

# Learning difficulties in textbooks and didactic materials in Portugal

Jesús Rodríguez Rodríguez<sup>I</sup>  
Margarida Delgado Paiva<sup>II</sup>

## Abstract

This article presents the most relevant findings from a study carried out at the Department of Didactics and School Planning of the University of Santiago de Compostela for the purpose of determining whether primary school textbooks widely used in Portuguese schools provide adequate proposals and resources for students with learning difficulties. The study methodology consisted of a content analysis. For this purpose, we elaborated a guide-tool for identifying the strategies and resources contained within textbooks and didactic materials. The guide includes a total of 10 dimensions or analysis blocks that correspond to the study's main points of inquiry. A total of 21 textbooks were assessed, of which 18 included a handbook for using "note cards". Before presenting how the evaluation guide-tool was elaborated and the research findings, we will briefly describe the main aspects that should characterize attention to learning difficulties in textbooks and curricular materials as we see it. Our findings show that the materials analysed are limited in terms of strategies and resources for fostering attention to students with learning difficulties. The activities and proposals presented in these materials do little to help teachers address this group of students and do not provide alternatives for adapting work proposals. The study also provides some recommendations regarding the measures to be taken by institutions and professionals involved in the process of designing and using school textbooks.

## Keywords

Curricular materials – Textbooks – Learning difficulties – Evaluation models.

**I-** Universidade de Santiago de Compostela, Santiago de Compostela, Espanha.

Contact: [jesus.rodriguez.rodriguez@usc.es](mailto:jesus.rodriguez.rodriguez@usc.es)

**II-** Ministério da Educação – Agrupamento de Escolas da Maia, Maia, Porto, Portugal.

Contact: [margaiva@gmail.com](mailto:margaiva@gmail.com)

# ***Dificuldades de aprendizagem nos manuais e materiais didáticos em Portugal***

Jesús Rodríguez Rodríguez<sup>I</sup>  
Margarida Delgado Paiva<sup>II</sup>

## **Resumo**

*Este artigo apresenta os resultados mais relevantes obtidos a partir de um estudo realizado no Departamento de Didática e Planeamento Escolar da Universidade de Santiago de Compostela com a finalidade de determinar se os manuais escolares do primeiro ciclo do ensino básico utilizados nas escolas portuguesas apresentam propostas e recursos adequados para os alunos com dificuldades de aprendizagem. A metodologia do estudo consistiu numa análise de conteúdo. Para esse efeito, foi elaborado como instrumento de avaliação uma guia para identificar as estratégias e os recursos contidos dentro de livros e materiais didáticos. A guia inclui um total de oito dimensões ou blocos de análise que correspondem aos principais pontos de investigação do estudo. Foram avaliados 21 manuais escolares, dos quais dezoito incluíam um livro de fichas com atividades de consolidação das aprendizagens. Antes de apresentar a forma como a guia de avaliação foi elaborada e os resultados da investigação, vamos descrever brevemente os principais aspectos que devem constar nos manuais e livros de atividades de forma a ter em atenção os alunos com dificuldades de aprendizagem. Os nossos resultados mostram que os materiais analisados são limitados em termos de estratégias e recursos para auxiliar a aquisição do conhecimento de alunos com dificuldades de aprendizagem. As atividades e propostas que as integram são insuficientes para auxiliar os professores a lidar com esse grupo de alunos e não oferecem alternativas para adaptar propostas de trabalho. O estudo também fornece algumas recomendações sobre as medidas a serem tomadas pelas instituições e profissionais envolvidos no processo de concepção e utilização de manuais escolares.*

## **Palavras-chave**

*Materiais curriculares – Manuais escolares – Dificuldades de aprendizagem – Modelos de avaliação.*

**I-** Universidade de Santiago de Compostela, Santiago de Compostela, Espanha.  
Contato: [jesus.rodriguez.rodriguez@usc.es](mailto:jesus.rodriguez.rodriguez@usc.es)  
**II-** Ministério da Educação – Agrupamento de Escolas da Maia, Maia, Porto, Portugal.  
Contato: [margpaiva@gmail.com](mailto:margpaiva@gmail.com)

## Introduction

The main purpose of this study was to analyse whether the primary textbooks often used in Portuguese schools provide work proposals that are appropriate for students with learning difficulties. Considering the wide range of textbooks available in the market and the increasing heterogeneity of students in regular education classrooms, it was deemed necessary to analyse the characteristics of the books to ascertain the extent to which they devote attention to learning difficulties. For this analysis, we carried out a study based on the content analysis of a representative sample of textbooks. In the Methodology section, we will describe our procedure.

In the Portuguese context there are important topics yet to be studied in relation to textbooks and didactic materials. Moreover, it is difficult to find studies that address materials from the content analysis approach. Nevertheless, notable studies have been carried out such as Morgado (2004) and Cabral (2005).

By looking into the latest literature on textbook and didactic materials research as well as national and international conferences, we realize that little research has been done in order to analyse the presence of strategies for working with learning difficulties in school textbooks. (See, for example, reviews and studies published in recent international conferences on textbooks and teaching materials organized by the International Association for Research on Textbooks and Educational Media (Iartem) (HORSLEY; KNUDSEN; SELANDER, 2005; BRUILLARD et al. 2006; IARTEM, 2007, 2009, 2011, 2012; SIKOROVA et al. 2015) and international seminar on textbooks in Santiago, Chile (2006).

Similarly, in recent conferences and research in the field of Learning Difficulties, Textbooks and Didactic Materials, we have not found any studies focusing on teaching materials or the specific analysis of textbook learning activities.

## Learning difficulties in textbooks and didactic materials: A necessary analysis

Changes in education policy requiring the inclusion of students with learning difficulties into regular schools indicate that we must be careful to include work proposals that address learning difficulties in school textbooks and didactic materials produced for regular classrooms (The point is for teaching materials and textbooks to promote processes of attention to diversity, become more than resources conceived to serve a narrow prototype of student and to provide contents and activity proposals that help students with learning difficulties to contextualize their learning process (CASTRO RODRÍGUEZ, 2008; ZAPICO, 2012; CASTRO RODRÍGUEZ; RODRÍGUEZ RODRÍGUEZ; ZAPICO, 2013; DELGADO DE PAIVA, 2008) Textbooks and materials should provide alternatives that promote attention to learning difficulties. Similarly, textbooks should contain strategies and work proposals that can be adapted by teachers to students who may present learning difficulties in the classroom.

Students with Learning Disabilities (LD) present problems in basic areas of development that begin in preschool, and manifest later in the first years of primary school with difficulties in reading, writing, and arithmetic. Their academic performance is related to factors such as teacher characteristics, student environment and materials used. In this sense, our concept of learning disabilities is in line with recent postulations that see these difficulties as an inability to acquire language transparency or orthographic consistency. Thus, we can say that people with LD have difficulty with phonological awareness, that is, understanding that words are made up of parts and sounds, as Antunes says (2009, p 49), they are parts of a building that are used in the structure of new words. Therefore, according to this author, the development of phonological awareness is very important for learning to read and write, it

begins before school education with children's toys, and becomes apparent in primary school.

Reading is an essential instrument of knowledge, and it is complex to analyze the set of processes that the reader needs to perform in order to assimilate the information contained in a text. Various types of abilities are involved in this process that allows us to identify and assign meaning to written words as we interpret and understand what they are supposed to convey.

We find in this vast universe of LD a number of scholars such as Baroja, Paret and Riesgo (2002), Viana and Teixeira (2002) and Lopes (2005), who aim to interpret the objectives in the need to learn to read and the problems that may arise. For some, reading is the interaction between the reader's previous experiences and knowledge with the lexical and grammatical information conveyed by graphic signals in the process of deciphering the author's message; For others, the act of reading is not only an activity that provides access to the meaning of a written text, but also an act of personal thought and judgment (VIANA, TEIXEIRA, 2002).

Several theories have sought to describe, explain and understand reading and its difficulties. The approaches involve social, cultural and informational aspects, as well as the use of leisure time (GARCÍA-SÁNCHEZ, 2014; LEBRERO BAENA; FERNÁNDEZ PÉREZ, 2015; REBELO, 2002; RICARDO GARCÍA; ROSALES; SÁNCHEZ MIGUEL, 2010). Among these, we highlight the difficulties that arise from social conditions and affective aspects (the importance of affective relationships between children and parents, which is directly related to the success or failure of reading and writing at school (ROSALES, 1987) perceptive and motor skills, (Research has shown that rhythmic structure and ability to learn to read are related and are considered a prerequisite for learning to read), language-related conditions (both direction and spatial structure involve perceptual functions and practical functions) and intellectual-level conditions (at this stage of

development, these difficulties are affected by intrinsic and extrinsic field factors involved in the child's growth and usually affect learning) (ROSALES, 1987).

A review of this area of research highlights authors such as Ainscow (2004) Casas (1998), Correia (2004), Lopes (2005), Rocha (2004) and others who focused on the importance of learning to read for child development and the consequences arising when specific difficulties are encountered. According to Rebelo (2002), difficulties in reading and writing are one of the biggest obstacles to appear during school years. It is at this point that the effort is invested in learning because reading and writing, as well as arithmetic, are considered to be the basic capacities for structuring knowledge. Reading is not limited to decoding words, but above all else, it means understanding the message written in the text.

The reading difficulties presented by students include not only difficulties in decoding the message but also in understanding it. This is demonstrated by examples of students who appropriately decode the alphabetic code but do not derive the meaning of the texts they have read.

In recent years there has been a significant increase in the number of students with specific learning difficulties in schools. The Portuguese State recognized the problem and legislated in Law No. 3/2008 of January 7, which reformulated Law No. 21/2008 of May 12, which stipulates the educational responses in this area by adapting the educational process to the Special education needs of students with significant limitations in terms of activities and participation in one or more domains as a result of permanent structural and functional anomalies and which present continuous difficulties in communication, learning, mobility, autonomy, interpersonal relationships and social participation.

Students with learning difficulties present special characteristics and below-average results in terms of reading, writing and

arithmetic (See eg. JIMENEZ, 1992; ORRANTIA et al., 2002). Furthermore, they present deficits in areas such as attention, perception, memory, motor skills, guidance, and psycholinguistics. Therefore, it is desirable for textbooks and materials to include activities, proposals and support exercises as well as promoting additional consolidation activities. In addition, these students require activity proposals adapted to their level in each learning task.

While conducting this research, we defined learning difficulties as a barrier to learning for some students, which manifests itself in reading and in writing. It was in relation to these two areas that we sought to analyse learning difficulties. To address such difficulties we need materials that propose reading and writing exercises and focus on deficient areas such as verbal and written language, phonology, attention and concentration, perception and space-time orientation. Textbooks should deal with these aspects by including exercises or suggesting additional materials to support teachers and students.

### **Assessing learning difficulties in textbooks and instructional materials through evaluation guides and models**

The study of learning difficulties in textbooks can be approached from a variety of perspectives: by analysing the characteristics of teaching materials themselves, analysing publisher design strategies for devising educational resources, or by analysing how materials are used by students with learning difficulties. Given that this is one of the first studies on the subject, we decided to focus on the analysis of the textbook characteristics in order to obtain some initial information.

The need to evaluate materials implies the need to develop an assessment model to help us analyse the strategies to deal with learning difficulties that may arise out of activities presented in textbooks. Through materials

evaluation guides and models we are able to perform an analysis and selection of the resources in an organized, critical and profound way. The literature on this subject provides a number of models and guides that explicitly or implicitly refer to the attitude that teachers should have in relation to these materials, making suggestions for evaluation and usage. The guides present some peculiarities, and focus on different aspects of the material, i.e. formal aspects, use to be made by teachers in the context of the curriculum, and decisions to be implemented by schools in relation to resources. There is also a wide variety of approaches; some models and guides are more open-ended and general, allowing for an overall assessment of materials and evaluating the role of materials from a comprehensive curricular perspective, while other proposals are based on quantitative criteria and deal with issues such as readability, comprehension, and format. In this regard, we should note that little in terms of evaluation proposals is available either national or internationally to allow an analysis of the presence in textbooks of strategies for dealing with learning difficulties (see reviews of assessment models, eg. Area, 2004; Cabero, 1990, 1992; Castro et al 2007; García, 2003; Prendes, 1997, 2001; Vilella and Contreras, 2006 and Iartem, 2009). In the review conducted for this study, we paid special attention to models and evaluation guides involving the analysis of learning disabilities and special education (eg. CUADRADO GORDILLO et al, 1998). For our own materials evaluation proposal focusing on the analysis of strategies within textbooks to address learning difficulties, we considered the dimensions and issues discussed in the above mentioned guides and proceeded to develop a specific guide. The process will be discussed later.

### **Empirical research**

The empirical research analysis involved a representative sample of textbooks and didactic materials used in the 2nd year of primary school, representing a total of 21

textbooks (of which 18 are accompanied by a manual with work “note cards”).

This part of the study is structured as follows: identification of study aims, preparation of an evaluation guide, validation, final preparation, application of the guide to the selected sample, data analysis and conclusions.

The fundamental objective of our empirical research is described as follows:

- To analyse through an evaluation guide the strategies and characteristics present in textbooks to address the learning difficulties of students in the second year of the primary school, taking into account pedagogical considerations at this level of education.

We also aimed to analyse the organization of curriculum materials according to the Curriculum of the Ministry of Education of Portugal in order to meet the needs of students with learning difficulties.

## **Methodology**

As stated in the introduction, we considered content analysis to be the appropriate methodology for investigating how learning difficulties are addressed by the materials. The tool used to carry out the study, which will be described later, was an evaluation guide that enabled us to analyse a variety of textbook dimensions.

We set out with the idea conveyed by Bardin (2004, p. 29) that “content analysis is a set of communications analysis techniques using systematic procedures and objectives for describing the contents of messages.” According to this author, the manifestation of the object of the content analysis “is the inference of knowledge concerning the conditions of production (or eventual reception) with the help of indicators (quantitative or not). Considering that we were seeking specific information regarding the characteristics of a set of written materials, we strove to make inferences about the material itself, and also its possible effects on the target – in our case, students with

learning difficulties who use textbooks. Castiello Costales (2002, p. 207) notes that content analysis can be directed toward the “description or formulation of inferences.” According to this author, inferential analysis “aims to analyse the contents of a communication in order to formulate and identify issues and patterns that bear relation to the content, yet go beyond its explicit formulation and acquire explanatory relevance.” The analysis in our study aims to be both descriptive and inferential. Descriptive in that we intend to fully describe the content, both through its form (text and image) as well as the topics taken on and their relation to the official curriculum adopted by the Ministry of Education of Portugal. The texts were also examined with regard to their message and to what extent they take learning difficulties into account. Being unable to decontextualize content analysis and taking into account that certain data is enveloped by context, we tried to make inferences about the contrast between the discourse of regular school educational (theoretical background), the reality surrounding student with learning difficulties reflected by materials and their production by publishers (social and economic context), and the contribution and adaptability of these textbooks for child knowledge and correction of learning difficulties (ideological content and curriculum). According to Ruiz and Ispizua (1989, p. 186) “The context is a frame of reference containing all the information that the reader of a text can know beforehand or infer from the text itself in order to understand the content and meaning of all that is said”. The context is also constructed by researchers and this construction is determined by their interests, which should be revealed more clearly (KRIPPENDORFF, 1990).

### **Elaboration of the evaluation guide**

By elaborating and applying an evaluation model subdivided into dimensions, we sought to analyse the contents of textbooks as well

as their format, organization, methodological approach, the connection between knowledge and communication, the activities provided and teaching strategies. In general terms, the following steps were followed in developing the tool and its application:

a) Review of the evaluation models and guides available

An especially interesting phase involved the revision of the main evaluation models and guides. In order to do this, we looked into some of the major reviews, particularly those focusing on the analysis of models and proposals relating to special education. (AREA, 2004; CABERO, 1990, 1992; DELGADO DE PAIVA, 2008; GARCÍA, 2003; GARCÍA, TEJEDOR, 2009; JOHNSEN, 1996).

b) Guide proposal

In the development of our instrument, we highlight a total of eight dimensions: 1) characteristics of the materials; 2) organization and method of the material evaluated (teacher, student and program orientation); 3) contents of the materials; 4) visual, written and oral communication contained in the materials; 5) activities present in the materials according to their dimensions: basic concepts, memory, attention and concentration, imagination and creativity, motivation; 6) areas of the Portuguese language program (oral, reading and writing and assessments); 7) didactic strategies used in materials; 8) general evaluation of the analyzed materials and final conclusion.

Each dimension was subdivided into series of items or categories. The guide consisted of a total of 165 items (the complete guide and a detailed explanation of its structure can be found in Delgado de Paiva, 2008). The questions were analyzed in one of three ways: a comprehensive description, a choice of three frequencies (usually, sometimes, never), or the level at which a statement is considered true.

c) Validation of the tool and final proposal

To ensure the validity of the tool, the guide was submitted to the opinion of a panel of experts in three areas: educational intervention specialists, teachers working in special education, and teachers involved in primary education. Several meetings were held with the specialists for discussion and reflection on the evaluation guide. In short, recommendations referred to the need to include questions on whether the textbooks under analysis stimulated the consultation of other materials, included issues for group work arising from textbook proposals, and analysis of teaching-learning model proposed. Likewise, the inclusion of the dimensions “analysis of teaching strategies,” “final conclusions” and “overall evaluation of the analysed material” was recommended.

d) Application of the guide

Following the suggestions related to content analysis, we proceeded to the analysis of the materials listed below.

### Sample

The evaluation focused on the materials used in the second year of the first cycle of basic education in the Portuguese language, in consideration of the fact that learning difficulties involving reading and writing are usually detected after students begin school, at the end of the first year or during the second year of the first cycle of basic education. We have chosen to analyze a total of twenty one books and eighteen worksheets manuals used in the second year of the first cycle of basic education.

The main criteria were the following: books used in Portuguese schools, commercially available and authorized for use during the period of time stipulated by the Ministry of Education, and pertaining to the subject of

Portuguese. We have found a total of 21 books, with their respective worksheets and activity books that we will describe later. Unable to do away with textbooks, the educational system continues to depend on them, considering them more than mere teaching instruments because the belief is that “textbooks involve and develop a complex system of social relations” (CORREIA, MATOS, 2001, p 152)

According to Morgado (2004, p.25), the centrality of school textbooks aims to make “some sense in school work, participating in structuring and thus participating in the structuring of social relations, particularly in the structuring of educational control instruments”.

The study by Cabral (2005) understood that the power of textbooks is not only conferred by educational structures, but also by society in general and publishers, in particular, who are highly interested in investing in this area. The following table lists the evaluated books.

**Table 1** - School textbooks and publishers

Editoras	Materiais	Total
Areal Editores	• Conta-me...Conto 2 + Caderno de fichas	2
Edições Gailivro	• As Leituras do João + Caderno de fichas • Saltitão + Caderno de fichas • As Letrinhas + Caderno de fichas	6
Edições Livro Directo	• Despertar + Caderno de fichas	2
Edições Nova Gaia	• Vá de Roda + Caderno de fichas • Pitágoras e a Leitura + Caderno de fichas • Pirlampo	5
Editora A Educação Nacional	• Crescer + Caderno de fichas • Sou Português • Papagaio	4
Livraria Arnado	• Sabichão + Caderno de fichas • Fio-de-prumo + Caderno de fichas	4
Porto Editora	• Eu e o Bambi + Caderno de fichas • Bambi 2 + Caderno de fichas • Caminhos + Caderno de fichas • Trampolim + Caderno de fichas	8
Santillana-Constância	• Entre Amigos + Caderno de fichas • Arco-íris + Caderno de fichas	4
Texto Editores	• Amiguinhos + Caderno de fichas • Júnior + Caderno de fichas	4

Source: research data.

An analysis of this table reveals that 21 Portuguese language books and 18 worksheets books (textbook support) were evaluated.

Regarding these textbooks, we evaluated aspects such as content, color and images for their attractiveness and diversity in terms of cultural, ethnographic, skin color, current society, oral communication, sensorial perceptions, as well as many other aspects mentioned in the evaluation guide. All were given equal importance.

By applying the guide to these manuals, the desired information was obtained and is presented below.

## Results

Here are the main results of our research. First we shall discuss the findings and description of each of the dimensions analysed and in the final part of the text we shall present the main conclusions of the study.

**Characteristics of materials.** This dimension pays particular attention to issues regarding authorship, title, year of publication and code number, publisher and location, format, brief thematic description, purposes, education level targetted, application, and a field for recording other relevant matters. This dimension provided data which helped us to describe the materials being evaluated and get a sense of their formal characteristics. These are initial results which are in line with those from other studies (AGALLOTIS, 2012) and seem to indicate a lack of activity proposals suited to the need of students with learning difficulties.

In general, we can say that all materials have the same format (A4 size) with approximately the same number of pages. In all of them, the introduction claims that they follow the guidelines of the National Program, the accompanying support materials vary according to the publisher, they are printed and/or digital, and vary in terms of internal organization and thematic division. Some materials are organized into thematic units,



some others are to be used within a period of a few months or weeks.

**Organization and method of the material evaluated (the teacher, student and program guidelines).** As noted by Martínez Bonafé (1995), this dimension attempts to delve deeper and find the meanings hidden behind the more apparent formal aspects. This dimension covered how textbooks are organized and presented to teachers. We also considered it necessary to analyse the extent to which textbooks and their methodological approaches followed government policies. Regarding these issues and whether these materials *propose or promote the organization of time and space among regular education teachers and other teachers*, our analysis led us to conclude that the exchange of activities between regular education teachers and other teachers was not contemplated. Given the lack of materials directing attention to learning difficulties, this type of exchange would be very useful, yet it is not taking place. Similarly, we aimed to analyse whether the materials presented an openness to allow the teacher to diversify the students' sources of knowledge. We concluded that all the materials were rigid in this regard, and do not favor a flexible use of reading time. This is an essential aspect for working with students with learning difficulties (LÓPEZ JIMÉNEZ, 2014). However, some materials provide suggestions for carrying out activities with other materials, although the implementation of these proposals is within the textbook or the workbook themselves. As to whether *the material allows the teacher to prepare students for academic learning that is flexible and adapted to their characteristics*, we found that in general the textbooks do not allow this flexibility, and merely serve to consolidate knowledge regarding the Portuguese language ((DELGADO PAIVA, 2008). With respect to the *didactic format of the materials evaluated and the possibility of using a range of media at the discretion of the teacher*, we found that such a possibility was not provided by

approximately half of the materials and the other half is provided only for some media (such as evaluation sheets, creative writing notebooks, small dictionaries, copyable cards, introduction to writing notebook, and notable picture stories).

In relation to whether the materials *allow teachers to take a questioning position regarding the material itself and the work stemming from it*, we found that none of the manuals provides a space to encourage critical analysis of materials. With respect to whether the material was organized by levels of difficulty (increasing) in accordance with the progression of the school year, we found all manuals to be in accordance with the methodological guidelines of the Education Ministry and thus present the texts in increasing order of difficulty. That is, the course begins with the "simplest" texts and ends with most "complex" ones in terms of vocabulary and grammar.

In our analysis of the material from the student's perspective, one of the first things we paid attention to was *whether the material involved interactive communication tasks among students at different levels of primary education* (This is a fundamental principle which was pointed out by Cortés Moreno, 2013) and we found that none of the analysed materials included such activities. None of the textbooks presented proposals for exchanging information with other levels of primary education. As to *whether the resource suggested the use of other sources of knowledge*, we found that 12 of the 21 materials proposed activities that direct students to other sources of knowledge, eg. journals, dossiers, cookbooks, calendars, dictionaries and photographs. As to whether *the materials foster students' capacity for investigation and autonomy*, only 4 of the 21 textbooks in our sample proposed any activity to promote this capacity. In addition, we found that almost none of the textbooks could be adapted to the needs of students and only scantily favored the adoption of own opinions. (This is clearly a problem that has been highlighted in

previous research (RODRÍGUEZ, 2003, 2004) and significantly hampers the possibility of working directly with students with learning difficulties). With regard to the *curriculum orientation guides*, we wanted to determine whether the materials were accessible, if they were useful for learning and if they met the needs of students with learning difficulties. Therefore, we analysed issues such as whether the program orientation was open in character, if diverse educational offerings were provided for students in regular classes and if there were different techniques for dealing with speaking and reading difficulties. As a matter of fact, most of these issues are barely addressed in the sections referring to the program orientation.

Contents of the materials. By analysing this dimension we sought to determine whether the evaluated textbooks respond to the proposals set out in the Portuguese curriculum regarding learning difficulties. (For more information regarding the Portuguese curriculum and how it relates to learning difficulties, consult the Portuguese Ministry of Education website ([www.min-edu.pt](http://www.min-edu.pt))). We thought it was important to analyse the objectives and guidelines by which they are governed, as well as whether they were in line with the official curriculum, while simultaneously evaluating their contents and whether they are adapted to students with learning difficulties. Also, in this dimension we paid special attention to whether the materials are tailored to student age, if they include appropriate exercises to respond to students with learning difficulties, how the contents are organized, if student learning is facilitated by a comprehensive view of cognitive components, if the material is flexible, if the information it contains relates to modern life, if it makes use of resources and stimuli that foster gender equality, environmental sustainability and citizenship. To conclude this section we would like to point out that the manuals are not appropriate for regular education students in that they do not suggested recovery tasks for pupils with general learning difficulties, they are closed

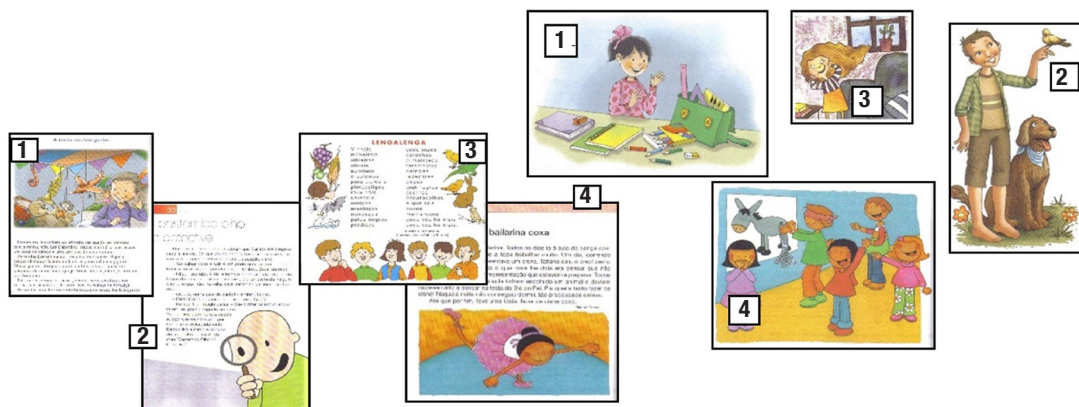
and inflexible, and do not favor adaptation to the needs of teachers and students. On the other hand, they continually refer to other sources of information and digital materials. It can be said that the textbooks present curriculum contents in accordance with the Official Program of the Ministry of Education and in interdisciplinarity with other learning areas (Environmental Studies and Mathematics), but showing no concern for the heterogeneity in today's classrooms. These results are in line with research carried out more recently in the Portuguese context indicating that Portuguese textbooks and materials have difficulty dealing with heterogeneity in the classroom, which is essential for addressing the particularities of students with learning difficulties.

Communication forms within the material: visual, written, oral. This dimension aimed to analyse the communication process found within the different materials tested. We focused our analysis on three levels: visual, written and oral. In general, the textbooks present great care in terms of visual communication, making them more sellable. The textbooks are colorful, have good-quality images and have an "appealing" appearance. Visual images can be valuable for students with learning difficulties, and the diversity of images in most of the textbooks can facilitate their learning. For other students, however, the high number of images on a single page may be distracting. This is one of the aspects that has received most attention in textbooks in recent years, and also appears to be the case regarding Portuguese textbooks. With respect to *written language*, we found that the textbooks followed the official program and that the language was appropriate for the age and common to all students. The clearest difference in the books tested is that not all of them propose the same steps with regard to written communication. The wide variety of writing activities within the materials is not covered prominently in each of the textbooks, but is distributed among them. It seems that priorities are defined by textbook

authors, and not by any rules of mandatory use. With respect to *oral composition*, we found that

most manuals suggest exercises related to the interpretation of texts.

Figure 1 – Communication



Source: Images taken from the evaluated textbooks.

Activities within the materials according their dimensions: Basic concepts, memory, attention and concentration, imagination and creativity, motivation. Bearing in mind that a student with learning difficulties may have serious trouble with reading and writing,

we found it sensible to consider whether these materials favored the teaching/ learning of these students. Among the issues discussed in this dimension we highlight the following: *how diversity is contemplated and what aspects of the resources help students learn about it.*

Figure 2 - Diversity



Source: Images taken from the evaluated textbooks.

In addition, we sought to assess the basic knowledge of cognitive and metacognitive strategies within textbook activities and which are presented as strategic problems of students with learning difficulties. The analysis also focused on *basic concepts, attention and concentration, imagination and creativity, and*

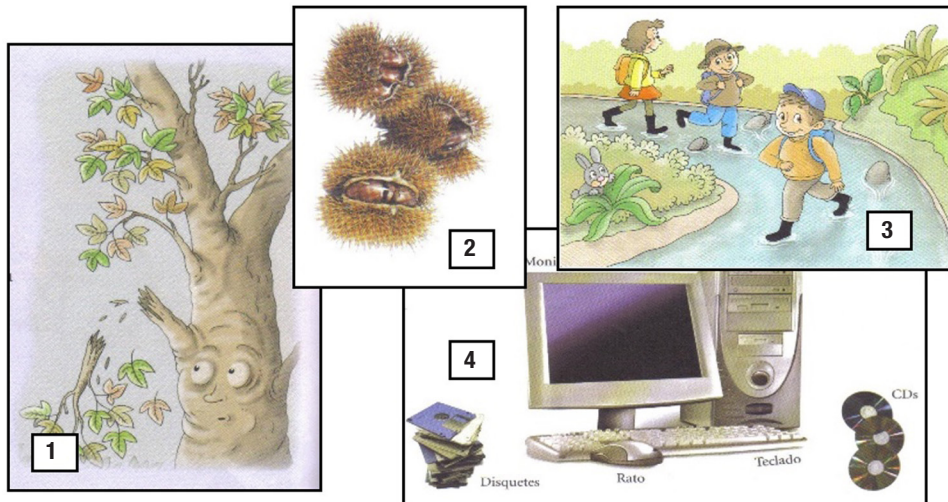
*motivation.* The reflection undertaken in these areas looked into to what extent the materials included exercises for assisting students with LD in these fields of learning.

As for *basics concepts and whether the material brings into play multisensory perception through image and text*, in general all the textbooks are colorful and introduce a

variety of images, texts, and topics that offer the opportunities to work with multisensory perception. All the materials in the form of a guide or workbook make a point of using

images to *support the text* of the exercises. Some materials suggest using diverse types of materials from nature, thus extending the multisensory field to be used.

**Figure 3 -** Multidimensional image perception



Source: Images taken from the evaluated textbooks.

On the other hand, we identified a general lack of exercise proposals involving fine motor skills. With respect to laterality, we can safely say that none of the analysed materials, whether textbooks or card files, include any objectives or proposals aimed at addressing the concept of laterality. With respect to notions of time, a greater concern for the subject was present in the exercises within the materials evaluated.

Some of the school materials are divided by units according to the seasons of the year and some of the card files include a space for recording the date when the work is done, which reinforces the acquisition of this notion. As suggested by Vallés (1996, p.97), “using time, its duration, sounds associated with that duration, intensity, and so on, is an example of applying time consideration to literacy as a facilitator of learning.” A student who faces difficulties with time organization will tend to mix up words when they read or write (eg, “sol” and “los”; “280” and “820”). As suggested by Outón (2004, p. 53) “the structuring of space

and time is the act of establishing a relationship between the chosen elements to create a whole” and problems with structuring space and time will tend to manifest in the student’s dictation and spontaneous reading, as they separate and join words regardless of language structure, guided only by the sound structure of the words. Regarding the promotion and development of notions of quantity, none of the materials include exercise proposals to address this subject.

With respect to *memory*, we analysed to what extent work focusing on memory development was included in the activity proposals of the textbooks. Students with learning disabilities tend to be deficient in auditory and/ or visual memory. Audio memory directly affects the development of spoken language, both receptive and productive. Our analysis of the textbooks focused on situations involving memory and learning. Regarding *whether the materials presented tasks in sequence so as to allow students to keep the*

*information in short and long term memory and evoke it when necessary*, we conclude that all the textbooks present tasks in sequence, which promotes memorization. With respect to *whether the materials contain visual and semantic representations that aid student memory*, we conclude that all the materials contain only visual and semantic representations, using images within the text and orthographic exercises that complement learning. The exercises in the activity workbooks help consolidate the knowledge acquired through the use of the textbooks. Some materials include oral and reading/ writing rubrics that reinforce memorization. Nevertheless, the representations are not sufficient for students with learning difficulties because these students need abundant aids for developing short and long-term memory. As to *whether the material promotes the development of short and long-term perception and memory through the use of images and exercises*, we found that most textbooks and materials did not promote the reproduction of images according to the text and topics included. This is an unexplored area of the materials used by students at this level of education. As to *whether the material promotes the development of perception and short-term memory through exercises that evoke previously acquired information*, we found that most of the materials were concerned with this aspect and proposed exercises for consolidating prior lessons through evocation. As to *whether the materials promote the development of perception and memory in the short and long-term through coding and retention exercises*, we conclude that most of the materials include exercises addressing this issue. As to *whether the material promotes the development of perception and short-term memory through the use of poetry, tongue twisters and so on*, our findings were positive in that most of the materials make use of such learning strategies. In regard to *whether the materials promote the development of perception and short-term memory through the use of encoding exercises*

*and retention of images, sequences, and words*, we found that the materials generally address this type of need.

*With respect to attention and concentration*, we analysed to what extent the materials include proposals to address this issue among pupils with learning difficulties. Attention is a selective information process necessary for the consolidation of action programs and maintenance of permanent control. It can be said that it is basically an intentional process controlled individually. Given that this is an extremely important process, we need to get students to ignore the sight, sound, and other stimuli that are directly related to learning, allowing the proper concentration and attention to acquire knowledge and meet challenges in the required time. Under this aspect, we consider it appropriate to consider *whether the proposed activities allow selective attention to certain features of an object or situation*. In this case, we observed that all the materials include activities consistent with the texts and contents. The exercises are presented in different formats for the purpose of giving varied responses to the object or situation posed. As to *whether the proposed activities involve location and identification of an object that matches a proposed model or differs from the rest*, all the materials evaluated propose tasks involving identification and localization according to the orientation of the textbook and using the student's attention and concentration.

Regarding the group of issues related to attention/ concentration: *obtaining information, persistence, encoding and retention; immediate learning, reproduction, discrimination and generation*, our findings can be summarized by saying that hardly any of the materials evaluated include exercises of this nature. It would be desirable for this type of work to have a greater presence, as it is a way to consolidate acquired knowledge and generalize it to other learning situations.

**Imagination and creativity.** In this section we devote our attention to aspects

relating to imagination and creativity, –which are essential for materials to be able to address students with learning difficulties – (Castro Rodríguez, 2008) and to determining the extent to which they are used in materials to encourage learning. Imagination is the faculty or mental capacity which allows the representation of objects by their qualities as perceived by the senses. It is also a process of reviving images from previous perceptions (reproductive imagination) and combining those elements into new units (productive or creative imagination). We found that, in general, all the materials analysed included proposals for

developing imagination and creativity through manual exercises and expression.

Regarding *motivation*, we considered it appropriate to determine *whether the material and their works proposals contain learning motivators*. In general terms we can say that school materials are motivators for learning and that they use innovative strategies such as multiple choice, positive reinforcement in performing tasks, the use of materials in formats other than paper, and the use of appealing illustrations. However, they could improve in aspects related to reinforcement and the variety of solutions to exercises.

Figure 4 - Motivation

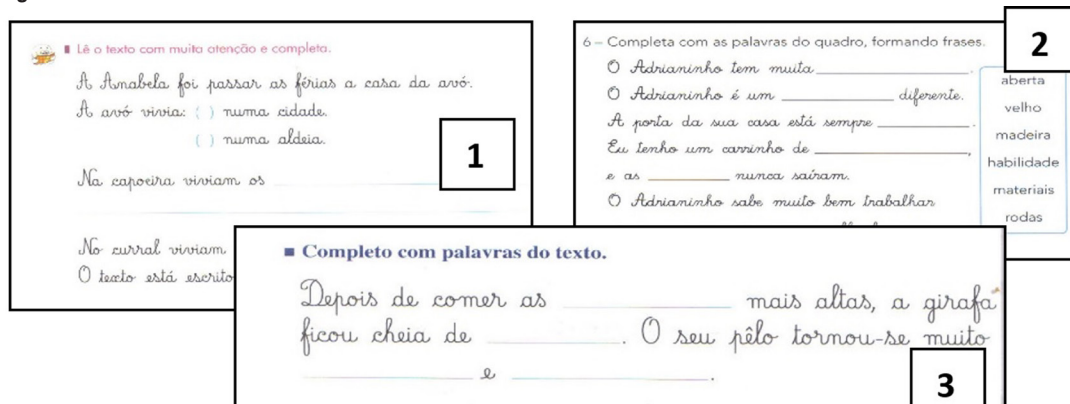
Source: Images taken from the evaluated textbooks.

Portuguese Language curriculum áreas (oral, reading and written, and evaluation). In this dimension, we analysed how the curriculum areas relating to the Portuguese language were covered in textbooks and supplements (card files). We assume that during compulsory education students should have the opportunity and support to become proficient in the Portuguese language. That is, they should be able to listen to, speak, write, and read in a variety of situations and for a multitude of objectives in order to provide a coordinated view of these skills and be aware of the implications of their use. It was not our intention to conduct a comprehensive and theoretical study of these skills, but we did seek to understand whether

the materials used allow students to gain competence in communication, greater access to culture, and if they provide essential tools for autonomous learning. To summarize, we found that the textbooks did not contain drills and support for students with LD, did not underline either new or difficult words and did not propose self-correction or alteration of texts. Specific strategies for rewriting and reading do not emerge frequently enough for these students. However, we did find that these materials frequently proposed spelling exercises, rewriting and text completion that help to correct writing errors and consolidate learning.

In the next block on *evaluation*, we attempted to identify not only exercises that

Figure 5 - Evaluation



Source: Images taken from the evaluated textbooks.

cover learning content but also the type of evaluation included in the textbooks themselves. We found that as facilitators the textbooks proposed reading and writing exercises, provide exercises based on previously learned activities and exercises to expand on acquired knowledge by consulting other materials and people.

*Didactic strategies employed by materials:* In this category we analysed how the textbooks address teaching strategies and whether they favor students with learning difficulties. Proposals for school curriculum materials should take into account not only "regular" education students but also the diversity of students integrated into the classroom (Rodríguez 2003). Materials should reflect the fact that they are intended for a heterogeneous audience, and options for attending to diversity should be contemplated in their elaboration. Resources should provide teaching strategies that can facilitate processes of knowledge construction. To summarize, we could say that all of the analysed materials require a teacher as mediator between the material and the learning process and all of the materials aimed to broadly develop reading and writing. Likewise, most of the materials included oral exercises and presented evaluation criteria to test learning outcomes of a cognitive, emotional, and social nature. Only 6 of the analysed materials proposed pre-elaborated

objective assessment tests. The materials analysed thus address the specific objectives set for primary education and for oral and written communication, language "function", its analysis and reflection, and competence in the following specific Portuguese Language skills: oral comprehension, reading and writing skills, and specific knowledge of the language.

*Overall assessment of the material analysed and final conclusions:* This dimension aimed to provide an overview of the materials assessment results. It is broken down into a number of items intended to look into the most relevant aspects of the materials in order to serve students with learning difficulties. We tried to determine the advantages and disadvantages of the materials, whether they were beneficial or harmful and if they provided sufficient support for the "training" and recovery of these students in terms of images, font size, graphs, unit organization, new vocabulary, headings, as well as oral and written descriptions of text. With regard to the disadvantages, we found a lack of workbooks (graphical, handwriting, essay writing) a glossary with new and difficult words, underlining, consolidation drills, and text summaries. None of the materials proposed the oral text summaries, silent reading, timed reading, or self-correction of writing with specific examples.

## Conclusions

In general, the materials presented a scarcity of strategies and resources which direct attention to students with learning difficulties. The results of our analysis of materials in the Portuguese context seem to reveal that the textbooks have huge deficits that hinder the attention to students with learning difficulties. We also think that the following results are worth noting:

- The textbooks do not include proposals to help students with learning difficulties. These resources do not provide alternatives to adapt proposals to students with difficulties. In some sense, the textbooks are too uniform and reflect a “model” teacher who operates in a regular classroom without situations of difficulty. Attention to the difficulties is left to teachers, which means that the teacher should have specific training and resources to meet the needs of students with learning difficulties. However, this issue would be the subject of another research project. What we have analysed in this study are the characteristics of materials and the extent to which they help to address the difficulties mentioned. Similarly, from the student’s perspective, we also found the textbooks not to be adapted to students with learning difficulties, as there were no proposals for work with other students or other recovery materials. Moreover, independent use is not promoted, thus leading students to rely on the teacher and the plan that has been laid out.

- The textbooks have a structure with increasing degrees of difficulty, thus hindering adaptation of its format or exercise proposals. They become somewhat stiff and difficult to use for drilling or consolidating. Furthermore, we barely found any proposals

suggesting alternative materials to help develop teaching-learning strategies relating to the difficulties analysed.

- They present rigid exercises without options and lacking positive reinforcement. They do not include self-assessment or summative evaluation guides, which, going beyond the result, allow for reflection on the process of usage.

We also identified the lack of some of what are considered to be ideal situations for the overcoming of learning difficulties, such as: suggestions for exercises that stress the need for written communication, suggestions for reconstructing texts using scrambled sentences, suggestions for data collection information from other sources that allow the development of students’ written thought.

The evaluated textbooks offer a rich and appealing graphic appearance to support their text and exercises. This was the most positive aspect of our evaluation and was in line with the findings by other researchers (COLL; MONEREO, 2008; MARTÍNEZ BONAFÉ, 2010; ORTEGA, 1999; PRENDES, 1998).

Nevertheless, at present, attention to students with learning disabilities depends basically on the willingness of teachers, given that the textbooks barely allow for the adaptation of existing exercises.

Finally, we can say that the textbooks analysed are adequate as guidance and content for a “prototypical” student without difficulties and who presents normal performance, development and cognition.

Students with learning difficulties require proposals suited to their level in each learning task. Specific support materials need to be available in order to help them overcome those difficulties in relevant areas of the curriculum.



## References

- AGALLOTIS, Ioannis. Evaluating Greek primary school textbooks used to teach students with learning disabilities. **Aula Abierta**, Oviedo, v. 40, n. 3, p. 47-54, 2012.
- AINSCOW, Mel. **Necessidades especiais na sala de aula**. Lisboa: Instituto de Inovação Educacional: Unesco, 2004.
- ANTUNES, Nuno Lobo. **Mal-entendidos: da hiperactividade à Síndrome de Asperger, da dislexia às perturbações do sono**. As respostas que procura. Lisboa: Verso de Kapa, 2009.
- AREA, Manuel. **Los medios y las tecnologías en la educación**. Madrid: Pirámide, 2004.
- BARDIN, Laurence. **Análise de conteúdo**. Lisboa: Edições 70, 2004.
- BAROJA, Fernanda Fernández; PARET, Ana María Llopis; RIESGO, Carmen Pablo. **La dislexia: origen, diagnóstico y recuperación**. Madrid: CEPE, 2002.
- BRUILLARD, Éric et al. **Caught in the web or Lost in the Textbook?** IUFM. Caen: IARTEM, 2006. Meeting in Caen, 2005.
- CABERO, Julio. **Análisis de medios de enseñanza: aportaciones para su selección, utilización, diseño e investigación**. Sevilla: Alfar, 1990.
- CABERO, Julio. Análisis, selección y evaluación de medios didácticos. **Qurrriculum**, La Laguna, n. 4, p. 25-40, 1992.
- CABRAL, Marianel. **Como analisar manuais escolares**. Lisboa: Texto, 2005.
- CASAS, Ana Miranda. **Dificuldades en el aprendizaje de la lectura, escrita y cálculo**. Valência: Promolibro, 1998.
- CASTIELLO COSTALES, José María. **Los desafíos de la educación intercultural: migraciones y curriculum**. Tese (Doutorado) – Universidade de Oviedo, Oviedo, 2002.
- CASTRO RODRÍGUEZ, María Montserrat. The use of textbooks and educational media. In: HORSLEY, Mike; McCALL, Jim; HENLEY, Susan. **Peace, democratization and reconciliation in textbooks and educational media**. Norway: Hogslen I Vestfold/ IARTEM, 2008. p. 126-131.
- CASTRO RODRÍGUEZ, María Montserrat et al. A utilización de materiais en soporte impreso e dixital: unha oportunidade para reflexionar sobre o papel dos recursos educativos na nosa práctica docente. In: CID FERNÁNDEZ, Xosé Manuel; RODRÍGUEZ RODRÍGUEZ, Jesús. **A fenda dixital e as súas implicacións educativas**. Santiago de Compostela: Nova Escola Galega, 2007. p. 439-451.
- CASTRO RODRÍGUEZ, María Montserrat; RODRÍGUEZ RODRÍGUEZ, Jesús; ZAPICO, María Helena (Ed.). **Materiais didácticos e experiencias educativas innovadoras**. A Coruña: Toxosoutos, 2013.
- CHILE. Ministerio de Educación. Seminario internacional de textos escolares. Santiago de Chile: Ministerio de Educación, 2006.
- COLL, César; MONEREO, Carles (Ed.). **Psicología de la educación virtual**. Madrid: Morata, 2008.
- CORREIA, José Alberto; MATOS, Manuel. **Solidões e solidariedades nos quotidianos dos professores**. Porto: ASA, 2001.
- CORREIA, Luís de Miranda. Problematização das dificuldades de aprendizagem nas necessidades educativas especiais. **Análise Psicológica**, Minho, v. 22, n. 2, p. 369-376, 2004.
- CORTÉS MORENO, Maximiano. Un currículo consensuado entre profesores y alumnos de ELE. **MarcoELE**, Madrid, n. 16, 2013.
- CUADRADO GORDILLO, Isabel et al. **Alumnos con necesidades educativas especiales: guía de adaptación de materiales didácticos**. Tomo I. Cáceres: Universidad de Extremadura, 1998.
- DELGADO DE PAIVA, Margarida. **As dificuldades de aprendizagem e os materiais curriculares: um estudo dos manuais escolares do primeiro ciclo do ensino básico**. Tese (Doutorado em Didática e Organização Escolar) - Universidad de Santiago de Compostela, Santiago de Compostela, 2008.

- GARCÍA, Ana. **Tecnología educativa**: implicaciones educativas del desarrollo tecnológico. Madrid: La Muralla, 2003.
- GARCÍA, Ana; TEJEDOR, Francisco Javier. Evaluación de medios didácticos y proyectos TIC. In: PONS, Juan de Pablos (Coord.). **Tecnología educativa**: la formación del profesorado en la era de Internet. Málaga: Aljibe, 2009. p. 271-302.
- GARCÍA-SÁNCHEZ, Jesús Nicasio. **Prevención en dificultades del desarrollo y del aprendizaje**. Madrid: Pirámide, 2014.
- HORSLEY, Mike; KNUDSEN, Susanne; SELANDER, Staffan (Ed.). **'Has past passed?'** Textbooks and educational media for the 21st Century. Bratislava: Stockholm Institute of Education Press/IARTEM, 2005.
- IARTEM. International conference on textbooks and educational media, 9., Tonberg, 2007. **Peace, democratization and reconciliation in textbooks and educational media**. Tonsberg: IARTEM, 2007.
- IARTEM. International conference on textbooks and educational media, 10., 2009, Santiago de Compostela. **Local, national and transnational identities in textbooks and educational media**. Santiago de Compostela: IARTEM, 2009.
- IARTEM. International conference on textbooks and educational media, 11., 2011, Kaunas. **Representations of the otherness**. Kaunas: IARTEM, 2011.
- IARTEM. International mini-conference on textbooks and educational media, 2012, Curitiba. **Challenges to overcome social inequality**: the role of textbooks and educational media. Curitiba: IARTEM, 2012.
- JIMÉNEZ GONZÁLEZ, Juan Eugenio. Estructuras operatorias y rendimiento en aritmética en niños con dificultades de aprendizaje. **Revista de Psicología General y Aplicada**, v. 45, n. 2, p. 211-217, 1992.
- JOHNSEN, Egil Borre. **Libros de texto en el calidoscopio**: estudio crítico de la literatura y la investigación sobre los textos escolares. Barcelona: Pomares, 1996.
- KRIPPENDORFF, Klaus. **Metodología del análisis de contenido**: teoría y práctica. Barcelona: Paidós, 1990.
- LEBRERO BAENA, María Paz, FERNÁNDEZ PÉREZ, María Dolores. **LECTOESCRITURA**: fundamentos y estrategias didácticas. Madrid: Síntesis, 2015.
- LOPES, João. **Dificuldades de aprendizagem da leitura e da escrita**: perspectivas de avaliação e intervenção. Porto: ASA, 2005.
- LÓPEZ JIMÉNEZ, María Dolores. A critical analysis of the vocabulary in L2 Spanish textbooks. **Porta Linguarum**, Granada, n. 21, p. 163-182, 2014.
- MARTÍNEZ BONAFÉ, Jaume. El currículum y el libro de texto: una dialéctica siempre abierta. In: GIMENO, José (Coord). **Saberes e incertidumbres sobre el currículum**. Madrid. Morata, 2010. p. 246-268.
- MARTÍNEZ BONAFÉ, Jaume. Interrogando al material curricular (Guión para el análisis y la elaboración de materiales para el desarrollo del currículum). In: MINGUEZ, Jesús García; BEAS, Miranda. **Libro de texto y construcción de materiales curriculares**. Granada: Proyecto Sur, 1995. p. 221-245.
- MORGADO, José Carlos. **Manuais escolares-contributo para uma análise**. Porto: Porto Editora, 2004.
- ORRANTIA, José et al. The role of conceptual knowledge in solving addition and subtraction Word problems. **Infancia y Aprendizaje**, Madrid, v. 14, n. 2, p. 183-201, 2002.
- ORTEGA, José Antonio. **Comunicación visual y tecnología educativa**. Granada: Grupo Editorial Universitario, 1999.
- OUTÓN, Paula. **Programas de intervención con disléxicos**: diseño, implementación y evaluación. Madrid: CEPE, 2004.
- PRENDES, María Paz. Evaluación de manuales escolares. **Pixel-Bit**, Sevilla, n. 9, p. 21-50, 1997. Disponible em: <<http://www.sav.us.es/pixelbit/pixelbit/articulos/n9/n9art/art93.htm>>. Acceso em: 16 fev. 2001.
- PRENDES, María Paz. Evaluación de manuales escolares I. **Pixel-Bit**, Sevilla, n. 16, p. 77-100, 2001. Disponible em: <<http://www.sav.us.es/pixelbit/pixelbit/articulos/n18/n18art/art187.htm>>. Acceso em: 16 fev. 2001.

- PRENDES, María Paz. Las imágenes en los libros de texto. **Comunicación y Pedagogía**, Barcelona, n. 151, p. 101-108, 1998.
- REBELO, José Augusto da Silva. **Dificuldades da leitura e da escrita em alunos do ensino básico**. Rio Tinto: ASA, 2002.
- RICARDO GARCÍA, José; ROSALES, Javier; SÁNCHEZ MIGUEL, Emilio. **La lectura en el aula**: qué se hace, qué se debe hacer y qué se puede hacer. Barcelona: Graó, 2010.
- ROCHA, Bárbara Pinto. **A criança disléxica**. Lisboa: Fim de Século, 2004.
- RODRÍGUEZ RODRÍGUEZ, Jesús. **A elaboración e adaptación dos materiais polos propios profesores**. Santiago de Compostela: Concello de Santiago: Nova Escola Galega, 2004.
- RODRÍGUEZ RODRÍGUEZ, Jesús. **Materiais curriculares e diversidade sociocultural**. Santiago de Compostela: Concello de Santiago: Nova Escola Galega, 2003.
- ROSALES LÓPEZ, Carlos. **Didáctica de la comunicación verbal**. Madrid: Narcea, 1987.
- RUIZ, José; ISPIZUA, María Antonia. **La descodificación de la vida cotidiana**: métodos de investigación cualitativa. Bilbao: Universidad de Deusto, 1989.
- SIKOROVA, Zuzana et al. (Ed.). Textbooks and educational media in a digital Age. In: IARTEM. International conference on textbooks and educational media, 12., 2015, Ostrava. **International...** Ostrava: IARTEM, 2015.
- VALLÉS, Antonio. **Guía de actividades de recuperación y apoyo educativo**: dificultades de aprendizaje. Madrid: Escuela Española, 1996.
- VIANA, Fernanda Leopoldina; TEIXEIRA, Maria Margarida. **Aprender a ler**: da aprendizagem informal à aprendizagem formal. Porto: Porto Editora, 2002.
- VILLELA, José; CONTRERAS, Luiz Carlos. El conocimiento profesional de los docentes de matemáticas en relación con la selección y uso de libros de texto. **Revista de Educación**, Madrid, n. 340, p. 973-992, 2006.
- ZAPICO, María Helena. **Presença, conceptualización e tratamento da vellez no currículo escolar**: quimera ou realidade? Análise da imaxe das persoas maiores nos materiais curriculares de educación primaria de Galicia. 962 f. Tese (Doutorado em Ciências da Educação) - Universidad de Santiago de Compostela, Santiago de Compostela, 2012.

*Received on september 22th, 2015*

*Approved on august 09th, 2016*

**Margarida Delgado Paiva** is Professor of Special Education in the Maia Schools Group, with a PhD in Teaching and Educational Organization: Research and Innovation, from the University of Santiago de Compostela, Spain. She works with Students with Special Educational Needs and Specific Learning Difficulties. She is also Visiting Professor at the Universities of Portucalense and Fernando Pessoa.

**Jesús Rodríguez Rodríguez** is a Full Professor. His research activity focuses on the design and evaluation of didactic materials. He is a member of the Stellae Group research group (USC), Director of the Galician Education Journal and President of IARTEM.