very common. This could be linked to the fact that doctoral thesis supervision is a valued attribute in terms of evaluation and accreditation processes for university teaching staff.

Through our study, it can be noted that the most widely-used methodology is qualitative, which seems reasonable given the nature of the scientific object and the epistemological sources. However, in more than 32% of thesis abstracts the specific research methodology is not mentioned, which could give the impression that this is a secondary aspect in this area.

It must also be emphasised many theses are still not published in an open format. This impedes their visibility and impact and, indirectly, that of the whole area. Setting aside the premises and requirements which each university may establish, it seems that this situation goes against the Open Access movement trend where communication of Science is concerned.

Conclusion

This paper has analysed the theses production in Educational Theory and, despite the difficulties presented for the selection of sample units its results are relevant. The main conclusions about the two objectives set out are summarised as it follows.

In first place, with regards to topics, Gargallo's study (2002) continues to be useful when categorising scientific production into fundamental topics within Educational Theory. A high percentage of doctoral theses are concentrated in a few general categories, thus demonstrating a trend or preference for certain topics. More specifically, we should highlight a concern with theorising, from different points of view, the educational process and the elements and agents involved in this process: fundamentally, education professionals. Furthermore, the relationship between ICT and education is a topic which has gained increasing interest over recent years. This confirms that the technological revolution we are witnessing is less concerned with introducing technology into the classroom and more concerned with theorising technology's educative role.

On the other hand, the review and analysis carried out in this study demonstrate the importance of theses in the production of original content in Educational Theory. We can understand original content to mean that which "implies a substantive advance in knowledge of the studied field" (Jiménez-Contreras et al. 2014, p. 297). In this sense, we can say that there is a relevant volume of doctoral theses, as we have seen, if we compare them to theses in other linked areas, through which a complete series of epistemological proposals, directed towards improving understanding of the educative dimension of social phenomena, are developed. Therefore, an initial conclusion is that by generating knowledge in the area, one requisite of all disciplines which aspire to be scientific is met.

In the same way, we could identify a weakness which reduces the possibility of knowledge impact and transfer generated through doctoral theses. The counterpoint to Educational Theory's priority of generating and systematising research evidence is unsatisfactory behaviour when providing visibility. This suggests that little attention is paid when choosing keywords used to characterise research in TESEO and this translates to a loss of research visibility and dissemination. In other words, high-quality research is carried out but its registration method is not conducive to effective visibility and, therefore, this research becomes diluted in an information-heavy context. So, in terms of scientific production, Educational Theory should make an effort in this sense.

Lastly, we could identify another trend which impacts upon thesis production: the way in which Educational Theory areas are organised within departments. There appears to be a relationship between reduced presence in departments and visibility of knowledge, although confirmation of this would require a more exhaustive study beyond the initial

objectives of this analysis. In some universities, Educational Theory is a specific department, whereas in others it is incorporated as a minority area, in which the presence of older teaching methods is strong. Another aspect which would make for useful study is the discrepancy between the area to which teaching staff are linked and the epistemological reference framework of their research. Although this is not concrete data, it is, nevertheless, a trend worthy of attention. However, there seems to be confusion surrounding this issue. Far from being an argument requiring approximation of areas of knowledge, it affirms that there are no clear research pathways, which highlights two issues: firstly, there is a conflict of interests linked to power-knowledge relationships or opportunism; secondly, limitations in terms of context, resources and staff make necessary an exploration of access to and generation of knowledge with more flexible reference frameworks.

Prospects

In terms of prospects, we believe it would be beneficial to carry out another, wider-reaching study of production in the discipline, incorporating journals and conference proceedings. Another future pathway would include widening the analysed period, aiming to compare with figures systematised by the SSO, and reinforcing the results.

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