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Imagen y libros de texto de Historia en Educación Primaria: estudio comparativo a partir de un análisis cualitativo

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Abstract

The aim of this paper is to investigate the possibilities of developing the capacity for historical thinking and visual literacy offered by Spanish textbooks from the 5th and 6th years of primary education based on activities which make use of graphic historical sources. Figurative images and the activities making use of them were selected from the history units contained in 27 school textbooks (from the subjects of Conocimiento del Medio, a subject encompassing social and natural sciences, and social sciences) from two specific periods: those in which the educational laws known as the 'Ley Orgánica General del Sistema Educativo' (LOGSE, 1991-2006) and the 'Ley Orgánica para la Mejora de la Calidad Educativa' (LOMCE, 2013- present) were in force. The teaching materials studied were published by the most widely-used publishers in each of the stages studied in the geographic area of the Autonomous Community of Valencia. The analysis was carried out via a research method combining quantitative (ex post facto) and qualitative (based on conceptual categories) methods applied to four study criteria: the presence and use of figurative images, the quantity and kind of images used for the activities, the level of cognitive complexity of the activities and the relationships of significance between the images and the text contained in the books. The results obtained demonstrate some clear differences between

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the textbooks of the different periods studied, combined with an excessive proportion of purely descriptive and acritical activities, which do not promote the development of the aforementioned capacities. This paper also shows that certain educational routines and traditions, such as the disciplinary code of school history teaching are still present and reflected in practice, thus having a negative influence on educational proposals and impeding the advancement of educational innovation in the field of history teaching.

Key words: history education, textbooks, educational images, visual literacy, historical source, primary education.

Resumen

Esta investigación tiene como objetivo indagar en las posibilidades de desarrollo de las capacidades de pensamiento histórico y de alfabetización visual que ofrecen los libros de texto españoles de 5º y 6º curso de Educación Primaria a partir de las actividades que emplean fuentes históricas icónicas. Se han seleccionado las imágenes figurativas y las actividades que utilizan dichas imágenes en las unidades de Historia de 27 manuales escolares (de las asignaturas de Conocimiento del Medio y Ciencias Sociales) de dos momentos concretos: el periodo de aplicación de la Ley Orgánica General del Sistema Educativo (LOGSE, 1991-2006) y el de la Ley Orgánica para la Mejora de la Calidad Educativa (LOMCE, 2013-actualidad). Los materiales estudiados pertenecen a las editoriales con mayor presencia en cada una de las etapas estudiadas en el ámbito de la Comunidad Valenciana. El análisis se realiza mediante un procedimiento de investigación que combina métodos cuantitativos (ex post-facto) y cualitativos (análisis a partir de categorías conceptuales), y gira en torno a cuatro criterios de estudio: presencia y uso de las imágenes figurativas, cantidad y clase de imágenes empleadas por las actividades, nivel de complejidad cognitiva de las actividades y relaciones de significado entre las imágenes y el texto del libro. Los resultados obtenidos evidencian algunas diferencias entre los manuales de los periodos analizados, combinado con una excesiva proporción de actividades puramente descriptivas y acríticas que no favorecen el desarrollo de las capacidades anteriormente mencionadas. Este estudio también pone de manifiesto la continuidad y reflejo, en los materiales, de ciertas rutinas y tradiciones educativas como el código disciplinar de la Historia escolar, que repercuten en las propuestas didácticas e impiden el avance de la innovación educativa en el campo de la Didáctica de la Historia.

Palabras clave: enseñanza de la historia, libros de texto, imagen didáctica, alfabetización visual, fuente histórica, Educación Primaria.

Introduction

A broad consensus has existed among teachers and educational researchers over the last few decades concerning the fact that learning history should go far beyond the mere memorization of factual contents and that a series of skills should be developed in this process which allow the learner to employ his/her knowledge in an autonomous way (Sáiz, 2011, 2014). In this regard, historical thinking has become a fundamental line of research in the international sphere of history education. This thinking consists of the capacity the student has to learn to represent and attribute meaning to the past, to build his/her own historical knowledge and to use it in order to think about and understand his/her social reality (Lévesque, 2011).

School textbooks exert a strong influence on the development of these skills for many reasons. First of all, they are the most used teaching materials in the primary classroom as far as social sciences are concerned, so much so that some teachers limit themselves to only making use of textbooks in their classes. Furthermore, the symbolism that teachers and, especially, pupils themselves attribute to this resource must be mentioned. For example, pupils relate the teacher's action of opening or closing the book with the beginning or end of the class (Martínez, Valls & Pineda, 2009). In the particular case of history teaching, it should be taken into account that the use of textbooks has been an essential element in the creation and continued existence of the disciplinary code of school history teaching which Cuesta (1997) defines as "a historically configured social tradition which is made up of a set of ideas, values, suppositions and routines which legitimize the educational function of history and which regulate the order of its teaching" (p. 20). Therefore, textbooks have become established over the course of time as the basic tools for the transmission of school knowledge and still present a closed, objective and definitive perspective of historical science which prevents the appearance of alternative or divergent formulations (Valls, 2008).

Of the many elements contained within textbooks, the images included in them are what attract the pupils' attention the most, be it due to the polysemic properties of the iconic representations, their striking formal characteristics (colour, shape, etc.) or the fact that visual stimuli are what transmit the greatest amount of information to modern society (Zunzunegui, 1995). What is more, the vast majority of images contained

in history textbooks are either primary or secondary historical sources and using them appropriately in the classroom is essential in order to promote the active and creative aspect of the construction of knowledge which learning about history allows, something which is inseparable from the development of historical thinking. Working with sources becomes even more relevant if they are used to overcome the simple educational transposition of academic knowledge and, without aiming to exactly imitate the work of the historian, to build true knowledge within the school context (Lee, 2005).

As far as legislation is concerned, the use of images in the teaching of history has been reflected in different ways in the primary education curricula of recent decades, albeit in unequal ways and with different nuances. If we consider, for example, the geographical sphere of our study (the Autonomous Community of Valencia) the Decree Law 20/1992, of 17th February (enacted after the educational law entitled 'Ley Orgánica General del Sistema Educativo' (Government of Spain, 1990, BOE N° 238), hereafter referred to as LOGSE, came into force) establishes as part of its contents the gathering, archiving and classification of historical documents relating to personal, family history and to the historical past, among which photographs, personal documents, etc. are included. In spite of this, when proposing the introduction of historical sources into schoolwork, the decree only makes mention of material written documents.

More recently, the Decree Law 108/2014, of 4th July (which is currently in force and governed by the premises of the educational law entitled 'Ley Orgánica para la Mejora de la Calidad Educativa' (Government of Spain, 2013, BOE N° 295), hereafter referred to as LOMCE) proposes the use of different sources (such as texts, photographs, maps, works of art, etc.) originating from the mass media and from other sources based on digital resources. If we observe these aspects in the legal framework of other Autonomous Communities in Spain (such as the law of 17th March 2015 of the regional government of Andalusia or the Decree Law 119/2015 of the regional government of Catalonia), we can see that few nuances exist in the legal treatment of these contents in other territories. However, although these legal formulations refer to the specific field of history, dealing with images in this, or any other, discipline should always be associated with the visual literacy of the pupils. In this process, as Gómez and López-Martínez (2014) have pointed out, image must be

understood as an educational medium with its own specific language, one in which both the form and the message, the medium and the content, must be taken into account.

The legal regime established in Spain also contemplates, as is to be expected, checks on the part of the educational authorities on the correct treatment of these elements in textbooks. The Royal Decree 1744/1998 (Government of Spain, 1998, BOE N° 212) establishes that the government is not responsible for authorizing the publication of one textbook or another. Rather, it supervises or, later, approves them via an educational inspection, a function which is also assumed by other educational agents (Mahamud and Badanelli, 2016).

Taking this situation into account, we must ask to what degree school textbooks contributed in the past and still do so today in their educational perspectives of history to the development of historical thinking and visual literacy via activities based on images as sources. The analysis of these tasks will enable us to establish the way in which use is made of images of a figurative nature, which, according to the criteria of the editors, are suitable for use in the history classroom.

Images in learning processes and their presence in history and social sciences textbooks

With the passing of time, textbooks and the differing elements of which they consist have undergone great changes until recently the point has been reached in which they have become hugely complex artefacts pursuing an educational objective. Thus, the different textual, paratextual (the expressions which accompany the main text, for example the titles, headings, etc.) and images which they contain have varied greatly over the past two centuries, as have the dynamics and teaching methods which transmit them.

As far as the images contained in teaching materials are concerned, they can be classified into two broad groups according to whether or not they resemble the reality which they are meant to reproduce. Thus, a distinction can be made between those of a figurative nature, (photographs, works of art, drawings, etc.), on which this research is focused, and those of a schematic nature (maps, graphs, diagrams, etc.). Although both can contribute towards the development of historical

thinking, we consider that there are great differences in the way in which the information is transmitted and, as a consequence, in the learning process associated to each type.

Nowadays, the inclusion of images in teaching approaches is not questioned, as its positive impact has been demonstrated in all the fields of formal education, particularly in studies such as those of Mayer (2005) and Scheiter and her team (Schüler, Arndt and Scheiter, 2015), which have proved the benefits of combining text and complementary images with the aim of creating more complex and significant mental representations in controlled experiments with learners, in this case university students.

However, the fact that learners have received images in traditional school textbooks which were commonly relegated to the background due to the scarce educational use made of them must be taken into account (Escolano, 2002). The studies of Valls (2007, 2008) and Cuesta (1997) on Spanish history textbooks of the last two centuries prove that images have always been perceived as illustrations or decorative elements which are subordinate to the text of the book and not true historical sources. In spite of this, Valls (2008) does recognize some advances in recent decades as, slowly but surely, greater use has been made of images in history textbooks and progress has been made in using them more as a documentary element.

From an overall point of view, this lack of value attributed to graphic elements may be due to the characteristics of the type of images which have been predominant in our culture. Thus, the figurative realist tradition has led to the belief that when representing reality with a high degree of similarity, these images already directly transmit true information, which, in turn, has led to overlooking the need for analysing their communicative strategies and the way in which visual discourse functions (Zunzunegui, 1995).

As far as the great diversity of representations included in history textbooks is concerned, working with each type of image implies a series of particularities which can be made use of in order to focus attention on the cultural, social and economic context in which they were created. As Umberto Eco (1979) points out, "The iconic code establish either a correlation between a graphic sign-vehicle and an already coded perceptual unit [...]" (p. 208). Therefore, representing an element involves carrying out a reinterpretation of what is meant to be shown, assuming

the cultural perspective from which the image is generated, a perspective in which certain features have been chosen in order to define the objects shown and, thus, being able to recognize the content which is associated with them.

With regard to this, the drawings made by the publishers' illustrators (one of the most frequently used representations in primary school textbooks) form part of this type of representation created in the current context. Although, to a certain degree, it may be inevitable to resort to this type of representation due to the scarcity of images created in some of the historical eras to be studied, especially the earliest periods, authors such as Valls (2007) propose as an alternative the use of representations created from an archaeologizing point of view, images created in the present but whose content is based on scientific evidence. This perspective guarantees that what is depicted is not a mere invention but that it is based on relics recuperated from the past.

On the other hand, practically all the images contained in textbooks are, to a certain extent, associated with some kind of text, be it the academic text written by the authors, the footnotes offering information on the images, the questions posed regarding the content of the picture, etc. Combining these resources offers great possibilities when it comes to interpreting their content, even if the primary education textbooks of recent years have been characterized by not associating any kind of textual information to their historical representations or, if they have done so, it has been clearly insufficient (Gómez and López-Martínez, 2014).

The use of sources in the development of historical thinking

In the primary education system historical contents have, traditionally, been relegated to a secondary role, largely due to the wide acceptance of Piaget's theories, which consider that these contents are not appropriate for this stage of education (Trepát and Comes, 1998). However, thanks to the contributions of authors such as Vigotsky and to later studies, such as those of Calvani (1988), on learning about time by very young children, modifications have begun to be introduced and Piaget's ideas have come to be questioned. Along the same lines as studies on historical thinking, research such as that of Lee (2005), Chapman (2011), Cooper (2011) and Levstik and Barton (2001), among others, has proved that even the

youngest schoolchildren do indeed have the capacity to develop historical learning processes adapted to their own possibilities and their immediate realities.

Current research indicates that, with the aim of developing historical thinking, textbooks should include the basic principles which characterize historical research and demonstrate the possibilities and limits of this type of knowledge (Valls, 2008). In order to achieve this, the past can be presented in the classroom as an open reality to be investigated (Sáiz, 2014), following an educational model in which a research community is created, one in which the children play an active role and are permitted to rehearse, elucidate, revise and communicate their own results (Levstik and Barton, 2001).

This model, reflected in school manuals, would suppose that textbooks consider the active and productive side of what Rüsen (1997) calls “historical consciousness”; that is to say, conscience of the narrative which interprets the past in order to fulfil the function of orientation in modern life. In this regard, the legislative changes made concerned education at that beginning of the 1990s in Spain (such as the LOGSE educational reform) stimulated the performance of tasks which supposed command of procedures and techniques for each subject with the aim of transmitting more than mere pre-established knowledge to students for them to memorize (Valls, 2008), thereby promoting the capacity-building nature of the knowledge disciplines. As far as the LOMCE educational reform is concerned, it encourages different ways of learning and confers more weight upon factual knowledge (Parra, Colomer and Sáiz, 2015). Indeed, the study of the type of tasks promoted by the textbooks for each educational reform is an interesting topic for research if we wish to consider the evolution which has taken place and, particularly, if we wish to analyse any possibilities for improvement.

Therefore, it must be taken into account that this type of historical knowledge is not innate and, as a result, it is necessary to start to practice these abilities from an early age (Ortuño, Ponce and Serrano, 2016) in such a way that, progressively, the student develops the capacities which will allow him/her to confront the historical questions with which he/she is presented in a critical manner (Cooper, 2011).

Over the course of the last decade, a number of studies have appeared in Spain concerning the role of the activities and sources presented in school textbooks, relating them with the development of historical

thinking. Sáiz (2011, 2014), for secondary education books, and Sáiz and Colomer (2014), for certain primary education textbooks from the Autonomous Community of Valencia, have determined that reproductive learning with a low degree of cognitive complexity (according to the taxonomy adopted by these authors to which we will refer in the section entitled 'Method') predominates over other tasks, which require the practical application of capacities which aid the development of historical thinking.

In accordance with these studies, Gómez (2014) investigates the cognitive complexity of the activities, Rodríguez-Pérez and Simón (2014) link the resources of textbooks to the formation of national identity and the analytical tool designed by Gómez and López-Martínez (2014) examines the typology of resources, the function of the images and the information provided on them in textbooks from the region of Murcia. In Catalonia, Gámez-Ceruelo (2016) also investigates (among other things) the role of images in textbooks but, in this case, relating it to the curriculum and the ideas of trainee teachers whereas Sáez-Rosenkranz (2016) evaluates the knowledge generated from these activities. Likewise, Cuenca-López and López-Cruz (2014) focus on the representation of heritage in textbooks from Andalusia.

This research aims to look into the possibilities of developing historical thinking and visual literacy offered by social science textbooks from the 5th and 6th years of primary education (in their units on history) printed by the most important publishers in the community of Valencia and edited under the rules of the LOGSE and LOMCE education regimes. Thus, we propose an analysis of the activities which pose questions based on figurative graphic resources, that is to say, which propose exercises on historical sources of an iconic-figurative nature, as well as an analysis of the resources themselves. In order to achieve this, we propose the following hypotheses:

- In units on history, there are few opportunities to work with images and, in addition to promoting their decorative use, many of the activities are based on infantilized drawings and not on primary sources.
- Most of the activities based on images present a low degree of cognitive complexity and the information transmitted by these resources reiterates the text which accompanies them.

Method

The analysis was carried out based on a research method combining quantitative and qualitative approaches. According to Bisquerra's classification (2014), the quantitative aspect of the study can be catalogued as *ex post facto* research. More specifically, it consists of a transversal development study with the aim of defining the evolution of certain variables over the course of two determinate periods of time and analysing the presence of these variables in materials originating in certain significant moments of this time period.

As for the qualitative aspect of the study method, we take as a starting point the generation, in an inductive manner, of a series of conceptual categories which are integrated in each of the four criteria of analysis employed.

This method is considered to be the most appropriate in terms of both the object and the objective of the study as it allows us to look into the way in which the different analytical criteria contained in textbooks are presented, in addition to comparing the results obtained in materials from two different times and which have been created by different publishing houses. However, one limitation of this method is that it does not achieve a complete analysis of the development of historical thinking but of the proposals of the teaching materials.

Sample

The sample selected is descriptive rather than probabilistic and, in addition, is representative of the most widely used textbooks as it includes books from all the main publishers for each period analysed in the Autonomous Community of Valencia. According to the study of Segura (2001) on the most widely-used books during the application of the LOGSE educational law (Santillana, Vicens Vives, Anaya and SM) and the work of Bel, Colomer and Valls (2016) on the use and presence of books following the application of the LOMCE reform (Santillana, Vicens Vives, Anaya, SM, Bromera and Edelvives), copies of books from the most widely-used publishing houses were selected. In spite of the fact that the books analysed were taken from the Autonomous Community of Valencia, the data obtained can be extrapolated, to a certain degree, to

the rest of the autonomous communities of Spain, due to the fact that five of the six publishers studied are present in the rest of the State and, as Segura (2001) has shown, the changes applied by the publishers to the books for different communities are minimal.

The sample, therefore, consists of the history units of 27 textbooks intended for the 5th and 6th years of primary education for the subject known as Conocimiento del Medio (a subject encompassing social and natural sciences) (for books published under the LOGSE law) and social sciences (for those edited after the application of the LOMCE law). The database generated at the end of the study is made up of 2617 entries, of which 1157 are the activities analysed (based on 422 images) while the rest (1460) correspond to figurative images which appear in the textbooks but about which no questions are posed.

Therefore, the dependent variables are the textbooks, activities and images presented, whilst the independent variables are the four analytical criteria or study factors which are detailed below.

With the aim of managing the sample more effectively and making the later discussion of the results easier, the decision was taken to divide the materials analysed into three groups depending on the legal regime under which they were designed, along with the policies of publication of the publishing companies: the first phase of the LOGSE (1991-2002), the second phase of the LOGSE (2002-2006) and the LOMCE (2013 to the present).

Instruments

With the aim of meeting the aforementioned objectives, the decision was taken to design an analytical application using the *FileMaker Pro* version 10.0 software, which made it possible to generate a database into which the results of the analysis of the teaching materials could be uploaded. This file was divided into four sections, equivalent to the four study criteria and to the two hypotheses.

TABLE I. Type of image used for the activities

| TYPE | DESCRIPTION |
|---------------------------------------|--|
| Caricature as a primary source | Including contemporary caricatures from the different historical events/periods studied. |
| Poster | Including, among others, those with political and cinematographic content or those commemorating a particular event. |
| Realistic drawing | Referring to pictures created by illustrators maintaining a style and content which, although they may not have a totally archaeologizing perspective, an attempt has been made in this direction. |
| Infantilized drawing | This category contains drawings created by illustrators which show an idealistic or infantilized view of the historical moments depicted. |
| Photograph | Including images taken in the historical period being studied. |
| Film stills | Scenes extracted from feature films. |
| Combined image | Those in which elements of different kinds of representations are used (in textbooks, the most common example to be found is that of photographs on which different characters are drawn). |
| Object of material culture | Representations of objects and technology created by humans in the past. |
| Work of art | This includes, in addition to paintings from the Modern Age and Contemporary Era, others such as rock art and illustrations from medieval codices. |
| Architectonic heritage | Images of constructions built by humans in the past. On the whole, they are current photographs taking these constructions as the central element. |
| Others | Including resources which appear occasionally, such as the covers of books or images of sculptures. |

Source: Compiled by authors.

The first section (*The presence and use of figurative images in the activities*) includes the basic information on the location of the activity or image analysed, as well as whether the graphic resources which appear are used by any questions or if they merely play an illustrative or decorative role.

The second section (*Quantity and type of images to which the activity is associated*) concerns the quantification and differentiation between the different types of figurative images which can be found in the textbooks (Table I) and which, be they primary or secondary sources, serve as the basis for some of the activities proposed for the pupils.

The third section (*Cognitive complexity of the proposed activity*) is based on the line of study followed, in recent years, by Sáiz (2011, 2014) and on his proposal of analysis for secondary education textbooks. In this way, a categorization of activities is established based on the study of the level of knowledge and information processing which is required of the learners in order to be resolved, taking the taxonomy of Bloom's stages of learning objectives as revised by Anderson and Krathwohl (2001) as a reference point. This categorization and the way in which it has been adapted for this research for tasks with figurative images enables us to divide the activities proposed into three groups: low, medium and high cognitive complexity (Table II).

The fourth section (*Relationship of significance which may exist between the image and the text to which it can be (and normally is) associated*) analyses the complementarity between sources (both primary and secondary) based on texts and images with regard to the information which they transmit. This study criterion and its categories (Table III) have been elaborated inductively, although they are based on the combined use of resources described by Sáiz (2011) and, particularly, on Mayer's (2005) contributions to the theory of multimedia learning on the relationships which may exist between image and text.

TABLE II. Levels of cognitive complexity of the activities proposed

| LEVEL OF COGNITIVE COMPLEXITY | DESCRIPTION |
|-------------------------------|---|
| Low | Activities which suppose automatable tasks which do not require alternative or creative solutions but rather the repetition of a certain number of actions in order to resolve a series of closed questions about the resource. This implies locating and reproducing in a literal manner the information provided, superficially describing the sources or copying explicit aspects from the text in those cases in which the question only uses the image to refer to the text contained in the book. |
| Medium | Tasks which require the comprehension of the content of the resource in a superficial manner, inviting the learner to summarize, synthesize or paraphrase the information transmitted by the image, as well as identifying and stating its main ideas. In addition, activities are including which propose questions referring to the meaning or usefulness of the source or of the elements which appear in it, in a literal sense and which lead to a closed answer. |
| High | Activities which imply the activation of creative strategies in order to deal with the source, relating the learner's prior knowledge with the information transmitted by the image and encouraging them to activate inferences. This supposes the practice of skills regarding contextualization and comprehension of temporality and the subjectivity of the person interpreting the source. Carrying out these tasks implies resolving questions which lead to a relational or intertextual use of the information provided by one or more sources and also doing exercises which require the writing of reports and which place relevance on the author of the source and his/her influence on the content he/she provides. |

Source: Compiled by authors based on modifications applied to Sáiz's (2011 and 2014) analytical categories.

TABLE III. Types of relationships between images proposed for activities and texts

| TYPE OF RELATIONSHIP | DESCRIPTION |
|---|--|
| The image is not associated to a text | The image on which the activity is based is totally isolated from any text to which it could be linked directly. The most common examples of this are revision activities at the end of each unit (pages on which all of the space is occupied by revision exercises and texts are rare or do not appear). |
| The image is associated to an external resource | This includes activities based on images which are also supported by materials other than the textbook, such as an atlas which may accompany the textbook, digital resources, etc. |
| The image is associated but without a significant relationship | The image or images in question are linked to a text but each element deals with a different topic. |
| Reiterative information | The text and image may be directly linked, although no relationship between the two is mentioned explicitly and the data provided by both sources is similar to such an extent that, in many cases, the activity can be completed by literally copying the text and ignoring the image. |
| Complementary information | The text and image are directly linked without the need to mention any relationship between them and, above all, the information provided by each element is useful to a greater or lesser degree for the completion of the activity. |

Source: Compiled by authors.

Procedure

The analytical procedure consisted of identifying and registering the figurative images on the database according to whether they were made use of or not in the activities of the textbook. If they were, we proceeded to note down the question, describe the image and evaluate the suitability of the said exercise to the four study criteria.

Results

In this section, the main results obtained for each of the analytical criteria on which this research is based will be presented. In order to avoid a loss of information by grouping the data into very broad sets to display the results, we have taken the decision to compile tables in which the presence of each of the categories in all the textbooks are reflected with the highest possible level of detail, presenting the results for each one, along with their total proportions.

TABLE IV. The presence and use of figurative image for activities

| LOGSE (1 st STAGE) | | | | LOGSE (2 nd STAGE) | | | | LOMCE | | | |
|--|------------|------------|------------|-----------------------------------|------------|------------|------------|-----------------------------------|------------|-------------|-------------|
| TB | IU | INU | T | TB | IU | INU | T | TB | IU | INU | T |
| Santillana 5 th (1998) | 28 | 52 | 80 | Santillana 5 th (2002) | 15 | 69 | 84 | Santillana 5 th (2015) | 14 | 37 | 51 |
| Santillana 6 th (1995) | 18 | 96 | 114 | Santillana 6 th (2002) | 4 | 47 | 51 | Santillana 6 th (2015) | 10 | 64 | 74 |
| Anaya 5 th (1994) | 21 | 18 | 39 | V. Vives 5 th (2002) | 31 | 44 | 75 | V. Vives 5 th (2015) | 46 | 84 | 130 |
| Anaya 6 th (1995) | 17 | 22 | 39 | V. Vives 6 th (2003) | 29 | 46 | 75 | V. Vives 6 th (2015) | 24 | 98 | 122 |
| Anaya 6 th (1999) | 13 | 32 | 45 | Anaya 5 th (2003) | 12 | 31 | 43 | Anaya 5 th (2014) | 14 | 29 | 43 |
| SM 5 th (1993) | 5 | 57 | 62 | Anaya 6 th (2002) | 11 | 25 | 36 | Anaya 6 th (2015) | 14 | 32 | 46 |
| SM 6 th (1995) | 7 | 65 | 72 | SM 5 th (2002) | 10 | 45 | 55 | SM 5 th (2014) | 23 | 65 | 88 |
| | | | | SM 6 th (2004) | 8 | 90 | 98 | SM 6 th (2015) | 13 | 92 | 105 |
| | | | | | | | | Bromera 5 th (2014) | 10 | 67 | 77 |
| | | | | | | | | Bromera 6 th (2015) | 11 | 54 | 65 |
| | | | | | | | | Edelvives 5 th (2014) | 6 | 49 | 55 |
| | | | | | | | | Edelvives 6 th (2015) | 8 | 50 | 58 |
| T | 109 | 342 | 451 | T | 120 | 397 | 517 | T | 193 | 721 | 914 |
| TB = Textbook, IU = Images used by the activities, INU = Images not used by the activities, T = Total. | | | | | | | | T | 422 | 1460 | 1882 |

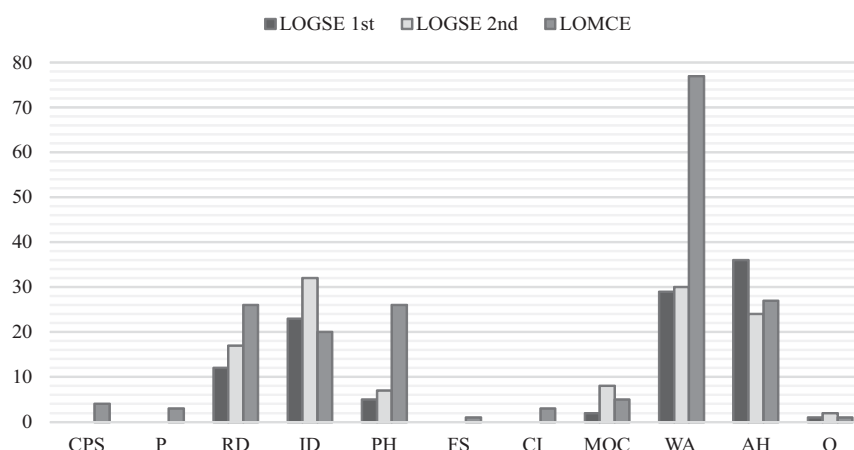
Source: Compiled by authors based on data extracted from textbooks.

Table IV presents the proportions of the figurative images used and not used in the activities, with this relationship being clearly unequal in the three periods. Significant differences can be observed between the different publishers, in such a way that there are strong contrasts between the number of tasks proposed by one publisher or another. Indeed, it is interesting to note that the Vicens Vives textbooks analysed offer many more activities based on images whereas other companies, such as SM, Edelvives and Bromera, have very few, in spite of the large number of graphic resources they contain.

However, independently of the year or the publisher in question, the number of images used in the activities is always fewer than those which are not used for any educational objective if we take the total number of images included in each book (with the exception of the 1994 Anaya book for the 5th year) as a point of reference. Indeed, in most cases, this difference is extremely pronounced. By observing the results obtained from the complete sample, it can be seen that, although most of the current books have increased the number of images slightly, this has not occurred in the same proportion for the number of activities proposed relating to the images and, therefore, the decorative use of images still predominates. The lack of will on the part of the editors to propose activities based on images proves that the academic text of the books is still presented (as an essential characteristic of the disciplinary code) as the main source of information, the knowledge of which is most relevant for learning about the historical past.

However, in spite of the fact that we can establish a difference between the images used and those which are not and value the former more than the latter, we must bear in mind that, although the majority of them are not made use of and no information is provided on their origin, authorship, content, etc., they are still historical documents (Valls, 2007) and, therefore, possess an interpretative wealth in terms of content and meaning which is not being sufficiently taken advantage of.

GRAPH I. Type of resource used in activities – All stages



CPS = Caricature as a Primary Source, P = Poster, RD = Realistic Drawing, ID = Infantilized Drawing, PH = Photograph, FS = Film Still, CI = Combined Image, MOC = Material Object of Culture, WA = Work of Art, AH = Architectonic Heritage, O = Other.

Source: Compiled by authors based on data extracted from textbooks.

As far as the type of images used for the activities is concerned, Graph I shows the way in which the use of graphic resources has varied. Whereas, during the entire period in which the LOGSE law was in force (1st and 2nd stages), the textbooks tended to base their activities on sources with infantilized drawings (23 and 32 respectively), works of art (29 and 30) and elements of architectonic heritage (36 and 24), after the LOMCE law came into force, the publishing houses have invested in incorporating tasks which employ, above all, resources such as works of art (77), photographs (26), realistic drawings (26) and images of architectonic heritage (27), as well as including, along with these aspects, images of a more diverse typology.

The inclusion of works of art in Spanish history textbooks is a characteristic which has been present since the 1970s (Valls, 2008). They usually consist of rock art, illustrations of medieval codices and, above all, works of art from the Modern and Contemporary Ages representing

battle scenes or characters from the nobility. With regard to how these resources, and other very different types, such as drawings, are dealt with, both primary and secondary sources are used without any kind of differentiation, without taking into account the individual characteristics of each one as contemporary (or not) resources of the period being studied. In addition, the drawings are reinterpretations created from the cultural point of view which is inherent to the society in which they are generated (Eco, 2000) and, therefore, if we wish to employ them as a basis for building historical knowledge, they will need to be dealt with correctly, in accordance with their condition as secondary sources. This is especially relevant when we can observe that the activities based on infantilized drawings have an extremely high degree of presence in all of the educational stages analysed, to the point that they are the most commonly used resources in some textbooks of the second stage of the LOGSE.

As far as photographs are concerned, their use has been consolidated in many current (LOMCE) textbooks as a relevant means of dealing with historical contents. However, in the way they are used there is no reflection about any factor which may have influenced the message which they transmit, for example their authorship, their context, etc. or any other aspect affecting their meaning based on the inference of persuasive strategies (Zunzunegui, 1995).

Evaluating the cognitive complexity of activities based on images enables us to determine the type of procedures required of the learners, the knowledge developed from these tasks and, definitively, the type of learning being promoted in the learners by way of these activities. Table V shows that tasks with a low level of cognitive complexity are the most common type in the majority of the sample and, therefore, in these textbooks, procedures inviting the learners to approach the sources in a poor and superficial manner predominate, as do the descriptive use of the sources.

By comparing the two stages of the application of the LOGSE law, a certain tendency can be observed to increase the number of activities with a medium level of complexity. Comparing the results obtained with current books (LOMCE), we can see that practically all textbooks today have increased the number of activities with a high level of cognitive complexity, in spite of the fact that they continue to be in the minority when compared to the other two categories. Furthermore, activities with

a low level of complexity have been drastically reduced and those with a medium level of complexity have increased, although the proportions of each one with regard to the others continue to be similar.

TABLE V. Activities according to their cognitive complexity

| LOGSE (1 st STAGE) | | | | | LOGSE (2 nd STAGE) | | | | | LOMCE | | | | |
|---|-----|-----|----|-----|-----------------------------------|-----|-----|----|-----|-----------------------------------|-----|-----|----|------|
| TB | L1 | L2 | L3 | T | TB | L1 | L2 | L3 | T | TB | L1 | L2 | L3 | T |
| Santillana 5 th (1998) | 90 | 29 | 2 | 121 | Santillana 5 th (2002) | 11 | 18 | 3 | 32 | Santillana 5 th (2015) | 35 | 22 | 3 | 60 |
| Santillana 6 th (1995) | 109 | 16 | 2 | 127 | Santillana 6 th (2002) | 0 | 4 | 1 | 5 | Santillana 6 th (2015) | 21 | 12 | 9 | 42 |
| Anaya 5 th (1994) | 27 | 20 | 3 | 50 | V. Vives 5 th (2002) | 49 | 33 | 2 | 84 | V. Vives 5 th (2015) | 64 | 24 | 9 | 97 |
| Anaya 6 th (1995) | 18 | 18 | 3 | 39 | V. Vives 6 th (2003) | 61 | 48 | 5 | 114 | V. Vives 6 th (2015) | 28 | 22 | 9 | 59 |
| Anaya 6 th (1999) | 4 | 16 | 2 | 22 | Anaya 5 th (2003) | 9 | 10 | 0 | 19 | Anaya 5 th (2014) | 12 | 8 | 0 | 20 |
| SM 5 th (1993) | 2 | 9 | 0 | 11 | Anaya 6 th (2002) | 8 | 16 | 1 | 25 | Anaya 6 th (2015) | 6 | 17 | 7 | 30 |
| SM 6 th (1995) | 1 | 8 | 0 | 9 | SM 5 th (2002) | 4 | 7 | 0 | 11 | SM 5 th (2014) | 19 | 30 | 7 | 56 |
| | | | | | SM 6 th (2004) | 2 | 4 | 2 | 8 | SM 6 th (2015) | 23 | 16 | 6 | 45 |
| | | | | | | | | | | Bromera 5 th (2014) | 11 | 6 | 1 | 18 |
| | | | | | | | | | | Bromera 6 th (2015) | 3 | 5 | 4 | 12 |
| | | | | | | | | | | Edelvives 5 th (2014) | 4 | 9 | 3 | 16 |
| | | | | | | | | | | Edelvives 6 th (2015) | 6 | 16 | 3 | 25 |
| T | 251 | 116 | 12 | 379 | T | 144 | 140 | 14 | 298 | T | 232 | 187 | 61 | 480 |
| TB = Textbook, L1 = Low Cognitive Level, L2 = Medium Cognitive Level, L3 = High Cognitive Level, T = Total. | | | | | | | | | | T | 627 | 443 | 87 | 1157 |

Source: Compiled by authors based on data extracted from textbooks.

The results obtained are very similar to those analysed by Sáiz and Colomer (2014) regarding the units on contemporary history in textbooks

for the 5th and 6th years of primary education, in spite of the fact that there are certain differences in the proportion of activities with a high level of complexity. This is perhaps derived from the fact that their research analysed all tasks independently of the resource on which they were based. However, when comparing the data with studies such as that of Sáiz (2014) on activities with historical sources in secondary education textbooks, it can be observed that the results broadly coincide.

Attributing so much importance to the superficial description of the sources supposes encouraging learners to consider them as sterile objects which cannot make significant contributions to the construction of historical knowledge. Furthermore, giving so much priority to closed and literal questions reduces the enormous possibilities offered by historical learning for reflection and discussion on ethical, social or cultural aspects. In this regard, one example, among many others, of the way in which a historical document can be failed to be taken advantage of (not only for its low level of cognitive complexity) can be found in the Edelvives textbook for the 6th year of primary education (Moreno, Llorente and Rodríguez, 2015). When discussing the 19th century in Spain, one of the activities proposed regarding works of art is based on the painting entitled “La niña obrera” (The working girl) (1889) (Figure I), by Joan Planella y Rodríguez. The task in question is limited to the formulation of some superficial questions on the Spanish system of production of the era and the importance of the textile industry. However, although these are issues which can be dealt with based on the painting, we consider that work on an image such as this one cannot ignore such aspects as child labour, the working conditions of women and workers’ rights.

On the other hand, an example of a more appropriate use of graphic historical sources can be observed in certain tasks put forward in the 6th year textbook published by Vicens Vives (García, Gatell and Batet, 2015) regarding two scenes of the Spanish Civil War: an aerial photograph taken by the insurgent side following the bombardment of Guernica by the German and Italian air forces (Figure II) and a photograph taken by Robert Capa showing the moments prior to a bombardment in Bilbao (Figure III). In this case, the activities also begin by proposing the description of the images but they go further by suggesting a reflection on attacks on civilian populations during armed conflicts.

FIGURE I. Painting by Joan Planella y Rodríguez: “*La niña obrera*” (The working girl). Oil on canvas, 1889.



Source: Museum of the History of Catalonia (http://www.mhcat.cat/col_leccio/contenedor_el_museu_presenta/el_museu_presenta/la_nena_obra)

FIGURE II. Anonymous photograph: "28 de abril de 1937". Photograph, 1937.



Source: DokuArt. Biblioteca y Centro de Documentación (<http://catalogo.artium.org/dossieres/4/guernica-de-picasso-historia-memoria-e-interpretaciones-en-construccion/el-guernica/el-b>)

FIGURE III. Photograph taken by Robert Capa: "Bilbao, May 1937". Photograph, 1937.



Source: Museo Nacional Centro de Arte Reina Sofía (<http://www.museoreinasofia.es/coleccion/obra/bilbao-mayo-1937-1>)

TABLE VI. The relationship between images and activities with the text

| LOGSE (1 st STAGE) | | | | | | | LOGSE (2 nd STAGE) | | | | | | | LOMCE | | | | | | |
|---|-----|----|----|-----|----|-----|-----------------------------------|-----|----|----|----|-----|-----|-----------------------------------|-----|----|----|-----|-----|------|
| TB | NA | AE | AS | RI | CI | T | TB | NA | AE | AS | RI | CI | T | TB | NA | AE | AS | RI | CI | T |
| Santillana 5 th (1998) | 31 | 0 | 0 | 50 | 40 | 121 | Santillana 5 th (2002) | 25 | 0 | 0 | 2 | 5 | 32 | Santillana 5 th (2015) | 22 | 2 | 0 | 22 | 14 | 60 |
| Santillana 6 th (1995) | 19 | 1 | 0 | 101 | 6 | 127 | Santillana 6 th (2002) | 4 | 0 | 0 | 1 | 0 | 5 | Santillana 6 th (2015) | 8 | 2 | 0 | 13 | 19 | 42 |
| Anaya 5 th (1994) | 18 | 0 | 2 | 12 | 18 | 50 | V. Vives 5 th (2002) | 49 | 3 | 0 | 18 | 14 | 84 | V. Vives 5 th (2015) | 9 | 3 | 3 | 49 | 33 | 97 |
| Anaya 6 th (1995) | 24 | 0 | 0 | 7 | 8 | 39 | V. Vives 6 th (2003) | 20 | 0 | 1 | 20 | 73 | 114 | V. Vives 6 th (2015) | 5 | 0 | 0 | 22 | 32 | 59 |
| Anaya 6 th (1999) | 16 | 0 | 0 | 0 | 6 | 22 | Anaya 5 th (2003) | 10 | 0 | 0 | 6 | 3 | 19 | Anaya 5 th (2014) | 6 | 2 | 1 | 1 | 10 | 20 |
| SM 5 th (1993) | 2 | 0 | 0 | 2 | 7 | 11 | Anaya 6 th (2002) | 5 | 0 | 0 | 7 | 13 | 25 | Anaya 6 th (2015) | 16 | 0 | 0 | 4 | 10 | 30 |
| SM 6 th (1995) | 6 | 0 | 0 | 0 | 3 | 9 | SM 5 th (2002) | 7 | 0 | 0 | 3 | 1 | 11 | SM 5 th (2014) | 30 | 1 | 0 | 6 | 19 | 56 |
| | | | | | | | SM 6 th (2004) | 6 | 0 | 0 | 1 | 1 | 8 | SM 6 th (2015) | 13 | 0 | 0 | 8 | 24 | 45 |
| | | | | | | | | | | | | | | Bromera 5 th (2014) | 4 | 0 | 0 | 5 | 9 | 18 |
| | | | | | | | | | | | | | | Bromera 6 th (2015) | 7 | 0 | 0 | 0 | 5 | 12 |
| | | | | | | | | | | | | | | Edelvives 5 th (2014) | 16 | 0 | 0 | 0 | 0 | 16 |
| | | | | | | | | | | | | | | Edelvives 6 th (2015) | 17 | 0 | 0 | 1 | 7 | 25 |
| T | 116 | 1 | 2 | 172 | 88 | 379 | T | 126 | 3 | 1 | 58 | 110 | 298 | T | 153 | 10 | 4 | 131 | 182 | 480 |
| TB = Textbook, NA = Not Associated to any text, AE = Associated to an External resource (atlas, website, etc.), AS = Associated to a text but without a significant relationship, RI = Reiterative Information, CI = Complementary Information, T = Total. | | | | | | | | | | | | | | T | 395 | 14 | 7 | 361 | 380 | 1157 |

Source: Compiled by authors based on data extracted from textbooks.

Table VI shows the data obtained by studying the relationships between the images used in the activities and the texts of the book, taking as a reference point the questions of the activities concerned and the type of task proposed. First of all, it should be highlighted that in a large proportion of cases the image on which the questions are based is not associated to any text in either an explicit or implicit way. The large majority of these cases are found in the opening or closing sections of each unit, in which it is common to propose activities which are not supported by any kind of textual resource.

The results show that another aspect worthy of note concerns the reiterative and complementary relationships between the two resources. Of these types of relationships, the latter are of interest as they form the basis for being able to develop multimedia learning processes (Schüler et al., 2015). In a general way, it can be seen that the results tend to vary depending on the publishing company being studied, although the materials for the LOMCE reform do show a proportional increase in the number of cases in which the information originating from texts and images can be complemented. In spite of this fact, the majority of our sample shows many tasks in which the content is repeated by both elements, thus leading to a negative repercussion when carrying out the activities.

Conclusions

Over the course of the last few years, many different studies have been carried out, such as those of Levstik and Barton (2001), Cooper (2011) and Chapman (2011) which prove that children in primary education are capable of developing cognitive categories linked to historical thinking but, in order to do so, they must put different procedures and ways of working into practice. Traditional procedures consider the learner to be a passive subject in the learning process and confer upon the learner the function of receiver of a set of closed knowledge which must be memorized. In this regard, working on historical sources is presented as a good option for developing such thinking, particularly based on figurative images, which have a strong presence in school textbooks; the most commonly used teaching materials.

Regarding the two hypotheses which have guided this study, we can state that they have been partially confirmed. On the one hand, part of the first hypothesis has been confirmed as the low proportion of activities using figurative images shows that these resources mainly play a decorative role or merely complement other elements of the book, recalling the use of images in traditional school textbooks. This situation is in contrast with the ideas proposed by authors such as J. Rüsen (1997), among others, who are of the opinion that working with historical sources should always predominate over the academic texts contained in textbooks.

On the other hand, as far as the type of images used is concerned, the second part of the first hypothesis is only partially confirmed in that, although many of these resources are infantilized drawings, they do not represent the majority in the textbooks of the three stages studied. Such a recurring use of drawings bears relation to the age of the learners (10-12 years of age) at whom the books are aimed. However, consideration should be given to whether it is preferable to use resources of this type (which attract more attention) and ignore the fact that they can lead to serious distortions of information, as can occur when reinterpreting scenes created from a symbolic universe which is different to the moment or culture represented (Eco, 2000; Zunzunegui, 1995). It should also be considered whether it is preferable to use representations created from an archaeologizing perspective, as has been defended in this study, in those situations in which there are no primary sources and to use other strategies to motivate the learner which do not prejudice learning, for example leading them to fall into anachronisms.

As far as the second hypothesis is concerned, its first part, stating that the majority of activities based on images present a low level of cognitive complexity, has been confirmed as practically all the textbooks of the sample have exercises of this type in which purely descriptive tasks predominate over any other kind. In spite of the fact that the description of graphic sources is a fundamental step towards working on them and asking questions about them in greater depth, focusing too much on this strategy may lead to neglecting the development of other, more important, skills. The second part of this hypothesis (the information of images and texts is reiterative), has been partially concerned given the majority of complementary relationships between text and images, even if there are a large number of cases in which the same information is repeated in both resources.

Definitively, the situation presented in this study shows the poor level of initiation in dealing with historical resources received by the majority of pupils finishing primary education in the period and geographic area studied. This is especially true if we take into account the fact that this situation is present following many years of schooling working only with textbooks, leading to a lack of development of historical thinking and visual literacy partly derived from these teaching methods.

Indeed, the fact that we have not found very significant differences in the majority of study criteria applied to textbooks subject to the different

legal regimes proves that changes to educational laws have less influence on history textbooks than the traditions and school routines associated to this subject. The influence of the disciplinary code of school history, as the origin of these traditions and routines, continues to be a determining factor in the educational proposals of the mainstream publishers, who promote textbooks which still prioritize factual information over the development of critical and reflexive procedures applied to historical resources.

As far as the limitations of this study are concerned, the historical content of the images analysed and their role in the construction of collective identities has not been taken into consideration. These aspects are possible future lines of research which could be related to the type of activities proposed using these images. In relation to this, the use made by textbooks of schematic representations, such as maps and graphs (other kinds of resources which must be worked with in order to develop historical thinking), has not been researched. In addition, we also have the option of broadening the sample to include the analysis of textbooks edited under the educational law entitled 'Ley Orgánica de Educación' (LOE, 2006-2013). All of these aspects would enable us to evaluate the study of images as fundamental resources in teaching and learning processes, particularly in the field of history teaching.

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