Emotional processes of reading and learning in an illustrated non-fiction book and in a textbook

Procesos emocionales de la lectura y el aprendizaje en un libro ilustrado de no-ficción y en un libro de texto

在非虚构绘本书籍和教科书中阅读和学习的情感过程

Эмоциональные процессы чтения и обучения в нехудожественной книге с иллюстрациями и в текстовом учебнике

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Abstract

The consideration of the emotional processes of learning is a growing didactic line, as well as the edition of nonfiction illustrated books for children and young readers. The “new non-fiction” shows a hybridisation of genres, textual structures and semantic codes. Its careful format, interactive resources and abundant illustrations add aesthetic and playful components to reading and learning, while still offering rigorous content. These characteristics distinguish them from informative books and, above all, from textbooks. To what extent do they also add important emotional components to the cognitive processes of learning, usually prioritized? Which of its features create and reinforce “opportunities for learning”?

Using the criteria of the Orbis Pictus Award Committee, we analysed a nonfiction illustrated book about ancient Egypt and contrasted it with the didactic unit of a 1st ESO book on the same subject.

The results show that the organization, design and style of the nonfiction work make information attractive, stimulate the attitude of inquiry, creativity and play, reinforce the construction of meaning through recursive reading and fuse the cognitive and emotional components of reading and learning, far from the mere assimilation of informative content.

In conclusion, the nonfiction work turns learning into a vivid experience, as compared to the more expository and cold approach of the textbook.

Keywords: emotional processes of learning, reading processes, nonfiction illustrated books, textbooks.

Resumen

La consideración de los procesos emocionales del aprendizaje constituye una línea didáctica en auge, al igual que la edición de libros ilustrados de no ficción para lectores infantiles o juveniles. La “nueva no ficción” muestra una hibridación de géneros, estructuras textuales y códigos semánticos. Su cuidado formato, recursos interactivos y abundantes ilustraciones añaden componentes estéticos y lúdicos a la lectura y al aprendizaje, sin dejar de ofrecer contenidos rigurosos. Estas características distinguen a los libros ilustrados de no ficción de los libros informativos y, sobre todo, de los libros de texto. ¿En qué medida añaden también importantes componentes emocionales a los procesos cognitivos del aprendizaje, habitualmente priorizados? ¿Cuáles de sus características crean “oportunidades para el aprendizaje” y lo refuerzan?

Utilizando los criterios del Orbis Pictus Award Committee, analizamos un libro ilustrado de no ficción sobre el antiguo Egipto y lo contrastamos con la unidad didáctica de un libro de 1.º de Educación Secundaria Obligatoria (ESO) sobre el mismo tema.

Los resultados muestran que la organización, diseño y estilo de la obra de no ficción hacen atractiva la información, estimulan la actitud de indagación, la creatividad y el juego, refuerzan la construcción del sentido mediante la lectura recursiva y fusionan los componentes cognitivos y emocionales de la lectura y del aprendizaje, lejos de la mera asimilación de contenidos informativos.

En conclusión, la obra de no ficción convierte el aprendizaje en una experiencia vivida, frente al enfoque más expositivo y frío del libro de texto.

Palabras clave: procesos emocionales del aprendizaje, procesos de lectura, libros ilustrados de no ficción, libros de texto.
摘要
对学习的情感过程的考虑以及为儿童或年轻读者出版的非虚构类绘本书籍构成了一条正在兴起的教学路线。 “新型非虚构” 展示了体裁、文本结构和语义代码的混合。其精心的格式、互动资源和丰富的插图在提供严谨的内容的同时，也为阅读和学习增添了审美和趣味性。这些特征将非虚构绘本类书籍与信息书籍区分开来，尤其是与教科书区分开来。他们在多大程度上为学习的认知过程添加了通常会优先考虑的重要的情感成分？它的哪些特征创造了“学习机会”并对其进行加强？

我们使用 Orbis Pictus Award Committee的标准，分析了一本关于古埃及的非虚构绘本类书籍，并将其与中学一年级 (ESO) 同一主题教学单元的教科书进行对比。

结果表明，非虚构作品的组织、设计和风格使信息具有吸引力，激发了探究、创造力和游戏的态度，通过递归阅读加强了意义的构建，融合了学习和阅读中的认知和情感成分，而不仅仅是对信息内容的同化。

总而言之，非虚构作品让学习成为一种生动的体验，而不是教科书更多的说明性和冷冰冰的方法。

关键词：学习的情感过程，阅读过程，非虚构绘本类书籍，教科书。

Резюме
Рассмотрение эмоциональных процессов обучения является растущим дидактиче-
ским направлением, как и публикация иллюстрированных нехудожественных книг
для детей и юных читателей. Новый non-fiction демонстрирует гибридизацию жан-
ров, текстовых структур и семантических кодов. Их аккуратный формат, интерактив-
ные ресурсы и обилие иллюстраций добавляют эстетические и игровые компоненты
к чтению и обучению, но при этом предлагают строгое содержание. Эти особенности
отличают нехудожественные книги с картинками от информационных книг и, прежде
всего, от учебников. В какой степени они также добавляют к когнитивным процессам
обучения важные эмоциональные компоненты, которые обычно ставятся на первое
место? Какие из их особенностей создают “возможности для обучения” и усиливают
обучение?

Используя критерии комитета премии Orbis Pictus, мы проанализировали нехудоже-
ственную книгу с иллюстрациями о Древнем Египте и сравнили ее с учебным блоком
учебника обязательной средней школы по той же теме.

Результаты показывают, что организация, дизайн и стиль нехудожественной лите-
ратуры делают информацию привлекательной, стимулируют отношение к поиску,
творчеству и игре, усиливают построение смысла через рекурсивное чтение и объ-
единяют когнитивные и эмоциональные компоненты чтения и обучения, далекие от
простого усвоения содержания информации.

В заключение следует отметить, что нон-фикшн превращает обучение в яркий опыт,
в отличие от более экспозиционного и холодного подхода учебника.

Ключевые слова: эмоциональные процессы обучения, процессы чтения, нехудоже-
ственные книги с картинками, учебники.
Introduction

The analysis of the emotional processes of learning is an increasingly popular approach to teaching. Simultaneously, the publication of illustrated nonfiction books for children and young readers—both translated versions and original texts written in Spanish—has increased (Garralón, 2013). These books arouse readers’ curiosity while still offering content with robust scientific foundations, encourage inquiry and bring together fictional elements and informational content, compared to the expository nature of purely informational books. Their well-designed format, interactive resources and numerous illustrations add aesthetic and ludic elements to learning processes (in keeping with Horace’s ‘teach by delighting’ dictum) that result in deeper processing of content (Butterfield, 2002; Kesler, 2012). This ‘new nonfiction’ is characterised by hybridisation of genres, textual structures and semantic codes aimed at improving learning (Gill, 2009; Martins & Belmiro, 2021). In contrast to the encyclopaedic focus of textbooks, many nonfiction books examine one single topic. These characteristics distinguish them from purely informational books and, above all, from textbooks.

In Spain, the use of illustrated nonfiction books is very limited, perhaps because it is difficult to integrate them into overloaded curriculums that encourage expository and encyclopaedic teaching. In contrast, they have apparently replaced textbooks as the main teaching resource in scientific and social areas in some English-speaking countries (Hartsfield, 2021). This has yielded very significant learning results (Young et al., 2007; White, 2011; Hartsfield, 2021): they contribute to developing vocabulary, to learning content, to increasing interest in reading and to acquiring complex reading skills, of both printed and digital texts, which supports advanced learning processes; the topics, anchored in the real world, promote the attribution of meaning.

Two questions guide this study: To what extent do illustrated nonfiction books add relevant emotional components to cognitive reading and learning processes, which are usually prioritised? Which of their basic features create and support ‘opportunities for learning’? (Hartsfield, 2021).

First, we defined some emotional processes of reading and learning to discover how they are present in illustrated nonfiction books. We then analysed an illustrated non-fiction book on ancient Egypt and compared its learning focus with the teaching unit on the same subject of a textbook of the first year of Spanish Secondary Compulsory Education. Our aim was to evaluate the presence and type of presence of the emotional components of reading and learning in these two types of material, and also the benefits that could be gained from using good illustrated nonfiction books in the classroom.

The emotional dimension of learning

The term affect, according to Arnold (2006), covers a wide area encompassing the feelings, emotions, beliefs and attitudes that influence our behaviour. Emotions perform a wide array of functions in personal development and affect mental processes such as perception, attention, reasoning, memory and creativity. In general, a positive emotional state makes cognitive organisation more effective (Bisquerra, 2009). However, affective learning variables have received less attention than cognitive variables, although this oversight could have undesirable cognitive effects (Krathwohl et al., 1973).
The research conducted by psychologists such as Goleman (1995), Gardner (1999) and Bisquerra (2009) supports the idea that emotional processes are essential for learning, not only due to the benefits to cognitive development but also as part of the holistic development of individuals. Of the numerous emotional learning processes, we highlight those that, in our opinion, contribute most to this overall development of children and young people: the motivation to learn, creativity, play and imagination.

According to Ausubel et al. (1983), motivation is not essential for short-term learning, but it is absolutely necessary for the sustained learning involved in an academic subject. It has effects on variables such as attention, persistence and frustration tolerance. The fundamental question is how to develop and maintain an interest in the search for knowledge. Delval (1983, p. 229), has supported for many years the idea that children are not interested in learning and, therefore, they must be extrinsically motivated. Based on intrinsic motivation theory, this is connected to the development of interests, attitudes and values that are inseparable from individuals. Children arrive at school with several concerns and ask about the explanation of things. According to Deval, the problem is that these interests are not satisfied in the classrooms.

The causal relationships between motivation and learning are reciprocal: motivation and interests can arise when learning has already begun, if this learning is presented in an attractive manner. To arouse intellectual curiosity, Ausubel et al. (1983, p. 374) recommend using attention-grabbing materials that will ensure successful learning, an approach that many nonfiction books follow.

Regarding creativity, schools should help develop the intellectual instruments that will make it possible to adjust to the problems of the future. Education has the twofold objective of conveying and renewing culture, so it should train individuals who are able to create, invent and discover, rather than simply repeat what other generations have done. The many definitions of the concept of creativity (Esquivias, 2004) lead to different stances on how to foster it. Torrance (1965, 1980), Guilford (1967), Guilford et al. (1983), de la Torre (1982) and Gardner (1999) argue that creativity can occur in varying degrees and that it is an intrinsic need of the individual. Schools can help develop latent creative qualities and promote certain intellectual skills linked to this development, such as the search for causes and consequences, the association of unusual elements, imagination, the formulation of new hypotheses and questions, inquiry techniques, etc.

Fostering activity and play is an educational trend from the active school, which is based on the thinking of great pedagogues such as Dewey, Pestalozzi, Froebel, Decroly, Montessori and Claparède. All of them, with particular nuances, move the focus of education from the teacher to the student and consider the latter not only as a subject of learning but also as a ‘child’; hence the championing of activity and play as channels for learning (Sanjuán-Nájera, 1983). Children, when playing, make contact with the world and develop skills and knowledge.

With regard to imagination, some psychologists have underlined the fundamental role it plays in mental development, especially in childhood and adolescence. Vygotsky (1930) differentiates between two basic types of mental impulses: ‘reproductive’, which is connected to the memory and reproduces already created rules of conduct or recalls old impressions; and ‘creative’, which reworks new rules and approaches using elements from past experiences and turns humans into beings that are projected into the future. For Vygotsky, fostering creative ability is one of the most important questions in pedagogy.
Bruner (1986) uses some ideas from Vygotsky to analyse how language—a cultural creation—helps individual human beings make the actual minds and possible worlds that enable them to construct coherent interpretations of reality. The human mind uses two complementary ways of thinking—logico-scientific and narrative—to organise experience and construct mental worlds through language and other symbolic systems, which in turn become the principal educational tools.

The idea of imagination as a path to knowledge is connected to the work of Rodari, an ardent defender of imagination, child creativity and the liberating power of words as supportive elements in the educational process. Both his work La grammatica della fantasia (1973) and his writings included in Scuola di fantasia (1983) express the core ideas of his pedagogical thinking, as his defence of utopia, which represents the ability to transform reality through imagination, an essential ability for the moral and intellectual development of the child and the grown adult (Rodari, 1983).

These ideas help us understand the importance that the hybridisation characterising many illustrated nonfiction books may have for certain fictional components that stimulate imagination and for information components—the former and the latter present in both the text and in the illustrations.

**The emotional dimension of reading**

The complexity of reading comprehension processes means that reading a text may produce different representations in readers’ minds: if they limit themselves to only extracting the meaning, they will reach a ‘superficial comprehension’; if they manage to interpret it and construct a mental model, they will acquire a ‘deep comprehension’; if they observe contradictions between different texts or between the text and what they thought, or even analyse the properties of the text, they will achieve ‘critical or reflexive comprehension’. Each type of comprehension requires specific reading strategies (Sánchez-Miguel et al., 2010, pp. 100-105).

Without underestimating the importance of these cognitive processes, we miss the acknowledgement of the relevance of the emotional processes of reading, which undoubtedly have an effect on comprehension and interpretation. The analysis of the reading process from an emotional perspective encompasses a twofold focal point: firstly, how reading affects readers in their numerous vital, affective, aesthetic and ethical facets, and, secondly, how readers’ emotional and socio-cultural characteristics interact with the text to produce meaning (Sanjuán-Álvarez, 2013). Readers contribute not only cognitive skills, but also experiences, fears, desires, curiosity and the ability to imagine. At the same time, they must be willing to undergo the transformation that a text might exert on their view of the world, their values and their perception of themselves, that is, they must allow themselves to be affected by the text. The emotional component of reading—understood as the possibility of having significant transformative experiences—is key to acquiring a liking for reading. The emotional dimension of the reading process entails an active search for the meanings that the text can provide to each reader. The success of this search is based on promoting subjective reading, that is, the possibility of numerous, complementary interpretations available in the classroom. Torrance (1980) encourages teachers to help students become creative readers, capable of elaborating expectations or doing something with what they have read, such as reproducing it using their imagination, expanding or transforming it through verbal, artistic or dramatic activities, etc.
Highlighting the emotional aspects of the reading process results in a better use of reading as a learning tool. Having significant reading experiences from early infancy lays an essential emotional foundation for the acquisition of knowledge and the development of increasingly complex receptive skills that help in the qualitative leap from impressionistic reading to the ability to analyse and critically assess texts.

To what extent could this methodological approach based on the concept of the experience of reading, which encompasses the cognitive and emotional components of the reading process, be extended to a kind of reading aimed at learning curricular content, especially focused on reading information texts? It might appear that allowing numerous interpretations of texts and readers’ creativity is hardly compatible with reading texts that attempt to convey incontrovertible content that is not open to subjective interpretations. However, current nonfiction books have intentionally sought the hybridisation of art and knowledge, of informational genres and literary genres. As González-Lartitegui (2018, p. 23) states, these hybrid ways of presenting knowledge respond to the break with classic scientific and academic models for approaching knowledge and attempt to attract children and young readers of today, who are curious, experimental and playful.

The emotional processes of reading and learning in illustrated nonfiction books

The concept of information book falls short to include the variety and complex intentionality of this new nonfiction, which attempts to go far beyond information purposes, as Russell Freedman, a well-known author of nonfiction books, states (1992, p. 3, cited by Kesler, 2012, p. 340):

Certainly the basic purpose of nonfiction is to inform, to instruct, hopefully to enlighten. But that’s not enough. An effective nonfiction book must animate its subject, infuse it with life. It must create a vivid and believable world that the reader will enter willingly and leave only with reluctance. (p. 340)

Kesler (2012) uses the concept poetic nonfiction picture books to refer to these hybrid books that seek to create dynamic and recursive reading processes, that is, a kind of information processing that does not end with the first reading due to the use of figurative language and the richness of rhetoric devices. Besides the attractive format and the abundance of illustrations that put poetic nonfiction books and picture books on the same level and provide a strong artistic component, there is often a fusion between discursive structures with information purpose and other features typical of narrative fiction (small plots, protagonist, etc.) or poetry (musicality, alliteration, visual layout of the text, etc.). The author sees in many of them the literary quality criteria established by the committee of the National Council of Teachers of English (NCTE), which grants the Orbis Pictus Award to the most outstanding nonfiction books for children (see http://www.ncte.org/awards).

For Kesler, literary style not only makes information more attractive, it also intensifies the process of constructing meaning. Musically and figurative language connect the emotions and imagination of child readers and help create the ‘lived worlds’ that Freedman mentions, that is, they illuminate and consolidate the themes, create the desire to learn about them and facilitate interpretation. Following the ideas of Rosenblatt (1994), Kesler believes that these literary nonfiction books manage to combine the
comprehension of informational content (efferent reading, focusing on the content of the text) with readers’ aesthetic experience. The artistic use of language increases involvement and helps merge the cognitive and emotional components as inseparable aspects of a vivid reader experience; in short, it achieves another way of learning, far beyond the mere cognitive assimilation of content. For this, however, teachers need to extract all the potential from these books, focusing not only on the content but also on the style and the emotional effects that they might have on the recipients.

Kesler’s ideas on the literary style of many nonfiction books are close to the ‘warm language’ that Bain (2007) observes in the best university lecturers—who try to make scientific and humanistic knowledge accessible and attractive. They do not present information coldly, rather they ‘read’ their students’ minds and cover themes as a response to implicit and explicit questions. This two-way approach turns learning into an intellectual process of inquiry and search for answers. These lecturers also combine the presentation of data and scientific concepts with examples from daily life, which helps comprehension.

The characteristics of the informative style (Cassany, 2002) are clearly present in nonfiction books, which usually distribute ideas in not too long sentences and use a common lexicon, without shying away from the use of specific terms explained in the text itself or through illustrations. The most frequent rhetorical device consists in appealing to the reader through questions or the use of an informative voice in the first person, which is sometimes represented by a character who guides the reading. The informative style does not represent a cheapening of scientific knowledge, but rather accessibility to other readerships, argues Cassany (2002, p. 356). Similarly, Garralón (2013, p. 50) supports the approach of science to child and young audience through this genre: ‘Good information books show how scientific thinking works: that is, they teach how to observe, categorise and deduce. The correct way of combining these elements will result in a book that excites readers’ (our own transl.).

Another characteristic of these books, which is relevant for emotional learning processes, is the care taken in their outward appearance. They frequently have unconventional formats and flaps, foldouts and overlays, etc., that provide elements of physical interaction. For Bonnafé (2008), children need to handle books as this facilitates detailed observation and the comprehension of content. Tabernero (2019) explains this emphasis on the outward appearance of books as a desire to differentiate reading on paper from virtual reading: a book offers limits, it creates a physical space and handling options; the foldouts, flaps, pop-ups, etc., turn readers into accomplices in interpreting the text. These resources consolidate play and activity as relevant processes in child learning. Many of these books have been conceived as artistic objects. The artistic component, also present in picture books, can be expanded in nonfiction books to all the constituent elements of the genre: contents page, glossaries, tables, graphs, typography and, of course, format and illustrations. The ludic and active perspective of learning is usually consolidated not only by the handling component, but also by the suggestion of activities that stimulate creativity and make it necessary to expand information or to do something new with it.

**Method**

For the comparative analysis of the nonfiction work and the textbook’s unit, we followed the criteria of the Orbis Pictus Award, a prize that has been awarded every year
since 1989 by the National Council of Teachers of English to recognise excellence in nonfiction books for children published in the United States. The committee uses four criteria: accuracy, organisation, design and style. We applied these criteria taking the opinions of experts from said organisation as a reference (Zarnowski et al., 2001) in their analysis when commenting on the works awarded the prize in the first decade. We also connected the criteria to the aforementioned emotional processes of reading and learning.

The accuracy criterion refers to the scientific rigour of the text and the illustrations, the use of appropriate documentation, the avoidance of anthropomorphism and the distinction between facts and interpretations. The organisation criterion evaluates whether the general structure of the work (for example, from the general to the specific or vice versa) helps comprehend the information. The design criterion evaluates the format (whether the book is attractive, readable, if the illustrations are well placed and complement the text). Finally, the style criterion evaluates if the language is rich, with appropriate terminology, if it shows enthusiasm and stimulates curiosity and surprise.

In the conclusion of the analysis we added a fifth criterion, its usefulness for classroom teaching, which we used to evaluate the suitability of the book for the target age groups and its contribution to the curriculum, following the instructions of the Mock Orbis Pictus Award. Getting started guide:

In addition, each nomination should be useful in classroom teaching for grades K–8, should encourage thinking and more reading, model exemplary expository writing and research skills, share interesting and timely subject matter, and appeal to a wide range of ages. (http://www.ncte.org/awards)

Analysis of a nonfiction book

The book selected was:


The Spanish edition is part of the Edelvives Ideaka collection, which publishes knowledge books, artistic creation books, observation books, game books and activity books intended to encourage children to discover the world and broaden their knowledge in an entertaining way (https://www.edelvives.com/es/Catalogo/p/antiguo-egipto).

This is a hybrid work that mixes fiction and nonfiction, albeit separately, as the exposition of information is framed within the fictional narrative. We could therefore include it in the genre that Kesler (2012) calls poetic nonfiction picture book. There is also a third, ludic component under the heading ‘Can you spot?’, which asks the reader to find both fictional and real characters and objects in the illustrations. The different textual genres are clearly distinguished, as recommended by Gill (2009) and Bamford and Kristo (2000, cited by Gill, 2009), who call this subgenre an informational picture storybook because nonfiction is guided through a narrative including invented characters and its objective is to bring the informational content closer to the interests of the reader. To avoid any confusion, both parts—fiction and nonfiction—differ from each in their format and font. The fictional narrative does not come into conflict with the information, but instead acts as a simple backdrop that shows the protagonists lost in each of the pictures.
Figure 1
Tom travels back in time. Ancient Egypt. Cover.

Accuracy
The cover emphasises the collaboration with the British Museum, the highest authority on the subject, which could produce an initial feeling of admiration and motivation to learn in readers.

To facilitate the assimilation of information, the work provides various supporting resources, without disturbing the reading of the main text. For instance, at the end of the book an answer key gives the answers to the search activities by reproducing all the illustrations in miniature and identifying the hidden things. A glossary of the
specific vocabulary used in the book (names of objects, places and customs in ancient Egypt, gods and goddesses) in a special font provides a brief explanation of each term. Finally, before the final flyleaves, an alphabetical index includes 84 entries, with a reference to the pages where they appear.

The work shows a significant level of detail in its explanations and illustrations, logically limited by scientific findings and the informative intention. This is how the process of embalming is described: ‘The body was cleaned with spices and palm wine and covered in a special kind of salt called natron for 40 days before being washed’ (p. 23. The citations of this book were taken from the original edition in English). The same is true of the detailed illustrations that accompany each subtopic. Therefore, the embalming workshop shows the objects used to extract organs from the dead and the canopic jars where they were kept. The authenticity of these details is backed up by the collaboration with the British Museum.

Figure 2
Tom travels back in time. Ancient Egypt

Organisation
As we have stated, the nonfiction contents are framed within a fictional narrative. At the beginning, we find some blue flyleaves and drawings simulating the pictogrammes of a hieroglyph, followed by a short introduction titled ‘About Ancient Egypt’ that, as well as introducing the subject, refers to this mixture of fiction and nonfiction: ‘Some of the places that Tom visits in this book may not have existed together at the same time, but they were all part of ancient Egyptian culture and history’ (p. 1). Then, at the top of the acknowledgements page, an illustration shows the protagonists (Tom, Granny Bea, and Digby the cat) and a message encourages the reader to identify these
people and find the scarab beetle hidden in each picture. The following page lists the contents, again framed by Egyptian motifs.

The framing fictional narrative occupies the first and last double pages, titled ‘Introduction’ and ‘Home’, respectively. The rest of the book is made up of thirteen double pages consisting of one illustration that occupies the entire area and several inserted texts. On each double page, the first text includes a heading and a narrative paragraph that provides continuity to the story and serves as a guiding thread. The informative texts take up between three and four paragraphs on each double page and have a smaller font. These are mainly expository and describe the way of life in ancient Egypt with regard to the represented scene. Finally, there is always, written on papyrus, an activity called ‘Can you spot?’

Each double page focuses on a subtopic, following what Garralón (2003) calls a listed internal structure. Tom’s journey following his cat Digby is the narrative frame that facilitates the connection between the various themed scenes: the pyramids, the funeral procession, the burying of a mummy, the River Nile, the crop fields, the market, the temple, the school of scribes, the embalming workshop, the house, the residence of a nobleman, the banquet and the river party. This listed structure allows following a linear narrative sequence of the storyline of the protagonists or jumping from one scene to another. The organisation of the book is therefore very clear and intuitive, and also flexible and compatible with the interests of each reader, an increasingly usual feature in this genre:

Many of us on the Orbis Pictus Award Committee are quite comfortable with a linear approach to experiencing and using nonfiction. For years the nature of the handheld book has supported this approach. But in recent years, we have been encountering books that do not appear to be this straightforward (Kerper, 2001, p. 31).

Navigation within each double page follows the logical path from left to right and from top to bottom, although it can also be random, as each verbal element has certain autonomy. The informational content follows repeating patterns, for instance, from the general to the specific or anecdotal. In this sense, the first paragraph in the scene in the temple explains its general features and the final one describes exceptional situations, such as taking statues outside to worship them.

This type of work is what Paladin and Pasinetti (1999, cited by Garralón, 2013) call visual documentary popularisation: a rich and varied visual code and an attractive layout that facilitates the accessible yet exhaustive popularisation of a topic. There is also a clear intention to interconnect different parts, both through the glossary and the alphabetical index, which enable readers to look for what interests them, such as the connection of ideas, symbols and characters in each scene and between them. The ludic search activity accentuates observation and helps investigate some of the ideas and concepts that appear in each illustration in greater detail. In the funeral procession scene, for instance, as well as looking for the fictional characters (Tom and Digby the cat) readers are asked to spot two flautists, a jackal mask, a falcon, etc.

The abundance of verbal and visual details and the visual search activity invite readers to revisit what they have already read and seen. These features encourage reader engagement and inquiry processes based on information, which does not end after one single reading.
Design

The book's design is visually very attractive, with picture book features, as is now usual in nonfiction books (Gill, 2009; Kesler, 2012; Hartsfield, 2021; Martins & Belmiro, 2021). It has a hardcover binding and a large, slightly squarer format than DIN A4, which makes it quite elegant. It includes a careful colour selection for the covers, in a golden yellow that evokes the desert sand. The first part of the title and the name of the illustrator appear on the front cover, over this golden yellow background. The second part of the title is on the middle, on blue papyrus. The collaboration with the British Museum is emphasised at the top. Finally, the name of the collection and the publisher appear at the bottom. There is one more text on a banner held by one of the characters, referring to the ludic nature of the book: ‘I’m Tom! Can you find me?’. There are six messages in total, each with a different font, which points to the distinguishing role that typography plays in the book.

The back cover follows the same design, with a first message that consolidates the ludic aspect ('Tom’s not only lost in time, he’s lost his cat, too!'), and a new appeal to readers that shows the informative nature that is hidden behind the ludic and, fictional appearance of the book ('Lose yourself in ancient Egypt with this brilliant search and find book!'). The collaboration with the British Museum is mentioned again at the bottom, a clear commercial strategy.

The flyleaves show hieroglyphics on a dark blue background. This design is extended to the back of the inside page and is followed by a light blue on the pages of the introduction, acknowledgements and contents. The rest of the work also features very intense colours, with a predominance of blue and ochre, which is consistent with the colours of the covers and flyleaves.

The characters and objects drawn in the illustrations have a symbolic style, like the drawings of ancient Egypt, with a plethora of details and humorous touches. For example, in the market picture we see two neighbours greeting each other, two men arguing, a child stealing a piece of fruit, a cat carrying a fish in its mouth, etc. (pp. 16-17). The ludic proposal asks us to spot some of these details.

Each double page shows a scene from ancient Egypt with attractive content that is also readable. The scenes are divided internally through the distribution of colours and lines, whether straight, as in the market scene, or curved, as in the Nile scene, where the banks of the river, the horizon of the fields, the vegetation and the frames of the ships are all defined (pp. 13-14). The composition of each illustration is dynamic, despite representing a snapshot, and favours navigation through the various subscenes of the picture to move from the general to the particular or vice versa.

Image and text complement each other from an informative point of view, with the illustration being more descriptive and rich in details, thereby expanding on the content of the text, with the text in turn providing context and clarifying things that the picture cannot explain: ‘At a feast, the host and hostess would sit on a raised platform, while the guests sat on stools. There were no knives and forks, so everyone ate with their fingers’ (p. 29). This complementary nature facilitates the understanding processes and unburdens the text of much of the informative density (Garralón, 2013, p. 138).

From the perspective of the emotional processes of reading, the artistic component of the book as a whole, and of each double page in particular, succeed in making learning attractive through reading and visual observation, which undoubtedly fulfils the aim of ‘teach by delighting’.
Style

Tom's search for Digby the cat works as a narrative thread connecting the series of double pages, until they are reunited at the end. The storytelling uses resources of children's literature, such as the repetition of structures and words when describing the two protagonists. The book uses an informal, simple and direct style, with diminutives and colloquial expressions such as 'to have a nap'. The intrigue and dialogue between the protagonists maintain the reader's interest and curiosity. The verisimilitude of the narrative is achieved through the use of a magic amulet that Tom receives from his grandmother and that transports him to ancient Egypt with a 'Whoosh!', the same sound that sends them back home at the end. There are literary features such as exclamations and rhetorical questions: 'He must have been sleeping in there. Where had that naughty cat gone' (p. 6), 'Could it be Digby?' (p. 10). This resource is combined with others, such as enumerations: 'Inside was a busy room filled with people, priests and...dead bodies!' (p. 22). The extradiegetic narrator presents the thoughts and feelings of the protagonist from an omniscient point of view to emphasise the mystery: 'It was amazing, but a bit scary too' (p. 10). The protagonist's perspective also acts as a connection between fiction and nonfiction: 'He saw farmers working on the land. It was very muddy' (p. 14).

The informative texts mainly present an expository discourse focused on describing parts or characteristics ('A typical house had three or four rooms', p. 24), sometimes connected using comparative structures, using the modern day as a reference ('Instead of machines or tractors, farmers used oxen', p. 15). There are also time sequences to explain some customs and processes ('First, the brain was pulled out with a hook pushed through in the nose. Next, a small cut was made on the left-hand side of the body and the internal organs were taken out', p. 22) and causal structures ('The heart was left inside the body because the ancient Egyptians believed the heart was the centre of a person’s personality and intelligence', p. 22).

This informative style attempts to make the scientific and humanistic knowledge about the topic accessible. It avoids excessively technical language, but also dull language. To do this, the book uses simple, direct syntax, with common grammatical structures that aid comprehension. The lexical selection combines common vocabulary with some technical terms or specific words, which are highlighted in capital letters and are explained in the text itself or in the glossary at the end: 'Ancient Egyptians had no money. Instead they traded goods that had the same value. They could also pay with small pieces of gold and silver measured in deben (a traditional ancient Egypt measure of weight)' (p. 16).

The information is focused on the demonstrated facts, although space is left for numerous interpretations and for emotional effects such as surprise. For example, when the burial of a mummy is explained, there is a reference that says 'Ancient Egyptians believed that they needed their human body in order to reach the afterlife' (p. 10) and states that 'Ancient Egyptians believed the dead person would carried by boat to an underworld called Duat, that was full of terrible dangers and difficult tests' (p. 11). To satisfy children's curiosity about these topics, the glossary includes an expanded explanation of the concept of 'Duat'.

There is therefore a predominance of warm language, as defined by Bain (2007). The author conveys information with the enthusiasm of a new finding instead of referring to it as if readers should know about it, and attempts to maintain readers' attention in each picture through the dialogue and questions that engage them intellectually and
emotionally. In the fictional part, although the literary resources are simple, they connect learning with the readers’ emotions, imagination and subjectivity, as Kesler states (2012). The informative part does not represent an aesthetic break from the fictional text: the same narrative voice now focuses on explaining and showing information and facts about ancient Egypt through the illustrations. From the learning perspective, the warm tone of the style accentuates readers’ curiosity and surprise about a subject that is already interesting in itself.

Comparison with the textbook

For the comparative analysis we selected the first year of Spanish Secondary Compulsory Education as this academic level provides sufficient space in the curriculum and in textbooks for ancient Egypt. The selected book was:


Chapter 10 is devoted to ‘The first civilisations: Mesopotamia and Egypt’ (the citations of this book are our own translations of the Spanish edition), for block 3 of the curriculum: ‘Ancient History: the first civilisations. Urban cultures. Mesopotamia and Egypt. Society, economy and culture’. (BOE, 2015, p. 300)

The analysis follows the same criteria of accuracy, organisation, design and style. Accuracy, in this case, is guaranteed by the specialisation of the publishers in educational textbooks and the authors in this area of knowledge. The book also has the usual resources of textbooks (contents, appendices, external links and summaries).

In terms of the organisation, the initial double page shows a photo of some pyramids, in which the yellow of the sand and the pyramid and the blue of the sky stand out, in a similar way to the nonfiction book. The topic number, the title and a question to attract attention (‘How were the first states organised in ancient times?’) are superimposed over this image. This question is aimed at a cognitive level, in contrast to the nonfiction book that appealed to more emotional aspects. The use of more technical language is also evident. The introduction, which appears in a box, focuses on the location in time and space of Egyptian and Mesopotamian civilisations. Next, some questions are included to arouse interest in the picture and connect with prior knowledge of the readers, assuming that what they do not know will be answered in the chapter: ‘Which civilisation appears in the picture? How did you know this? Do you know what these pyramids represent?’ (p. 177).

Another question is at the top of the next double page: ‘Why did the first civilisations begin on the banks of large rivers?’. Inside, some headings explain the management of the waters, agricultural growth and the beginning of cuneiform and hieroglyphic writings. This part shows, in a realistic style, an Egyptian man writing with a quill on papyrus and a cartouche including hieroglyphic writing. The drawings are accompanied by an explanatory text: ‘The scribes were the only ones who knew how to write the complex hieroglyphic writing’ (p. 179). This illustration is similar to the one that appears in the school of scribes scene in the nonfiction book (pp. 20-21), but the style in this book is more simple and the text uses subjective expressions that interact with the emotional dimension of readers: ‘Scribes were very well respected in ancient Egypt because they could read and write hieroglyphics’. In addition, the nonfiction work uses the ludic activity to suggest the search for ‘a scribe who has broken his reed brush’ (p.
21) and the glossary to go into more detail in the explanation of hieroglyphics, while the textbook refers to the publisher’s own website for more information.

We did not analyse the next double page, which was devoted to Mesopotamia. The following five double pages cover five subtopics about ancient Egypt, also following a listed structure: The Egypt of the Pharaohs; Habib and Merit, Two Brothers from the Valley of the Nile; Egyptian Religion; Where does the God of the Temple Hide?; and, Tombs for Immortality.

In some cases, a subtopic from the textbook matches various scenes in the nonfiction book, as is the case with Egyptian religion (pp. 186-187), which in the nonfiction book deals with the funeral procession (pp. 8-9), the burial of a mummy (pp. 10-11) and the embalming workshop (pp. 22-23). Compared to the linear and logical exposition of the textbook, the representation of ancient Egypt through hypothetical scenes in the nonfiction book represents a more flexible and open focus on the information, which leaves space for interpretation. The nonfiction book uses various strategies to bring the historic content closer to the knowledge, tastes and interests of the recipients, who, therefore, can understand in a vivid way the various ‘faces’ of life in that age, investigate them, discover hidden—sometimes humorous—facts, and even compare them with their own experiences, that is, have meaningful reading experiences. For example, the textbook’s reference that ‘the population was very superstitious and used to protecting themselves from evil spirits with amulets’ (p. 186) is dealt with in the nonfiction work in a much more emotional way, as an amulet is the trigger for Tom’s journey to ancient Egypt.

Another topic, the social division of Egyptian society, is described in the textbook on the two pages about the Egypt of the Pharaohs (pp. 182-183). After a paragraph devoted to their origins and unification, there is a heading about the absolute power of the pharaoh and another about the various social groups. The illustration, which is almost a complete page, shows a character representing each group, with an explanation. In the nonfiction book this social division is deduced more intuitively by observing several interrelated scenes: the house (pp. 24-25), the residence of a nobleman (pp. 26-27) and the banquet (p. 28); this allows readers to understand the privileges that some social groups had compared to others. The numerous subscenes represented also help, as the depiction of a slave fanning a noblewoman.

The nonfiction book devotes two scenes to the importance of water in Egyptian society (The River Nile, pp. 12-13; Festival on the River, pp. 30-31), a fundamental part of ancient Egypt that the book covers from the start of the topic to explain the beginning of ancient civilisations and that is also present on the two pages containing the fictional narrative about Habib and Merit, Two Brothers from the Valley of the Nile (pp. 184-185). Habib is a young Egyptian peasant who has grown up in a village on the banks of the River Nile, while Merit, his elder brother, moved to a city of craftsmen. Each page shows, through their stories and half-page drawings about each of them, the way of life of an agricultural village and in a neighbourhood of craftsmen, which relates, in the nonfiction work, to the scenes of the farmland (pp. 14-15) and the marketplace (pp. 16-17), two ways of life—the rural and the urban—dating from the beginning of ancient civilisations that survive today. It is useful to compare this fictional narrative in the textbook with what the narrative framing and guiding the nonfiction book. In
both cases fiction is used to appeal to readers but, while in the textbook it is subordinate to information, which makes it less attractive to readers, in the nonfiction book it emphasises the fiction right from the title and uses it as a guiding thread for all the information.

The teaching unit concludes with three pages devoted to a history workshop and a one-page summary of the topic. This section suggests activities such as writing about historical texts or the analysis of maps and drawings to go into some of the covered topics in more detail, although there are no links to the main text to help readers browse through the book as we saw in the nonfiction book.

Regarding the design, it is less innovative than in the nonfiction book, given that the composition of the double pages is the usual one for textbooks. The title of each subtopic is at the top of the right-hand page. Although the subtopic covers the two facing pages, the layout of the texts and the images is that of a single page, with two columns reading from left to right and from top to bottom. The texts are laid out in headings and paragraphs with the same font as the titles, although smaller, and with some words highlighted in bold. On some pages have text boxes explaining or developing ideas, such as the characteristics of Egyptian painting and sculpture (p. 189), or transcribing ancient texts, such as the Hymn to the God of the Nile (p. 186).

The images are also in boxes in one or two columns, on a single page. There are maps of Egypt (p. 182) and infographics about the Egyptian gods (p. 186), the attributes of the pharaoh (p. 182), access to the afterlife (p. 187) and the types and parts of a pyramid (p. 190). There are also realistic drawings that include explanatory tables and captions about Egyptian society (p. 187), an agricultural village (p. 184), a neighbourhood of craftsmen (p. 185) and an Egyptian temple (p. 188). Finally, some texts are illustrated with photographs of temples and of a funeral wake (p. 186). The illustrations, therefore, contain a great deal of information.

Closed or single-answer questions about the content covered are asked throughout the unit, although there are also more open and creative activities that suggest answering outside the limits of the provided information.

Focusing on the style, several aspects reveal the very different learning approaches in both works. For example, the comparison of the textbook’s subtopic devoted to tombs (pp. 190-191) and the scene of the pyramids from the nonfiction book (pp. 7-8) reveals that both explain the function that tombs held and the reason for their monumental size, but the textbook is more profuse in information on types, parts and historic details, and includes an infographic of the inside of the tomb of Tutankhamun (p. 121), while the nonfiction work focuses on the peculiar construction process of the pyramids and recreates it through the inclusion of surprising information about the transportation of the blocks of stone, the number of workers and how long it took. In general, the textbook has a less rhetorical style and has hardly any literary resources. The information and details it contains focus on understanding and memorising, and the questions asked require an answer on the cognitive level, which results in a colder language than that of the questions and activities of the nonfiction book.

Table 1 summarises the main differences observed between the two books, analysed by applying the criteria of the Orbis Pictus Award:
### Table 1
Comparative table between the analysed nonfiction book and textbook

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<tr>
<td><strong>Accuracy</strong></td>
<td>Collaboration with the British Museum and support resources such as the answer key, glossary containing significant vocabulary and alphabetical index with 84 entries.</td>
<td>Accuracy is linked to the publisher and the specialisation of the authors. It includes a contents page, appendices, external links and summaries.</td>
</tr>
<tr>
<td><strong>Organisation</strong></td>
<td>Hybrid narrative-expository approach, with informational content in a fictional narrative context, and a flexible organisation that facilitates an open relationship between text and illustrations.</td>
<td>Expository approach (except for a fictional narrative about two brothers to illustrate the differences between a village and a city), and a rigid interrelationship between text and illustrations.</td>
</tr>
<tr>
<td><strong>Design</strong></td>
<td>Well-designed in terms of aesthetics and colour as a book-object, noticeable on the cover, the flyleaves and inside pages, with a rich and visually attractive double-page layout.</td>
<td>Inclusion of maps, infographics and photographs with a more informative than aesthetic objective, and a single-page layout even though the topic normally covers both pages.</td>
</tr>
<tr>
<td><strong>Style</strong></td>
<td>Profusion of rhetoric devices (exclamations, rhetorical questions, enumerations, etc.) and resources used in children’s literature (repetitions, colloquialisms) to provide scientific information in a warm language.</td>
<td>Lack of literary resources and a profusion of information about types, parts and historical details, with questions that require a conceptual answer, which results in colder language.</td>
</tr>
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### Conclusions. Usefulness of illustrated nonfiction books for school learning

We consider that the analysed nonfiction book is widely applicable in teaching. It is aimed at children over eight years of age, although the different reading levels it contains means it can be used with different ages. It covers a topic related to the social sciences curriculum of the final year of primary education and to the subject of geography and history of the first year of Compulsory Secondary Education.

By framing the information in an adventure story starring a child and his grandmother and using the ludic nature activities proposed, the nonfiction book appeals to the interests and emotional dimension of students and thereby supports their motivation and engagement and encourages comprehensive and critical reading. Child readers identify with the protagonist and feel part of an adventure that leads them to discov-
er information and complete the suggested searches. Also, the book provides varied learning supports, beyond the illustration and the main text, such as the glossary, the index of concepts and the answer key for the search activities. These resources help readers maintain attention and concentration for longer and increase their frustration tolerance. Readers can enter any scene and jump from one page to another using the links provided by the glossary and the alphabetical index of content, or they can also follow the fictional narrative and the searches for characters and objects. The possibility of recursive reading, which invites readers to return to what they have already read and seen, is supported by the crosscurricular activities, complemented by the final surprise of finding the grandmother in each scene. This open approach is consistent with the progression of the nonfiction book in the current fragmented multimedia cultural context, as González-Lartitegui (2018) states:

Multimedia texts, which have now become electronic hypertexts, encourage a fragmentary, decentralised, skimming, multiseguential kind of reading, full of doors through which readers travel by page hopping, where there is no end point or where, at least, readers always choose. The product of the same culture, the printed narrative of hyper-modernity—and the book of knowledge for children with it—also experiments with open, multidirectional and interactive structures [...]. (P. 106)

The texts, illustrations and activities in the book provide countless possibilities for its teaching use in the classroom with the guidance of teachers. Ludic activities—search for characters and objects in the scenes—imaginative activities—such as the creation of stories based on the scenes—or more cognitive activities—interpretation of social, economic and cultural facts about ancient Egypt—can be planned.

After the analysis, and after answering the questions that have guided our work, we can conclude that, compared to the textbook, the organisation, design and style of the nonfiction work make information more attractive, stimulate curiosity and an inquiry attitude, create a desire to learn, support the construction of meaning through recursive reading, stimulate creativity and play, involve readers and merge the cognitive and emotional components of reading and learning, far beyond the mere assimilation of informational content. In short, the nonfiction work turns learning into a vivid experience, compared to the more expository and colder approach of the textbook, although there are some resources, such as the interspersed fictional narrative and the quality and variety of the illustrations in the textbook, that attempt to make learning more attractive.

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