



Empirical evaluation of Easy Language recommendations: a systematic literature review from journal research in Catalan, English, and Spanish

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Abstract

Easy Language is a language variety that aims to make information more comprehensible and, ultimately, more accessible. Content in this variety is written and designed following a set of recommendations that have been published in different guidelines. However, it remains uncertain to what extent these recommendations are backed up by empirical research. The aim of this study is to review the existing literature that evaluates current recommendations in Easy Language guidelines, on the basis of the following research questions: (a) is there empirical research that evaluates current international Easy Language recommendations? and, (b) if so, what current international Easy Language recommendations are supported by empirical research and what results were obtained? To this end, we conducted a systematic literature review based on journal articles in three languages: Catalan, English, and Spanish. First, a systematic search was designed and performed in 10 databases of different fields of science. Then, we reviewed every article that resulted from the search and found that 6 publications out of the initial 617 met the inclusion criteria and could be considered relevant for the study. Based on the data extracted from the included publications, and after an overall review of our systematic search results, we safely state that there is indeed empirical research on some current Easy Language recommendations. Nevertheless, empirical research in the field (at least in the publication format and languages considered in our study) is not enough in terms of the number of publications, and the findings obtained are far from generalisable. Our literature review suggests future lines of research, and we hope that it fosters empirical studies in the field that help support the existing findings.

Keywords Easy Language · Easy-to-understand language · Accessible information · Systematic review · Literature review

1 Introduction

Reaching accessible information and communication requires eliminating linguistic, sensory, and cognitive barriers [1]. Audio description (AD) and subtitling for the deaf and hard-of-hearing (SDH) may be the best-known modalities, but accessible communication can be reached by means of different access services, relates to various types of media, and targets different groups of people. Making information more accessible and communicating easier for everyone is

the shared goal of many different practices, one of them being Easy-to-understand Language.

The ISO standard on making written texts easier to read and understand defines “Easy-to-understand language” as “any language variety which enhances comprehensibility” [2, p. 1]. “Easy-to-understand language” has been used as an umbrella term for different simplified language varieties, among which we find Plain Language (less-simplified language) and Easy Language (more-simplified language) [3]. Maaß [4] defends that Plain Language is less perceptible and comprehensible, more acceptable and avoids stigmatisation, whereas Easy Language does the opposite: it is more perceptible and comprehensible, less acceptable and can lead to stigmatisation. This article will focus on Easy Language, the most simplified functional variety of Easy-to-understand Language.

Easy Language is defined in the ISO standard [2, p. 2] as a “language variety in which a set of recommendations

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regarding wording, structure, design and evaluation are applied to make information accessible to persons with reading comprehension difficulties for any reason". But an official definition of the term is yet to be set [5], and researchers and professionals of the field are yet to reach a consensus on one consolidated term. Today, Easy Language is also referred to as "Easy-to-read" and "Easy Read" [6–10], among other less-popular terms. We decided to consistently use the term "Easy Language" in our paper on account of its recent extended usage by experts [4, 5, 11] and because, contrary to the terms "Easy Read" and "Easy-to-read", it does not denote that the variety is limited to written text [2, p. 2] or content intended to be read.

Easy Language deviates from standard use in specific aspects related to content, vocabulary, and structure [5, 7, 12], as well as in paratextual elements, like the use of illustrations as visual support, the design, or the layout of the documents [7].

Any person who finds it hard to understand standard language at any level is a target user of Easy Language [5]. A very heterogeneous group of people can experience comprehension barriers: low levels of literacy, intellectual disabilities, dyslexia, aphasia, advanced age, or limited language skills (a frequent characteristic of second-language learners or immigrants) can all be the cause of experiencing comprehension difficulties or declined reading abilities [7, 13, 14], alongside contextual circumstances. After all, literacy is not a native ability but rather acquired and dependant on many factors [14]. It is estimated that nowadays a total of 750 million adults around the world [15] and a third of the population in Spain [11] could benefit from accessible communication and Easy Language. Ultimately, since Easy Language can serve everyone [5, 16], everyone should be able to choose between information in Easy Language and standard language [5].

The reality and practice of Easy Language is different from one country to another and from one language to another. This paper adopts a European point of view, as well as having a special focus on Spain and Catalonia, which is the context the authors are more familiar with and in which Spanish and Catalan, languages that are in our inclusion criteria for publications (see Sect. 2.1.1), are official.

Many researchers state that current recommendations lack empirical support (see Sect 1.2), and both professionals and academics manifest that more research on the field is needed [17, 18]. A 2020 literature review from Rivero-Contreras and Saldaña [19] assessed the existing research that evaluates the effects of Easy Language on comprehensibility. An earlier review by Sutherland and Isherwood [18] also searched for evidence related to different characteristics of Easy Language (e.g. symbols, photographs) and their effects on comprehension. Finally, Chinn and Homeyard [20] performed a meta-narrative literature review centred on the

impact of accessible health information for people with intellectual disabilities.

These studies resulted, in the most part, in finding no conclusive evidence to support the alleged positive effect on the reader's comprehension of Easy Language. Our review is the first to set the Easy Language recommendations as the focus and starting point of the search, although we also acknowledge the limitations of our search (see Sect. 4.3) in terms of language and publication outlet choices. Naturally, the results of all these reviews (including ours) are meant to complement each other.

Our main aim is to review the existing literature that evaluates current recommendations in Easy Language guidelines in three languages and discover if these recommendations have empirical support, and if further research would be needed. More specifically, our research questions are the following: (a) is there empirical research that evaluates current international Easy Language recommendations? and (b) if so, what current international Easy Language recommendations are supported by empirical research and what results were obtained?

The article presents, firstly, an overview of the main guidelines and standards, and references to research performed on the field. Then, the methodology is set forth, followed by the main results of our systematic literature review. Finally, we will discuss the results and arrive at conclusions.

1.1 Easy Languages: existing guidelines and research

The main guidelines on Easy Language will be presented in this section, focusing on international and Spanish guidelines. Recommendations on other languages and on other easy-to-understand language varieties are outside the scope of this article, although a few can be mentioned.

1.1.1 Guidelines and standards

In 1997, the International Federation of Library Associations and Institutions (IFLA) published their first Easy Language guidelines. An updated version was published in 2010 [7]. Adaptations of the latter have become the main guidelines for Easy Language practice in a few countries, like Croatia or Sweden [21, 22].

Inclusion Europe (an association that was called International League of Societies for Persons with Mental Handicap-European Association until 2000) also published some guidelines in 1998 [23], which were updated in 2009 [24]. These guidelines have been translated and adapted to various European languages and have become the most popular—and, in some cases, the first—guidelines for Easy Language in many countries (e.g. Latvia, Lithuania, Poland, Czech Republic) [25–28].

An International Organization for Standardization (ISO) project has recently been working on composing and publishing the first international standard for writing in Easy Language [2]. This ISO project has taken inspiration from previous sources, including the first-ever—and so far the only—Easy Language standard, the UNE 153,101:2018 EX [29], published in 2018 in Spain, which presents some specificities from the Spanish language [13, 29]. The UNE standard is currently the main guide for Easy Language practice in Spain. That being said, there are several handbooks with recommendations on how to create and evaluate content in Easy Language available in Spanish [11, 30], and a few international guidelines have been translated into Spanish, Catalan, and other co-official languages of Spain. Inclusion Europe had its first Easy Language guidelines from 1998 [23] translated into Catalan and Spanish [31, 32] and its 2009 guidelines [24] translated into the same languages in 2016. The 2010 IFLA guidelines [7] were also translated into Catalan and Spanish in 2012.

Guidelines can include language-independent as well as language-specific rules, but the recommendations in international Easy Language guidelines like the ones by Inclusion Europe [24] or IFLA [7] are not focused on language-specific requirements and provide mainly generalisable recommendations instead. Easy Language is language-dependant [14], but language-independent guidelines can function as a source of standard, replicable recommendations to be later reviewed, questioned, and adjusted into language-specific rules or practices.

Easy Language guidelines can include recommendations related to not only linguistic aspects of the text, but also to the paratextual aspects of it, like the need for visual support or the communication channels that can be used. Most guidelines will include recommendations on both types of elements, with a few exceptions. The publication *Make it easy. A guide to preparing Easy-to-read* guidelines, published in 2011 by the Accessible Information Working Group [33], for example, presents a set of recommendations that go scarcely over the linguistic aspects of Easy Language only to focus on other aspects of the text (e.g. graphic and stylistic elements).

Finally, guidelines can be designed for different uses and can be generic or case-specific. A few guidelines for making accessible content were designed to be relevant and applicable to one specific context. One example of this is the W3C Accessibility Guidelines (WCAG) 3.0 that include a set of recommendations for “making web content more accessible to users with disabilities” [34] in which writing in Plain Language is recommended. The Techniques for the Cognitive and Learning Disabilities Accessibility Task Force (COGA) [35] also give designers some corresponding recommendations to make sites more usable for people with cognitive and learning disabilities, although Easy Language is not

mentioned. Another example of case-specific accessibility guideline is *Resum de les principals pautes de Lectura Fàcil per a elaborar textos narratius* [30], a set of recommendations for writing prose fiction in Easy Language.

1.1.2 Guidelines and research

Easy Language guidelines and standards may not suffice “neither for consistent text practice nor for research purposes” [4: 78], but “they show good intuition as to what makes information easier to understand [...] [and] it is interesting to see where those rules overgeneralise or underspecify” [4, p. 78]. These statements sprout from a lack of evidence supporting Easy Language recommendations, an issue that has been outlined by many authors [5, p. 15, 18, pp. 297–298, 20, p. 2]. As a matter of fact, even if there was existing evidence to support certain recommendations, it would be very hard to know, since most of the existing guidelines do not reference previous studies [18, p. 298]. It is difficult to trace each recommendation back to the study that might assess it [36] and, therefore, it could not be easy to understand why and how the adaptation of the text following certain recommendations makes the text more accessible—that is, why they should be included in Easy Language guidelines. In a recent literature review by Sutherland and Isherwood [18, p. 308], it is determined that “aside from the simplified written text, it is not clear from the current paucity of experimental research whether other aspects of [Easy Language] such as symbols, pictures (line drawings), or photographs necessarily enhance understanding [...] Overall, there is little supporting evidence in the literature for the recommendations contained in many [Easy Language] design guidelines.” Rivero-Contreras and Saldaña [19, p. 726] also concluded in their review that “it seems like the adaptation of written content facilitates reading, [...] but, in general, it does not allow a better comprehension of the information” (“*Parece ser que la adaptación del material escrito facilita la lectura, [...] pero, en general, no permite una mayor comprensión de la información*”). On account of this, Chinn [8] mentions that the process of producing Easy Language resources is still unclear, and “rationales for design decisions are lacking” [8, p. 411]. Thereby, without evidence to base the creation of guidelines on, no hierarchy of recommendations has yet been set, and a few inconsistencies between different publications can be found [18]. For example, in García Muñoz [13, p. 76], it is recommended to always indicate the picture’s copyright (“*Señalar el copyright de la foto*”), with no further instruction given. This instruction could give the reader the idea that the copyright should be placed under the image, but at the same time, the UNE standard [29, p. 31] specifies the

following: “copyright information should not accompany the image. It should be placed on a different section or a credits section” (“*La información sobre derechos de uso de imagen no debe incorporarse junto a ella. Se debería situar en un apartado de créditos o en otro apartado*”). Another inconsistency would be the placement of images, with instructions to place them on the left of the text [37], as well as on the right [38].

In 2015, Wengelin [39] pointed out that, until then, only a few studies had provided supporting evidence for Easy Language guidelines, and that the results of these studies were mostly outdated. In 2021, Lindholm and Vanhatalo [5] defended that systematic research on Easy Language was incipient in most countries, and the existing studies often referred to specific applications of Easy Language (e.g. online content and websites [6, 10, 40], health and social care [41, 42]), or to certain target groups (e.g. people with autism [42, 43] or intellectual disabilities [41, 44]). In a related manner, Miesenberger and Petz presented a state of the art of website content in Easy Language and pointed out the need for research in that specific field back in 2013 [6].

German-speaking countries (and, specially, Germany) are an encouraging exception because of their recently increasing research on Easy Language [5, 17]. It is also remarkable that Easy German does have scientifically based rulebooks, in addition to practical guidelines, the first dating back to 2015 [45]. All scientifically based rulebooks have been developed at the University of Hildesheim in Germany [46], but even these guidelines are supported by previous non-specific research (studies that were not related to or focused on Easy Language). As Maaß [4] defends, more studies that clearly evaluate Easy Language recommendations, as well as more studies performed with the primary users of Easy Language, are necessary to back up the guidelines. One main limitation of this paper is that, due to the language barrier, publications written in German will not be included in our review (see Sects. 2.2.1, 2.2.2 and 4.3).

2 Methods

Our systematic literature review followed two different complementary processes: first, an identification of Easy Language recommendations shared across guidelines that would become the focus of our research, and second, the actual systematic literature review of possible research supporting these recommendations. Section 2.1 provides an overview of the methodology followed for the first goal, and Sect. 2.2 reports on the methodology of the later review.

2.1 Step 1: selecting Easy Language recommendations

Defining the Easy Language guidelines—and, consequently, the recommendations—that were to be taken into consideration in our study helped us later sort and analyse the results of our literature review.

As has been partially exposed in Sect. 1.1.1, numerous guidelines with different characteristics and target audiences have been published. In the following section, we will present the criteria used to select the included guidelines and standards, as well as the procedure followed to extract and classify the recommendations in each one.

2.1.1 Selection criteria

We selected recent guidelines and standards written in English, Spanish, and Catalan that met the selection criteria in Table 1. The initial bibliography of guidelines had been built over the previous months, based on read literature on Easy Language and the guidelines and standards referred in them. The initial bibliography included a total of 23 publications (see Appendix 1).

After applying the set criteria (see Table 1), 8 guidelines and standards were selected:

(1) Guidelines for easy-to-read materials [7], (2) Information for all [24], (3) ISO/IEC DIS 23859–1 [2], (4) Lectura

Table 1 Criteria for including and excluding guidelines

Inclusion criterion	Published in the last 15 years (2006 or later) Written in English, Spanish, or Catalan Not a translation or adaptation of a different guideline Guidelines to produce written content in Easy Language Majority of recommendations are language-independent
Exclusion criterion	Published in 2005 or earlier Written in a language other than English, Spanish, or Catalan Translation or adaptation from a different guideline Guidelines to produce a type of content other than written text Sets out a specific context of application (e.g. websites) Majority of recommendations are dependent to one language

fácil: Métodos de redacción y evaluación [13], (5) UNE 153,101:2018 EX [15], (6) How To Make Information Accessible [47], (7) Make it easy: A guideline to preparing Easy-to-read [33], and (8) Make It Clear [48].

2.1.2 Data extraction and synthesis

Recommendations were manually extracted from the selected documents. Our classification system was shaped by the categories in the guidelines by García-Muñoz [13], which were adapted by the authors to fit this study and its data specifically (see Table 2). Extracting and classifying the recommendations in a systematic way helped us obtain comparable data.

For each recommendation, the following information was noted: type of recommendation, category, subcategory, source, year of publication, author, country of publication, language of publication, page in the source document that

the recommendation appears in, examples or additional notes provided for it, and keywords.

Figure 1 depicts the information noted for each recommendation in the guidelines.

Keywords were added for each entry in order to create relationships of closeness or correspondence between different recommendations. Keywords included terms that appeared in the recommendation or that were related to either the recommendation itself or the category it was included in. The list of keywords already in use was consulted for each new entry to make sure that consistency was kept. Every time that a new keyword needed to be included, this was added to the list.

2.2 Easy Language recommendations literature

In the following subsections, we present the criteria and the methodology followed in our literature review. All the steps and decisions along this procedure were taken keeping

Table 2 Classification of guideline recommendations

Type of recommendation	Category	Subcategory
Language	Orthography and writing	Capitalisation
		Punctuation
		Other punctuation marks and diacritics
		Numbers
		Time and date
	Grammar	Verbs
		Parts of the sentence
		Sentences
	Vocabulary	Complexity of the vocabulary
		Lexical units
		Semantic aspects
	Style	
Design and Layout	Images	Semantic features
		Technical aspects
		Layout on the page
	Font	
	Layout	Lines
		Paragraphs
		Page layout
		Presenting lists
	Pagination	
	Other graphic aspects	
	Paratextual elements	Table of contents
		Glosses and glossaries
		Summaries
		Maps
		Graphics

Type of suggestion	Category	Subcategory	Suggestion	Guideline	Year of publication	Authors	Country of publication	Language of publication	Page	Examples provided	Additional notes	Keywords
Language	Grammar	Sentences	Be concise. Avoid several actions in a single sentence.	Guidelines for easy-to-read materials	2010	International Federation of Library Association and Institutions	The Netherlands	English	11			sentence, sentence structure
Design and layout	Images	Layout on the page	Illustrations should [...] be placed in direct connection to the text.	Guidelines for easy-to-read materials	2010	International Federation of Library Association and Institutions	The Netherlands	English	13			image, layout, page

Fig. 1 Sample of data extracted from Easy Language guidelines

into consideration that our search and review had to be systematic.

2.2.1 Search strategy

With the aim of detecting studies that potentially provided evidence to support Easy Language recommendations, we systematically searched for publications on the following electronic databases: Scopus, Web of Science, ERIC (Education Resources Information Center), JSTOR (Journal STORage), DOAJ (Directory of Open Access Journals), PubMed, Helka, DiVA (*Digitala Vetenskapliga Arkivet* ["Digital Scientific Archive"]), APA PsychInfo and MLA International Bibliography. Easy Language may be of interest for professionals and researchers in many fields, hence searching on multiple databases that encompass different fields of science gave us a higher chance to find relevant publications. This search strategy entails a notable limitation: these databases mostly list academic journals, and other types of relevant publications may be missed. This will be discussed in Sect. 4.3.

In the systematic searches, we used various sets of keywords that were linked to different aspects relevant for our review: (1) Easy Language recommendations and guidelines and (2) the type of studies that we were aiming to retrieve (see the different sets of keywords as [A], [B], [C] and [D] on Table 3).

Our searches were designed to include the following:

- (A) Keywords that refer to Easy Language guidelines;
- (B) Keywords that refer to Easy Language;
+ keywords that refer to the empirical aspect of searched publications;
- (C) Keywords that refer to Easy Language;
+ keywords related to guidelines and recommendations;
- (D) Keywords that refer to Easy Language;
+ keywords that refer to specific Easy Language guidelines or standards

It has to be noted that the search engines in the databases explored do not discriminate between a word with accent marks and the same word without them; hence, the text in Table 3 does not consider these marks. These search engines do not restrict based on capitalisation either.

We made sure to include the most common terms used to refer to "Easy Language", as well as to search all terms in all the languages considered in the inclusion criteria of our study (Tables 1 and 4). The keywords were searched for in abstracts, in the keywords of publications, and/or in the full texts, depending on the more or less precise search options, and on the information that was included in the indexed entries for each database.

Because of these differences between the database search options, a few of them (DOAJ, JSTOR and Web of Science) would not allow combining two or more strings of keywords. For these, searches [B], [C], and [D] presented in Table 3 could not be performed, and each independent set of keywords needed to be searched for separately. In these cases, results were filtered manually applying the selection criteria in Sect. 2.2.2.

The systematic searches resulted in a total of 617 publications.

2.2.2 Selection criteria

The 617 retrieved publications were reviewed and filtered manually using the criteria in Table 4.

First, titles and abstracts were reviewed for all 617 publications. Some articles were excluded because they addressed topics that were not relevant for our review (e.g. publications related to chemical processes, programming language, or mechanics). The authors also excluded publications that mentioned or were focused on Easy Language, but that did not perform evaluations or empirical studies (e.g. non-empirical, descriptive studies; studies on the promotion of Easy Language). A few other results were discarded because, although having gone through the language filter of the database, they were written in a language other than

Table 3 Database search keywords

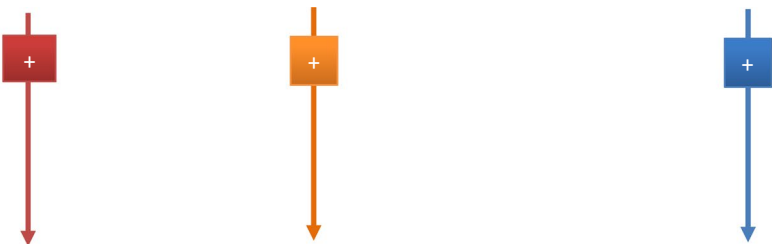
(A) "Information for all" OR "UNE 153101:2018 EX." OR "AENOR" OR "ISO/IEC DIS 23859-1" OR "Lectura facil: Metodos de redaccion y evaluacion" OR "Guidelines for easy-to-read materials" OR "Garcia Muñoz" OR "International Organization for Standardization" OR "IFLA" OR "Asociacion Española de Normalizacion" OR "Inclusion Europe"		
(B), (C), (D) "easy-to-read" OR "easy to read" OR "easy read" OR "easy reading" OR "lectura facil" OR "easy to understand language" OR "E2U"		
		
"empirical" OR "empiric" OR "empirico"	"guideline" OR "recommendation" OR "recomendacion" OR "recomendaciones" OR "recomanacio" OR "recomanacions" OR "guia" OR "guies" OR "standard" OR "norma" OR "norm"	"Information for all" OR "UNE 153101:2018 EX." OR "AENOR" OR "ISO/IEC DIS 23859- 1" OR "Lectura facil: Metodos de redaccion y evaluacion" OR "Guidelines for easy-to-read materials" OR "Garcia Muñoz" OR "ISO" OR "IFLA" OR "UNE" OR "International Organization for Standardization" OR "International Federation of Library Associations and Institutions" OR "Asociacion Española de Normalizacion" OR "Inclusion Europe"

Table 4 Criteria for including and excluding publications

Inclusion criterion	Published in the last 15 years (2006 or later) Written in English, Spanish, or Catalan The research puts a focus on Easy Language Provides evidence to support or evaluate Easy Language guidelines recommendations
Exclusion criterion	Published in 2005 or earlier Written in a language other than English, Spanish, or Catalan The research is not focused on Easy Language Does not provide evidence to support or evaluate Easy Language guidelines recommendations

English, Spanish, or Catalan (see the limitation this entails in Sect. 4.3). Finally, some results, like news or informational pamphlets, were excluded because of their format, in addition to their content (e.g. medical pamphlets). This first selection step resulted in the exclusion of 597 publications that did not meet the inclusion criteria. Figure 2 presents a summary of the selection process.

The next step taken was to fully review the remaining 20 publications. In the end, only 6 of them met the pre-set criteria and were included in our study. All 6 of these

studies provided empirical findings directly linked to Easy Language recommendations. The studies that were excluded after being fully reviewed resulted to finally be (a) not directly related to Easy Language, (b) not mentioning Easy Language recommendations or guidelines, and/or (c) not providing empirical findings related to Easy Language recommendations. Consequently, criteria for inclusion were not completely met in these cases, and 14 more publications had to be excluded.

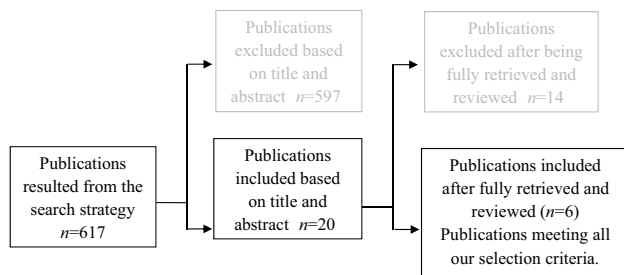


Fig. 2 Publications selection process

2.2.3 Data extraction and synthesis

To analyse the 6 included publications, we created a matrix including the following data: aims, design, participants, Easy Language recommendations that are evaluated, findings, and limitations. The data extracted will be presented and discussed in Sect. 3.

2.2.4 Quality appraisal

In literature reviews, a quality appraisal assessment should be performed on the selected publications [18, 49]. Numerous academic institutions and scientific organisations have created quality appraisal checklists to perform these assessments, but most target health science studies (this is the case for some of the main providers of quality appraisal tools: Critical Appraisal Skills Program [CASP], the Johanna Briggs Institute, the Centre for Evidence Based Medicine of Oxford University or the Scottish Intercollegiate Guidelines Network) or a specific study design (e.g. randomised controlled trials, case control studies).

For that reason, we created a list of general quality indicators that could be applicable to the studies included in our review and that were based on the quality indicators in checklists of CASP [50], Johanna Briggs Institute [51], as well as the indicators in Sutherland and Isherwood [18].

All six publications included in our analysis passed the assessment.

3 Results

The findings retrieved from the review of studies are grouped according to the linguistic aspect they evaluate. Our literature review found studies that evaluated (1) visual support, (2) linguistic simplification, (3) word frequency, (4) literacy mediation, (5) connectives, (6) co-references, and (7) number of sentences, text length, and word length.

In Sect. 4.2, we will present the relationship between these aspects and Easy Language recommendations.

3.1 Visual support

Visual support and, specifically, the use of pictures and vignettes to enhance comprehension are evaluated in Rivero-Contreras et al. [52] and Schatz et al. [53].

Rivero-Contreras et al. [52] performed an eye-tracking study on 20 university students with dyslexia (7 males and 13 females) and 20 chronological age-matched controls. The aim of this study was to evaluate the influence of visual representation and word frequency both on processing and on readers with dyslexia. For this, they designed a test where participants read 60 sentences: half the sentences contained an image, and the other half did not. At the same time, half contained a low-frequency word and half a high-frequency word. In this study, Rivero-Contreras et al. [52] found that, for people with lower vocabulary and less reading experience, the use of images related to the information in the text helps with the initial processing of words in the sentence and with the prediction of upcoming information, as well as with the recognition of semantic content in the text, which facilitates lexical access. However, it is not clear that the use of images helps with overall comprehension of the text, neither that it affects reading accuracy for this group of users [52].

Schatz et al. [53] performed an online study with 159 adults who were presented simulated medical informed consent procedures. Researchers aimed to determine the effects that the use of pictures and the different varieties of Easy-to-understand languages (that is, their different levels of language simplification) might have on comprehension. Participants were randomly assigned to one of the five ways of presenting information: standard version (with or without visual support), Easy-to-Read Language (with or without visual support), or Elaborated Plain Language. After each section, participants were directly asked comprehension questions. Schatz et al. [53] also found that, for young participants without intellectual disabilities, vignettes supporting Easy Language texts yielded no significant benefit in comprehension. This group of participants performed better when the Easy Language version was accompanied by images than when it was not, but not better than with the standard language version. The Easy Language version with visual support just compensated the negative effect of the Easy Language version without visual support and showed similar comprehensibility than the standard version [53]. Therefore, this study found no benefits of using Easy Language with images rather than standard language with young participants without intellectual disabilities.

3.2 Linguistic simplification

Linguistic simplification on a general, textual level is evaluated in Buell et al. [9] and Schmutz et al. [10].

Buell et al. [9] performed a test on 60 adults with intellectual disabilities. Participants had to read a text that could be linguistically simple or complex and come with or without mediation. Conditions were allocated randomly, and participants were later asked questions that assessed reading comprehension and that were formulated to tap recall and the inferential application of information from the text. The aim of this study was to investigate how extrinsic (linguistic complexity of the text and literacy mediation) and intrinsic (participants' receptive vocabulary and reading comprehension abilities) factors affect the understanding of Easy Language material.

Schmutz et al. [10] aimed to examine the consequences of Easy Language as a web accessibility criterion for users with no disabilities. In their study, 128 participants that were mainly psychology students needed to solve tasks in a website that was either in Easy Language or in standard language (conditions were assigned randomly). Participants also filled in questionnaires to evaluate the website and had to answer free-recall, recognition of content, and true/false tasks.

In Buell et al. [9], linguistic simplification was found to not have any significant effect on comprehension for people with intellectual disabilities. The repetition of vocabulary only reinforced certain concepts but failed in improving comprehension for this group of users. On the other hand, Schmutz et al. [10] found that users in the control group processed information better when reading a simplified text.

Schmutz et al. [10] found that linguistic simplification also showed an increase in reading time [10] (due to the fact that text simplification resulted in more characters), as well as a decrease in text liking for the control group users. Users performed better when the text was simplified, but still showed a preference for the standard text [10].

Finally, Buell et al. [9] suggest that adjusting the linguistic complexity of the text may have less impact on required cognitive effort than the presence of familiar, frequent vocabulary.

3.3 Word frequency

Lexical simplification using high-frequency words is evaluated in Rivero-Contreras et al. [52], Fajardo et al. [36], and Fajardo et al. [54].

Rivero-Contreras et al. [52, p. 182] (design and characteristics of the study were discussed in Sect. 3.1) found that "participants with lower vocabulary and lower print exposure [which are common characteristics of people with dyslexia] benefited the most from lexical simplification". High-frequency words showed to result in shorter reading time at text-level and to facilitate overall sentence comprehension and processing [52]. Their presence was also found to be beneficial to lexical access to particular words [52].

Fajardo et al. [54] studied the effects of word frequency and connectives on reading comprehension in a 2013 study. Two experiments were performed: in the first one, participants read four versions of Spanish journalistic texts and answered literal and inferential comprehension questions after each one. Word frequency and connectives were adapted and measured. In the second experiment, participants performed a Text Cohesion Task, in which they were "asked to read sentences that are missing a connective [...] and choose the connective that makes the most contextual sense from three choices" [54, p. 1274].

Fajardo et al. [36] performed a study in 2014 that aimed to assess the comprehensibility levels of different Easy Language texts and to examine the relationships between reading comprehension and various linguistic features of this type of texts. The participants were 16 students with intellectual disability, and each week, for a period of 16 weeks, they had to read three pieces of news in Easy Language and complete a reading comprehension test. For each text, different levels of linguistic variables were measured.

The findings in Fajardo et al. [54] indicate that the inclusion of high-frequency words does not improve inferential comprehension for people with intellectual disability. Opposing this statement, no correlation was found between word frequency and literal or inferential comprehension scores for people with intellectual disability in Fajardo et al. [36].

3.4 Literacy mediation

In Buell et al. [9], literacy mediation is evaluated through testing the effects of (1) structured summaries, (2) explanations of the text, (3) clarification of points, (4) examples of inferential information, (5) explanations to make inferences explicit, (6) the reinforcement of keywords and their corresponding images through pointing, and (7) the use of gestures with people with intellectual disabilities. In Buell et al. [9], no specific results are given of the effect of each one of these separate items, but rather of the effect of the mediation resource in general.

Mediation showed to have no effect on the comprehensibility of Easy Language texts (nor in standard language texts) for people with intellectual disabilities [9]. Mediation only showed to be beneficial for comprehension when the influence of receptive vocabulary was controlled [9]. This literacy mediation in the study by Buell et al. [9] was based on auditory-verbal-gestural repetition of the content, and the participants showed an extraordinarily passive response to the intervention.

Finally, Schmutz et al. [10] mention that it should always be considered that explaining difficult words will result in

longer texts which, as shown in findings in Sect. 3.1.6, can affect comprehension negatively.

3.5 Connectives

The presence of connectives is evaluated in Fajardo et al. [36] and Fajardo et al. [54] with people with intellectual disabilities.

Fajardo et al. [36] showed that the number of connectives is negatively correlated with literal comprehension. When it comes to inferential comprehension, connectives proved to produce no improvements in Fajardo et al. [54]. To try to explain the latter finding, Fajardo et al. [54] also tested the role of connective familiarity and its interaction with connective type, which showed that performance in both nondisabled participants and participants with intellectual disabilities was indeed affected by the type of connective and its familiarity: low familiar additive connectives and contrastive connectives resulted in lower comprehension scores, while low familiar temporal and causal connectives showed higher comprehension scores [54].

Finally, Fajardo et al. [36] suggest that the negative effect connectives showed on literal comprehension can be linked to the fact that sentences with more connectives tend to be longer and contain more ideas that require to be integrated.

3.6 Co-references

Fajardo et al. [36] found that the number of co-references has a negative relationship with literal comprehension in people with intellectual disabilities: that is, a higher number of co-references predicted higher difficulty and lower literal comprehension. The authors suggest that this negative effect can be linked to the fact that sentences with a high number of co-references tend to be longer (the same factor that could explain the negative effect on comprehension that the number of connectives showed [36] [see Sect. 3.1.4]) and the fact that the grammar in these sentences tends to be more complex and unnatural [36].

No other reviewed publications studied the effects of co-references.

3.7 Number of sentences, text length, and word length

Fajardo et al. [36] found that word length had no effect on comprehension for people with intellectual disabilities. On the other hand, they found that the number of sentences in the text had a negative relationship with inferential comprehension for the same group. The authors argue that, since individuals with intellectual disabilities tend to have problems with retaining information from memory, a higher

number of information units logically results in the participants showing higher difficulty in the process of “making inferences between parts of the text or between the text and prior knowledge” [36, p. 18].

Fajardo et al. [36] also suggest that the length of the text can affect self-efficacy and motivation. Higher sentence and text length was also suggested as the reason for a decrease in literal comprehension when there is a high presence of co-references and connectives in the text [36].

Finally, Schmutz et al. [10] link the increase in reading time and the users liking Easy Language texts less than those in standard language to the fact that following the tested recommendation of “making only one statement per sentence” [11, 29] results in a higher number of sentences.

4 Discussion

The information discussed in this section is a synthesis of the evidence found in the studies included in our review. Upcoming statements are not conclusive and, therefore, should be delicately considered.

One consistently evaluated variable throughout the included studies is comprehension. Based on the evidence in these studies, it is unclear if both visual support and linguistic simplification affect comprehension in any way. Lexical simplification using high-frequency words showed a positive effect on literal comprehension, but its effect on inferential comprehension remains unclear.

Mediation resources and word length did not show any effects on comprehension. On the contrary, the number of both connectives and co-referents present in the text showed to be linked to a decrease in comprehension. The number of sentences in the text and text length also caused a decrease in inferential comprehension, specifically, and connectives showed different effects on comprehension depending on their type.

Finally, in Schmutz et al. [10], some subjective user reactions were also evaluated. In their study, centred on linguistic simplification, a decrease in text liking was observed when the Easy Language texts with these adaptations were presented to people without disabilities.

After having summarised the findings, we will now go over our research questions and answer them based on the results of our literature review.

Q1. Is there empirical research that evaluates current international Easy Language recommendations?

Our research has proven that there are empirical findings that evaluate multiple Easy Language recommendations. However, although we cannot deny that there is research being done on the field, the number of publications resulting from our systematic literature review exhibits the small

extent of empirical evidence in academic journals and in the languages chosen. See this item discussed in Sect. 4.1, and the limitations of this statement in 4.3.

Q2. If so, what current international Easy Language recommendations are supported by empirical research and what results were obtained?

Our literature review found studies that evaluated (1) visual support, (2) linguistic simplification, (3) word frequency, (4) literacy mediation, (5) connectives, (6) co-references, and (7) number of sentences, text length, and word length (see the results in Sect. 3).

Although all the aspects evaluated are directly linked to recommendations in the reviewed Easy Language guidelines (see this correlation evidenced in Sect. 4.2), not all the empirical findings turned out to be conclusive, and we did not find evaluations of all Easy Language recommendations. This is also discussed in Sect. 4.2.

4.1 Results of the literature search

Although the search strategy was pre-set as a first filter to aim for relevant results, the retrieved publications were mainly unrelated to Easy Language and, therefore, not relevant to our study. Only 20 publications were considered to possibly meet the inclusion criteria after their titles and abstracts were reviewed (that is 3.24% of the total of initial results), and only 6 of them were finally considered relevant, after being fully reviewed (that is 0.97% of the initial results).

The fact that only 6 studies were included in our review is telling of the incipient state of empirical research on Easy Language guideline recommendations, although it must be pointed out that a total of 102 publications (16.53% of the initial results) were marked as related to linguistics when their title and abstracts were read (of which 82 were discarded because of the study being descriptive or focusing on aspects not relevant to our review). Although this will be discussed in Sect. 4.3, it is important to keep in mind that our search was performed on databases that mostly listed academic journals and their articles, and that other type of publications would have been missed.

As already mentioned, Sutherland and Isherwood [18] also performed a literature review on the evidence for Easy Language and specifically for people with intellectual disabilities. In their review, they finally included only 11 studies from the initial 8063 publications retrieved. Rivero-Contreras and Saldaña [19] included 13 publications in their review, from the initial 235 retrieved. Taking this into account, we can suggest that the incipient state of empirical research is extensive to Easy Language in general—not only to Easy Language recommendations.

Finally, the results of our review manifest that only some recommendations in Easy Language guidelines have been empirically evaluated in academic journals written in English, Spanish, and Catalan. Nevertheless, even the recommendations that have been assessed could use complementary or reviewing research, given that the evidence in the retrieved studies is inconclusive (see Sect. 4.2).

4.2 Empirical findings on Easy Language recommendations

The relevant findings in the reviewed publications were grouped according to the linguistic aspects that they evaluated. At the same time, these linguistic aspects are all explicitly linked to Easy Language recommendations. Ultimately, the empirical findings in these articles can all be directly linked to Easy Language recommendations. See the recommendations that relate to each evaluated linguistic aspect in Appendix 2.

With that being said, the empirical data found in our review are not sufficient: most findings are not comparable or complementary, and none of the results is decisive enough to be able to drive us to conclusive statements.

For instance, in Buell et al. [9] and Schmutz et al. [10], we find evaluations of “linguistic simplification”, a non-concrete concept which is not broken down into more specific measures or explained in detail. This makes it difficult to determine to what extent the results of these evaluations would be comparable to other findings.

In some cases, we encountered results that go against the statements in Easy Language recommendations, but since the evidence is not generalisable or conclusive, this is not enough to re-evaluate Easy Language guidelines—although it does highlight issues to revise and perform research on.

The findings in Rivero-Contreras et al. [52] and Schatz et al. [53] related to visual support are a clear example. These studies found some benefits in using images to support the text, but did not lead to an improvement on comprehension, while the 1998 guidelines by Inclusion Europe [23, 31, 32] and the ISO standard [2] precisely state the opposite: that the use of images enhances comprehension. These findings should be carefully considered and investigated. Rivero-Contreras et al. [52] and Schatz et al. [53] themselves state that their results may not be representative or generalisable. Again, future research should corroborate their findings.

Another example of findings that are contrary to Easy Language recommendations is those in Schmutz et al. [10] and Fajardo et al. [36], which showed that including a high number of sentences in the text has a negative effect on inferential comprehension, increases reading time, and decreases

acceptability. These statements oppose the ISO standard [2] and guidelines by García Muñoz [13] and Asociación Española de Normalización [29], which defend that Easy Language texts should express only one idea per sentence. Following this recommendation would normally result in longer texts with a higher number of sentences. It is uncertain if the possible benefits on comprehension of expressing one idea per sentence compensates for the negative effects that the higher number of sentences presumably has on inferential comprehension, reading time and acceptability. Once again, further research would be necessary to ponder this topic and possibly revise Easy Language guidelines accordingly.

4.3 Limitations

The results of our literature search and review lead to mostly case-specific conclusions and can only be generalised to some degree. The research questions and systematic search were designed to find focused and specific results: we aimed to review the literature that included empirical research on Easy Language that was explicitly related to its recommendations. We acknowledge that empirical findings in missed publications from other fields of research may have evaluated linguistic aspects intrinsic to some Easy Language recommendations. Nevertheless, we intentionally opted for a more focused search to review the state of the empirical research on Easy Language, rather than *associated with* Easy Language. With that being said, we suspect that more results would have come up if a more generic search was made—that is, if the results were not as restricted by the very specific keyword search that was performed.

As Grant and Booth [55] mention, there are no methods for literature reviews to ensure that all the literature is considered, no matter the topic. For that reason, this is considered an inherent limitation of this type of study, as was also encountered by Campoverde-Molina et al. [56], Chinn and Homeyard [20], and Sutherland and Isherwood [18]. As Chinn and Homeyard [20, p. 9] state in their meta-narrative literature review, “[these studies] regard intuition, personal and professional knowledge and networks, and serendipity as resources available to reviewers, although at the expense of the replicability of the review. [...] Other reviewers might well identify different groupings of studies and highlight different themes”.

In addition to that, some relevant publications surely may have not been retrieved and, therefore, not reviewed because of the databases we perform our search in. As stated earlier in the paper, the design of our systematic review only contemplated the pool of publications available in online databases. Easy Language is a new, largely unexplored field of science, and it is very probable that relevant results in handbooks, congress publications, monographical work, or even grey literature have not been considered, as normally

only academic journals are listed in the searched online databases. For instance, a seminal book such as the one edited by Lindholm and Vanhatalo [5], or the book on theoretical and empirical perspectives on Easy Language research edited by Hansen-Schirra and Maaß [17], are not included. This limitation is one that we fully acknowledge and the results in this literature review should be considered relevant only according to our research scope.

Finally, the languages considered in our inclusion criteria for both guidelines and publications (English, Spanish, and Catalan) (see Sect. 2) also entailed a big limitation for this review. As explained in Sect. 1.1.2, German-speaking countries are in the lead when it comes to both the creation of Easy Language guidelines and research on the field. Therefore, several publications (like journal articles by Deilern et al. [57], Hansen-Schirra et al. [58] or Maaß and Rink [59]) might have been relevant and have most probably been missed due to the language barrier.

5 Conclusion

We fulfilled the aims of our study and can state that there is empirical evidence for some of the recommendations in current Easy Language guidelines. Our systematic literature search showed that the studies performed on that specific topic are scarce, and the later review of the results showed that the empirical findings in the studies are also non-conclusive and non-generalisable. Nevertheless, as stated in Sect. 4.3, our search results were limited to academic journals in three languages and, therefore, these statements are only conclusive to that extent.

The studies included in our review had different numbers and types of participants and used very different methodologies in their research. This made it difficult to know if the resulting data were comparable or generalisable. Performing more research on Easy Language recommendations could (1) determine if the data in these studies are anecdotal or can be conclusive, and (2) create a pool of complementary data large enough to allow researchers to make outright statements, and to evaluate and possibly redesign the current Easy Language guidelines based on it.

This review ultimately aims to act as a portrayal of the current state of empirical research on Easy Language recommendations to a certain extent and to foster future research in the field. We would suggest research to focus either on the recommendations that are missing empirical evaluation, on complementing previous studies, or on balancing out the limitations in these. As Rivero-Contreras and Saldaña [19] defend, we need more research in the field, but we need to especially foster new research of high methodological quality.

This is a call to join forces towards effective, optimal and scientifically based guidelines, which would ultimately entail effective and optimal Easy Language content.

Appendix 1

1. A brief guide to easy read (Scottish Accessible Information Forum, 2014)
2. A guide to producing written information in easy read (North Yorkshire County Council, 2021)
3. Basic guidelines for people who commission Easy Read information (Department of Health, 2009)
4. Finestra Oberta: Materials de Lectura-fàcil, anàlisi, directrius internacionals i proposta per a elaborar aquests materials a Catalunya (Mayol & Salvador, 1999)
5. Guía de lectura fácil: normas e recomendacións (Down Galicia, 2017)
6. Guía para validar textos en lectura fácil (Jareño Galán, 2018)
7. Guide to Making Information Accessible for People with a Learning Disability (NHS England, 2018)
8. Guidelines for easy-to-read materials (ILFA, 2010)
9. Guidelines for writing and translating into Easy Read Welsh (Learning Disability Wales & Mencap Cymru, 2012)
10. How to use Easy Words and Pictures (Disability Rights Commission, 2006)
11. Information for all: European standards for making information easy to read and understand (Inclusion Europe, 2009)
12. ISO/IEC DIS 23859–1. Guidance on making written text easy to read and easy to understand (International Organization for Standardization, 2021)
13. Kent County Council Easy Read Guidelines (Kent County, 2010)
14. Lectura fácil: Métodos de redacción y evaluación (García Muñoz, 2012)
15. LF, una necessitat per a la inclusió de l'alumnat nouvingut d'ESO (Serra Milà, 2008)
16. Make it easy: A guideline to preparing Easy-to-read (Accessible Information Working Group, 2014)
17. Make it Simple: European Guidelines for the Production of Easy-to-Read Information (Inclusion Europe/ILSMH, 1998)
18. Making written information easier to understand for people with learning disabilities (Department of Health, 2010)
19. How To Make Information Accessible (CHANGE, 2016)
20. Mencap's Make it clear: A guide to making easy read information (Mencap, 2013)
21. Resum de les principals pautes de Lectura Fàcil per a elaborar textos narratius (Associació Lectura Fàcil, 2011)
22. UNE 153,101 EX. Lectura Fácil: Pautas y recomendaciones para la elaboración de documentos (Asociación Española de Normalización, 2018)
23. Validación de textos en lectura fácil: aspectos prácticos y sociolaborales (Plena Inclusión Madrid, 2018)

Appendix 2

Easy Language recommendations that are evaluated on the reviewed publications.

- (1) Visual support
- (2) Linguistic simplification
- (3) Word frequency
- (4) Literacy mediation
- (5) Connectives
- (6) Co-references
- (7) Number of sentences, text length, and word length

	Category	Recommendation
(1)	Images	Easy-to-read materials with pictograms help persons with intellectual and cognitive disabilities understand content. [7, p. 13]
(1)	Images	Many people find it hard to read text. To help them understand your text, you should put images next to it to describe what it is about. Images are things like photographs, drawings, or symbols. [24, p. 20]
(1)	Images	Images can be used to enhance comprehension. [2: 18]

	Category	Recommendation
(1)	Images	Non-verbal paratextual elements such as images and other graphical elements can enhance comprehension. [2, p. 17]
(2)	Vocabulary > Complexity of the vocabulary	Avoid difficult words but use language that is adult and dignified. [7, p. 11]
(2), (4)	Grammar > Parts of the sentence	It is OK to repeat important information. It is OK to explain difficult words more than once. [24, p. 11]
(2), (3)	Vocabulary > Complexity of the vocabulary	Use easy-to-understand that people will know well. [24: 10]
(2)	Vocabulary > Complexity of the vocabulary	Do not use difficult words. [24, p. 15]
(2)	Vocabulary > Complexity of the vocabulary	When writing information in easy read it is not enough to avoid jargon words. Your text should also be free of any hard words. Hard words are words that are not generally used in everyday conversation. [47, p. 8]
(2)	Vocabulary > Complexity of the vocabulary	Try to write your information in short, clear sentences. Do not use complicated words, words that are hard to understand or jargon words. [47, p. 28]
(2), (4)	Vocabulary > Complexity of the vocabulary	Do not use difficult words. If you need to use difficult words, make sure you always explain them clearly. [24, p. 10]
(2), (3), (4)	Vocabulary > Complexity of the vocabulary	Avoid difficult or unfamiliar words. If you do need to use one, put the difficult or unfamiliar word in bold and explain it. If it is an abstract concept, try to explain it with a clear, practical example. Some people will find a word list or glossary useful. [33, p. 17]
(2), (4)	Vocabulary > Complexity of the vocabulary	Simplify complex information and explain it using examples from everyday life. [47, p. 9]
(2), (3)	Vocabulary > Complexity of the vocabulary	Vocabulary should be suitable for the intended target reader. Some words are more difficult to understand than others. Unusual words are more likely to be difficult to understand. Therefore, one should use simple, frequent, and every-day vocabulary. [2, p. 10]
(2), (3)	Vocabulary > Complexity of the vocabulary	<i>Se debe utilizar un lenguaje sencillo y de uso frecuente.</i> [29, p. 18] ("Simple, frequently used language should be used. [29, p. 18]")
(2), (3), (7)	Vocabulary > Complexity of the vocabulary	<i>Utilizar palabras sencillas expresadas de forma simple. Utilizar vocablos cortos, con el menor número de sílabas y con las sílabas menos complejas (es decir, utilizar las sílabas de mayor frecuencia de uso en el castellano). Utilizar vocablos de alta frecuencia léxica (de uso cotidiano) y cercanos al lenguaje hablado, que utilice el público objetivo del texto.</i> [13, p. 70] ("Use simple words expressed in a simple way. Use short words, with the least number of syllables and with the least complex syllables (that is, use the syllables with the highest frequency of use in Spanish). Use words of high lexical frequency (everyday use) and close to spoken language, used by the target audience of the text. [13, p. 70]")
(3)	Vocabulary > Complexity of the vocabulary	Non-frequent forms of verbs should be avoided. [2, p. 12]
(3)	Vocabulary > Complexity of the vocabulary	Use words that we use all the time. [48, p. 3]

	Category	Recommendation
(3)	Grammar > Verbs	<i>Se deberían evitar los tiempos verbales compuestos o poco frecuentes y el uso de los condicionales y subjuntivos.</i> [29, p. 22] ("Compound or infrequent tenses and the use of conditionals and subjunctives should be avoided. [29, p. 22]")
(3), (4)	Vocabulary > Complexity of the vocabulary	Foreign language words should be avoided unless they are well established in the source language or explained. [2, p. 11]
(4)	Vocabulary > Lexical units	The meaning of non-frequent acronyms should be explained the first time they are used. [2, p. 12]
(4), (2)	Paratextual elements > Summaries	Repeating or summarizing content allows the reader to remember relevant information. This is called redundancy and it increases comprehension. It is especially important in long content. [2, p. 19]
(4), (2)	Paratextual elements > Summaries	<i>Repetir y resumir las ideas principales. Aunque el resumen final del contenido es importante, todavía lo es más el tema central del documento, es decir, la información que se transmite a lo largo del mismo. El resumen se puede presentar en las páginas centrales en un formato de papel más amplio.</i> [13, p. 73] ("Repeat and summarise the main ideas. Although the final summary of the content is important, the central theme of the document is even more important, that is, the information that is transmitted throughout it. The abstract can be presented on the central pages in a larger paper format. [13, p. 73]")
(4), (2)	Paratextual elements > Summaries	<i>La repetición de información debería aparecer cuando se requiera que el lector recuerde un contenido necesario para comprender el texto de la página que está leyendo y que fue abordado con anterioridad en el documento.</i> [29, p. 36] ("The repetition of information should appear when the reader is required to remember content that is necessary to understand the text of the page they are reading and that was addressed earlier in the document. [29, p. 36]")
(4)	Paratextual elements	Use examples to explain things. Try to use examples that people will know from their everyday lives. [24, p. 10]
(4)	Paratextual elements	Where possible, explain the words at the time you are using them. In written documents, you could also have a list of useful words at the end of the document. [24, p. 15]
(4)	Paratextual elements	If you must use a hard word or a jargon word, make sure you explain it clearly in easy words. If you do not have room to explain the word in the paragraph, it is best to create a paragraph below that defines the word with easy words and pictures. Or you could try an illustrated word bank. [47, p. 27]
(4)	Vocabulary > Complexity of the vocabulary	Technical terms used in a specific context can also be difficult to understand for a lay person. Abstract, technical, and complex terms should be avoided when addressing a lay audience. If they cannot be avoided, they should be explained. [2, p. 11]
(4)	Vocabulary > Complexity of the vocabulary	<i>Evitar tecnicismos, jergas y xenismos, aunque se debe explicar el significado si se usan.</i> [13, p. 71] ("Avoid technical terms, jargon and xenisms; but their meaning should be explained if they are used. [13, p. 71]")
(4)	Vocabulary > Complexity of the vocabulary	<i>Explicar las palabras menos comunes o complejas a través de la contextualización, el apoyo en imágenes y la explicación del significado. Para esto último, es conveniente destacarlas en negrita o subrayadas la primera vez que aparecen y explicar al margen o en un glosario final su significado. Hay que señalar que no todo se puede contar con un léxico básico: habrá objetos, situaciones, hechos, características de los personajes y ambientes, lugares desconocidos para el lector que deben introducirse, pero favorecerá la ampliación del vocabulario.</i> [13, p. 70] ("Explain less common or complex words through contextualisation, support with images and explanation of meaning. For the latter, it is convenient to highlight them in bold or underlined the first time they appear and explain their meaning in the margin or in a final glossary. It should be noted that not everything can be explained with a basic lexicon: there will be objects, situations, facts, characteristics of the characters and environments, places unknown to the reader, etc., that must be introduced, but it will favour the expansion of vocabulary. [13, p. 70]")
(4)	Vocabulary > Lexical units	<i>Se pueden utilizar acrónimos cuando su uso esté extendido en el idioma. No obstante, la primera vez que se utilicen se debería explicar su significado.</i> [29, p. 20] ("Acronyms can be used when their use is widespread in the language. However, the first time they are used, their meaning should be explained. [29: 20]")

	Category	Recommendation
(4)	Vocabulary > Lexical units	<i>Evitar abreviaturas, acrónimos y siglas, aunque se pueden utilizar si son muy conocidas o necesarias, explicando el significado la primera vez que aparezcan.</i> [13, p. 71] (“Avoid abbreviations, acronyms and initialisms, although they can be used if they are well known or necessary, explaining their meaning the first time they appear. [13, p. 71]”)
(4)	Vocabulary > Semantic aspects	<i>Evitar conceptos abstractos e ilustrarlos con ejemplos concretos y comparaciones, ejemplos prácticos y de la vida diaria. No obstante, es difícil evitarlos totalmente, por lo que se pueden utilizar los de fácil comprensión y uso habitual, apoyados en una construcción semántica sencilla y no introduciendo más de un término abstracto por oración.</i> [13, p. 71] (“Avoid abstract concepts and illustrate them with concrete examples and comparisons, practical examples and examples from daily life. However, it is difficult to avoid them completely, so those that are easy to understand and frequently used can be used if supported by a simple semantic construction and not introducing more than one abstract term per sentence. [13, p. 71]”)
(4)	Vocabulary > Semantic aspects	<i>Se debería evitar el uso de enunciados con sentido figurado (frases hechas o refranes, ironías, metáforas o semejantes). En caso de que su inclusión sea necesaria para mantener la viveza del texto o enriquecerlo se debe incluir una explicación con su significado.</i> [29, p. 20] (“The use of statements with a figurative meaning [set phrases or proverbs, ironies, metaphors or the like] should be avoided. In case its inclusion is necessary to maintain the vividness of the text or to enrich it, an explanation with its meaning must be included. [29, p. 20]”)
(5)	Vocabulary > Lexical units	<i>Utilizar las preposiciones y conjunciones más habituales y actuales, puesto que dan información determinante para la comprensión del sintagma que antecede. La coherencia del bloque de oraciones o párrafos se produce por elementos de enlace y de transición que ofrecen un mensaje ágil. Estos marcadores discursivos actúan como conectores y facilitan la introducción de un orden lógico.</i> [13, p. 71] (“Use the most common and current prepositions and conjunctions since they provide decisive information for understanding the preceding phrase. The coherence of the block of sentences or paragraphs is produced by linking and transition elements that offer an agile message. These discourse markers act as connectors and facilitate the introduction of a logical order. [13, p. 71]”)
(5)	Grammar > Sentences	<i>Se debería evitar el uso de conectores complejos entre oraciones, como “por lo tanto”, “no obstante”, “por consiguiente” o “sin embargo”.</i> [29, p. 24] (“The use of complex connectors between sentences, such as ‘therefore’, ‘however’, ‘consequently’ or ‘however’, should be avoided. [29, p. 24]”)
(6)	Grammar > Parts of the sentence	<i>Evitar la elisión del sujeto. Es preferible repetir el sujeto a elidirlo o sustituirlo por un pronombre para reiterar el protagonista de la acción y facilitar la comprensión. Se acepta como excepción la elisión o su sustitución por un pronombre, si el referente contextual es muy claro.</i> [13, p. 69] (“Avoid elision of the subject. Repeating the subject is preferable to eliding it or replacing it with a pronoun to reiterate the protagonist of the action and facilitate understanding. Elision or its replacement by a pronoun is accepted as an exception if the contextual referent is very clear. [13, p. 69]”)
(6)	Grammar > Parts of the sentence	<i>No se debería utilizar elipsis. Se debería evitar que el lector tenga que hacer inferencias. En todo caso, hay que procurar que las omisiones sean mínimas y garantizar la identificación referencial.</i> [29, p. 23] (“Ellipses should not be used. The reader should be prevented from having to make inferences. In any case, it is necessary to ensure that omissions are minimal and guarantee referential identification. [29, p. 23]”)
(6)	Grammar > Parts of the sentence	<i>Se debería evitar que el lector tenga que realizar inferencias para comprender el texto.</i> [29, p. 24] (“The reader should be prevented from having to make inferences to understand the text. [29, p. 24]”)
(6)	Grammar > Parts of the sentence	Be careful when you use pronouns. Pronouns are words like “I”, “him” or “it” that you use instead of the actual person or thing you are talking about. Make sure it is always clear who or what the pronoun is talking about. If it is not clear, then use the proper name instead. [24, p. 15]
(6)	Grammar > Parts of the sentence	Information should be explicitly formulated. Implied meaning and omissions should be avoided if they make understanding difficult for the target reader. [2, p. 13]
(7)	Vocabulary > Lexical units	In alphabetical languages, long words are more likely to be difficult to understand and should be avoided where possible. [2, p. 11]
(7)	Vocabulary > Lexical units	<i>Se debería evitar el uso de palabras muy largas o que contengan sílabas complejas.</i> [29, p. 19] (“The use of very long words or those containing complex syllables should be avoided. [29, p. 19]”)
(7)	Grammar > Sentences	Be concise. Avoid several actions in a single sentence. [7, p. 11]
(7)	Grammar > Sentences	<i>No se deben presentar más de dos ideas en una misma frase.</i> [29, p. 24] (“No more than two ideas should be presented in the same sentence. [29, p. 24]”)

	Category	Recommendation
(7)	Grammar > Sentences	<i>Se deberían utilizar frases sencillas y evitar las oraciones complejas. Si no se pueden evitar en algún caso, conviene separar las ideas en distintas líneas.</i> [29, p. 22] ("Simple phrases should be used, and complex sentences should be avoided. If they cannot be avoided in some case, it is convenient to separate the ideas in different lines. [29, p. 22]")
(7)	Grammar > Sentences	Always keep your sentences short. [24, p. 11]
(7)	Grammar > Sentences	Keep your sentences short. You could do this by writing only 1 idea per sentence or using a full stop before starting a new idea, instead of using a comma or an "and". [24, p. 17]
(7)	Grammar > Sentences	Unnecessary long sentences should be avoided. It is recommended to include one idea per sentence. It is also recommended to vary the length of the sentences. [2, p. 13]
(7)	Grammar > Sentences	In easy language, if it is not possible to avoid a complex sentence, ideas should be separated in different lines. [2, p. 13]
(7)	Grammar > Sentences	Complex sentences with many subordinate clauses should be avoided. It is recommended to write different sentences instead. [2, p. 13]
(7)	Grammar > Sentences	<i>Utilizar oraciones simples cortas, con la estructura «sujeto + verbo + complementos». Esta estructura puede sufrir algunas modulaciones, como la posposición del sujeto en el caso del discurso directo y en discursos de contenido informativo o la dislocación del objeto directo al inicio de la frase.</i> [13, p. 69] ("Use short simple sentences, with the structure 'subject + verb + complements'. This structure can undergo some modulations, such as the postposition of the subject in the case of direct speech and in speeches with informative content, or the dislocation of the direct object at the beginning of the sentence. [13, p. 69]")
(7)	Vocabulary > Semantic aspects	Expressions which make the written text longer and do not add information should be avoided. [2, p. 11]
(7)	Vocabulary > Semantic aspects	<i>Se debería evitar el uso de palabras que no aportan información al texto y alargan su lectura.</i> [29, p. 19] ("The use of words that do not add information to the text and lengthen its reading should be avoided. [29, p. 19]")

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Declarations

Conflicts of interests The authors declare that there are no conflicts of financial or non-financial interest.

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