

is now something under fifteen and an old limb of the law.
t watches at four pounds fifteen and sixpence, seventy-four
n interest? Why I know of fifteen and sixpence that came to
und interest to two years, fifteen calendar months, and four
tters treated of in the last fifteen chapters were yet in progre
and let's have a dozen or fifteen cigars here - and let's be co

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-maned black horses, at fifteen good English miles an hour
papers, at the low price of fifteen guineas. Whether sea-going
ng against each other for fifteen hours at a sitting. They were
n! They sometimes, after fifteen hours' work, sat down to re
chaise - strange horses - fifteen miles an hour - and twelve
ouraging. The stage was fifteen miles long, the night was d
y's Inn Lane, it was within fifteen minutes of closing the pris
some halfpence short of fifteen pence, and proffered them
e would have sufficed for fifteen people. This preparation, M
obligations. We might say fifteen pound, or twenty pound, an
long and cold. Next day, fifteen prisoners were put to the b
heard him: „my clerk, with fifteen shillings a week, and a wife
s acquaintance cheap at fifteen sixpences an interview, and
been fifty, there had been fifteen there had been two. Rumor
ney, which we would call fifteen thousand pounds, to a clie
re go the foreigners; and fifteen times,' repeating the same



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and the characterising features of popularisation,
dissemination and rewriting for young audiences

Edited by
John G. Newman
Marina Dossena

Guest Editors for volume 15
Francesca Bianchi
Silvia Bruti
Gloria Cappelli
Elena Manca



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Introduction

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Gloria Cappelli** and Elena Manca*

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The aim of this monographic volume of *Token* entitled “Popularizing, Disseminating and Rewriting for Young Audiences” is to discuss the popularization of different genres and texts for an audience of children. Following the definition put forward by Calsamiglia and van Dijk, popularization encompasses “a vast class of various types of communicative events or genres that involve the transformation of specialized knowledge into ‘everyday’ or ‘lay’ knowledge, as well as a recontextualization of scientific discourse” (Calsamiglia – van Dijk 2004: 370) whose wide applications are immediately striking. Popularization can be observed whenever knowledge needs to reach a broad audience, with little or limited previous awareness of a particular topic, or, in the case of children, with still incomplete cognitive and linguistic development. Even though, as the contributions to this volume show, strategies for popularization for children almost completely coincide with those at work in texts for adult lay readers, they are used for slightly different reasons: whereas adults might not be sufficiently acquainted with a specific discipline, children have not yet fully developed their cognitive and linguistic skills (Myers 2003). Consequently, what is accessible for adult lay readers might be complex for children, and, therefore, it might necessitate some ad hoc popularizing strategies. This complexity may concern the level of ideas and concepts as well as that of linguistic expression.

Educational materials for children in the English-speaking world are largely characterized by learning strategies that build upon edutainment, whose goal is “to inform and entertain their overt audience – children” (Djonov 2008: 217). Edutainment genres for children have appeared in Italy much later, first as translations from English, then trying to gradually follow

in the footsteps of that tradition. However, they have not yet reached the same variety and comprehensive market coverage.

Popularization for children has yet to be extensively investigated in terms of genres or domains: the studies that adopt a contrastive approach that compares English and Italian texts are even fewer. The domains that have received scholarly attention include science (Myers 1989, 2003; Bruti – Manca 2019; Cesiri 2020; Diani – Sezzi 2020), newspaper articles (Diani 2015), history books (Sezzi 2017), EU institutions (Silletti 2017), legal knowledge (Engberg – Luttermann 2014; Sorrentino 2014; Diani 2018; Peruzzo 2021), health knowledge (Diani 2020), tourist promotion (Cappelli 2016; Cappelli – Masi 2019), non-fiction picture books (Masi 2021; Wozniak 2021), cultural heritage (Synodi 2014; Sezzi 2019), and literature (Bianchi 2018). In this volume, we cover fields such as art in the form of museum communication (contributions by Sezzi and Fina), environmental issues and ecology (Manca – Spinzi, and Bruti), legal issues such as copyright, children's rights, and communication addressed at children in the US House of Representatives website (respectively tackled by Peruzzo, Vignozzi, and Cacchiani), COVID 19 and the effects of the pandemic (Denti – Diani, and Nikitina), science and technology (Masi), *The Da Vinci Code* in its rewriting for young adults (Bianchi – Manca), diversity (Turnbull), and English grammar metalanguage (Cappelli). Two contributions in particular focus on specific genres, Bianchi and Manca's on literature and Masi's on TED Talks as a valuable didactic resource for knowledge dissemination.

This volume begins with the popularization of ecology and environmental sustainability, tackled in the contributions by Manca and Spinzi, and Bruti. The qualitative study by Elena **Manca** and Cinzia **Spinzi** aims to identify the popularizing features of multimodal educational videos on climate change addressed to young people aged 7-13. Apart from contributing to the ongoing debate on popularizing texts and genres for children, the research also digs into cross-cultural features of knowledge dissemination in British and Italian videos, thus suggesting relevant aspects to be considered in cross-cultural and translation studies. The comparable corpus comprises three British and three Italian educational videos for young learners aged 7-13 whose aim is to instruct them on climate change and its consequences, and hence on what can still be done to take care of our planet. The analysis evidences that, apart from the same length, which takes into account the limited attention span of the addressees, and a shared tendency to use attribution to be able to rely on the expertise of the scientific community, British and Italian videos rely on different popularizing

strategies. In the English data, the learners' engagement is maximized through inclusive pronouns and a conversational style. Conversely, the Italian dataset is characterized by a much lower level of inclusiveness due to the presence of specialized terms, impersonal constructions, and a less interactional style of communication. Visually speaking, the English data set combines cartoon-like representations with real-life pictures communicating the urgency of taking action and not downplaying the seriousness of a natural disaster. In contrast, the Italian dataset minimizes the risk by using a lighter image that does not match the verbal information. The implications of Manca and Spinzi's findings for the translation of environmental popularized multimodal videos are manifold: the first and most relevant is that, when mediating from Italian into English, a more informal style should be adopted; the second is that less technical and specialized terms should be used to favour involvement. This latter feature can also be achieved thanks to inclusive personal pronouns and direct questions. Finally, given the low-context characterization of communication in English, transparency and explicitness should be preferred to vagueness and implicitness.

Silvia **Bruti**'s contribution focuses on the influence of culture on the language used in informative texts written for an audience of young readers. To this end, a contrastive analysis of six American and Italian ecology books was carried out. Both the American and the Italian books are addressed to three different age groups, namely pre-school children, middle-grade readers, and teenagers. The methodological framework adopted in this study draws from discourse analysis, cross-cultural studies, and multimodal analysis (cf., *inter alia*, Manca 2012; Diani 2018; Cappelli – Masi 2019; Bruti – Manca 2020; Kress – van Leeuwen 2001). It focuses, in particular, on the preferred verbal and non-verbal recontextualization strategies identified by previous studies in the popularization domain (Calsamiglia – Van Dijk 2004; Garzone 2006; Gotti 2013). This contrastive analysis shows that the two sets of books exploit graphic resources in different ways. The American books include text partitions, expanding boxes, and do-it-yourself sections, while in the Italian books, multimodal and typographic resources are less exploited. Furthermore, in the Italian texts, language is more formal, and complex syntactic and lexical patterns are present. In the American counterparts, expressive language and colloquialisms are predominant. In conclusion, the analysis shows that cultural tendencies play a key role in how contents are visually and verbally organized. Furthermore, the notion of "edutainment" seems to be differently perceived by the two cultures. This is particularly

visible in the way the two sets of books balance experiential and detailed knowledge in their instructive aim.

The popularization of legal content is dealt with in the works of Peruzzo, Vignozzi, and Cacchiani. Katia **Peruzzo** analyzes two English and two Italian child-friendly (CF) versions of the United Nations Convention on the Rights of the Child (CRC). Two of the CF versions were produced by UNICEF (in English and Italian), one by the international NGOs Plan International (in English), and one by Save the Children (in Italian). The two versions by UNICEF are a two-page poster, with the Italian version being an adaptation of the English text obtained via translation. Plan International's English text (PI) is a double-page poster, and Save the Children's text is a one-page poster. The first three texts are multimodal and verbal elements are accompanied by illustrations, while the fourth text considered for analysis has no visual elements except for a red frame at the top, the NGO's logo at the bottom, and the alternation of red and black fonts. The methodology adopted by Peruzzo is discourse analysis with a focus on "generalizable discursive strategies" identified by Salvi and Bowker (2015: 13), i.e., recontextualization, re-conceptualization, and trans-mediation. The original text (i.e., the CRC) is a prescriptive legal instrument for an adult readership. For this reason, its adaptation for children requires several discursive strategies and semiotic modes that may make the text informative and accessible to children. One of the main aspects implied by this adaptation process is the reduction in text length which entails a reduction in detail and a form of simplification. Another relevant aspect identified in the comparison of the original text and adapted versions is the shift of focus from the subjects that must ensure the implementation of children's rights to the subjects whose rights are to be implemented, thus giving children a linguistically more central position. A change in modality can also be observed, as deontic modality is discarded and replaced by non-modal verbs. As for popularizing strategies, only a small number of instances of denomination, exemplification, and paraphrasing were retrieved.

Gianmarco **Vignozzi's** article analyzes the official website of the US House of Representatives, *Kids in the House*, created to explain to youngsters of different age groups how the House works and what its principal duties are. This website contains four different versions, targeting children at different stages in the US educational system, i.e., young learners (3 to 6 years), grade schoolers (6 to 11 years), middle schoolers (11 to 14 years), and high schoolers (14 to 18 years). The analysis focuses, in particular, on the verbal content of the four versions of *Kids in the House* and on the popularizing strategies (Calsamiglia – van Dijk 2004) used to make the content accessible

to youngsters. Data are processed using tools of corpus-assisted discourse analysis, namely *WordSmith Tools* (Scott 2016) and *SketchEngine* (Kilgarriff et al. 2014). A statistical analysis of the lexical variation and lexical density of the four versions of the website illustrates the presence of a rather restricted vocabulary whose range progressively increases from *Young Learners* to *High School*. The four versions of *Kids in the House* were also compared through the *Keywords* tool to identify significant words for each subcomponent. Results show that the four versions are characterized by different levels of readers' involvement, inclusion, and engagement. Furthermore, the version for teenagers presents elements pointing to a more complex and elaborate style and syntax. Marked differences in how popularizing strategies are used in the four versions were also identified. Descriptions and definitions often accompanied by educational activities are more frequent in *Young Learners*, while, in the version for grade schoolers, strategies such as denominations, reformulations, and analogies in the form of similes and metaphors can be found. Reformulations and denominations play a fundamental role in the versions for middle and high schoolers, together with a wide range of educational activities and external supplementary worksheets.

Silvia **Cacchiani** proposes a qualitative investigation into the ways exclusive knowledge about copyright is presented to children in *Key Stage 3* (11-14 years old) on the Bitesize and Newsround pages of the British Children's BBC online platform. The article compares the objective exposition in the "Copyright" article of OUP's *A Dictionary of Law*, primarily addressing late youth and adults, with the Bitesize sister directories on copyright and intellectual property, and a Newsround story about EU copyright law. The materials included in the dataset are analyzed against a rich theoretical background in terms of their proximity to the typical features of a semantic-encyclopaedic dictionary article, their readability as a measure of text usability, the interactional dialogic strategies used to create engagement with the reader, as well as the interaction of verbal and non-verbal components in creating conceptual accessibility. Cacchiani's analysis shows that the online materials for children discussed differ in some important respects, although addressing the same audience. Thus, the Bitesize pages favour brevity, precision, and conciseness, resort to specialist terminology and preserve the structure of the expository text. They are also characterized by a marked preference for the standard *definiendum* – *definiens* structure, rather than resorting to the strategies described in Calsamiglia and van Dijk (2004). On the other hand, Newsround adopts interactive strategies through the exploitation of verbal and visual stimuli (e.g., clever language play within memes) to

engage with users, arouse their curiosity, and promote identification with the represented participants and actions.

Denti and Diani, Nikitina, and Masi tackle medical and scientific matters. Olga **Denti** and Giuliana **Diani** direct their attention to the dissemination of medical information to children and teenagers. To this aim, they analyzed three websites and three booklets in English explaining COVID-19 to the young, with a view to the popularization strategies employed and the role played by verbal-visual interaction in the popularization process. Their primary analytical frameworks are Calsamiglia and van Dijk's classification of explanation strategies, and the grammar of visual design proposed by Kress and van Leeuwen, accompanied by methodological reference to other authors such as Barthes's notion of *anchorage*. Denti and Diani observed the employment of similar popularization strategies across the various materials, including Denomination and Definition to explain technical terms, the use of similes and metaphors, *wh*- and *how*- question/answer patterns, the imperative mood (do's and don'ts) and pronouns *you* and inclusive *we* to stimulate reader's engagement with the texts. However, differences were observed regarding style, the texts for younger readers being more colloquial and conversational, and those for teenagers adopting a style closer to that of textbooks. At the level of visual-verbal interplay, all texts use images and text in a complementary way and amply resort to the use of visual metaphors. The images, however, are adapted to the age group: fictional characters for younger children; teenage characters for youngsters. Furthermore, the websites take advantage of their electronic nature and include dialogic videos.

Jekaterina **Nikitina**'s contribution also deals with the presently relevant topic of the COVID-19 pandemic and how it is explained to children. The study relies on two corpora assembled for the purpose: one contains advice to parents, and the other texts destined for children. The main corpora used for the study contain texts in English. However, there are some smaller sub-components featuring texts in Italian and Russian, which give rise to interesting comparisons across lingua-cultures. One of the study's claims is that definitions used in texts for children often depend on the pre-existing knowledge children have and exploit it by means of similes. Another surprising feature emerging from the analysis is that if popularization for parents resorts to a vast array of different strategies, texts for children mainly rely on personification, to the point that it becomes a backbone in this specific genre. Thus, coronavirus is presented as a living being and consequently attributed schemata that are typical of human

beings, such as having a family, having feelings, and even being given bad marks. Conversely, in the stories for caregivers, personification is more selectively employed and especially applies to the “good players”, i.e., the antibodies, cells, and the immune system.

Silvia **Masi** investigates TED talks, a type of event specifically born for the purposes of popularization, with a special view to those involving children as either speakers or part of the intended audience. The author’s aims are twofold: to establish whether TED of/for children differ in any way from other TED talks and to observe whether they share similar strategies with other informative literature for children. Masi created two corpora, each including 16 talks on Science and Technology: one corpus includes talks for or by children from four playlists compiled by the TED Team of editors; the other corpus comprises talks not specifically involving children. All the talks underwent manual qualitative analysis, with a special focus on engagement markers, verbal strategies of recontextualization, and visuals. Her analyses confirmed the existence of differences between TED talks for kids and for a generalized audience and similarities with other types of informative literature for children. In particular, the talks for children were found to be more engaging, with strong anchoring in pre-teens and teens’ worlds of experience. The analysis also showed the presence of kid-oriented popularization, such as exemplification, reformulation, and analogy.

The volume continues with three papers on largely understudied topics in popularization linguistic studies, i.e., rewriting literature for young adults (Bianchi – Manca), diversity (Turnbull), and English grammar metalanguage (Cappelli). Francesca **Bianchi** and Elena **Manca** deal with intralingual literary adaptations as a peculiar case of popularization. More specifically, they apply corpus linguistics methods to analyze a young adult rewriting of Dan Brown’s famous novel, *The Da Vinci Code*, by the author himself. Bianchi and Manca address the question of what counts as “more appropriate” for an audience of young adult readers, borrowing Brown’s own words. After dealing with the theoretical and applied implications of writing for different audiences, by taking into account suggestions from children’s literature, developmental psychology, language acquisition, and reading comprehension, as well as previous linguistic studies on popularization, the authors illustrate the differences between the two versions of the novel. They carry out a detailed analysis at the level of keywords, key POS tags, and key semantic categories of the two texts by resorting to the software package Wmatrix (Rayson 2009), a tool that performs part-of-speech (POS) and semantic tagging, and also relies on a comparison with the BNC Sampler Written Imaginative, used as

a reference corpus. The most interesting findings at a general level include a clear attempt at simplifying the language in the text and a replacement of American with British expressions. The ‘traditional’ adaptation strategies that have been identified as crucial are Purification, Language adaptation, Abridgment, and Localization. Purification stems from the need to remove unsuitable or disturbing references to sexual matters, as Brown himself explicitly announced. Language adaptation consists in replacing Latinate with Anglo-Saxon vocabulary, proper names with generic ones, specialized terms with more common ones, and substituting metaphorical expressions with more concrete ones. Abridgement takes the form of deletion of original passages that are not functional to push the plot forward. Localization, as mentioned previously, consists in replacing the American with the British variety, a choice for which a conclusive explanation cannot be provided. However, the analysis (in line with results in Bianchi 2018) also emphasizes changes that are not included in the above categories and would suggest the need for a revision of the classification of adaptation strategies geared to an audience of young adult readers. In addition, some of the choices made by the adaptor do not seem to take the profile of young adult readers into account, both in terms of tastes and preferences and cognitive skills, in the latter case assessing them as rather less skilled and competent than adult readers.

Judith **Turnbull**’s article tackles the culturally and socially relevant question of the ways in which information about diversity is presented to young people: an essential contribution to the education of any responsible present and future citizen. If popularization for children, in general, involves the adaptation of communication to their still-developing linguistic and cognitive abilities, the popularization of the abstract concept of diversity must necessarily take into account age-specific behavioural and social development as well. It is, in fact, not strictly an example of “specialized terminology” per se, but its meaning can be difficult to fully grasp for children, like that of other words (e.g., “racism”), hence the large number of resources available online to introduce these important concepts. The article analyzes a corpus of 28 YouTube videos through an eclectic, qualitative approach to identify and discuss the strategies used both in their cognitive and communicative dimensions. The complete list of the materials is provided in an Appendix. Verbal and non-verbal aspects are considered, as the author focuses on both linguistic and multimodal mechanisms, strategies, and devices adopted to transfer knowledge. The most common verbal strategies described are definition and the use of analogy and metaphor. Interestingly, exemplification is also very frequently

exploited in the videos addressed to younger children, and hypothetical situations are also used to create a dramatic effect and prompt an empathetic response in the children. The analysis of communicative strategies reveals the frequent use of questions addressed to the viewers, the use of positive words in association with differences, and the use of rhymes and repetitions as attention-grabbing strategies. Interestingly, although the language is informal and contributes to creating a friendly atmosphere for the young audience, humour is not exploited in the popularization of information about diversity, which underlines the inherently serious nature of the question.

Gloria **Cappelli**'s contribution explores the role of explicit teaching of grammatical metalanguage (including spelling and punctuation) in a selection of teaching materials after grammar was reintroduced in British schools as part of the New National Curriculum for English at the end of the 1980s. The New Literacy Strategy, which was to follow a decade later, reinforced this shift with a stable role allocated to grammar in the British education system. The chapter aims to ascertain whether grammatical terminology, at least those terms that are necessary to discuss linguistic matters, can be equated with specialized terminology, and hence whether the same popularizing strategies that are used when transferring specialized knowledge to children are employed in this genre as well. The dataset for this study includes a selection of materials (e.g., reference materials, teaching materials, and narrative teaching materials) published by popular publishing houses in the UK and USA and destined for an audience ranging from 1 to 6. As Cappelli rightly underlines, different age groups entail different skills and cognitive profiles: the ability to maintain concentration and control one's behaviour, attention span, interests, and relational skills. As a consequence, books and materials are shaped based on these characteristics. The analysis shows that grammar teaching can be considered "a peculiar case of knowledge transfer", as children have already mastered the language (i.e., the specialized content). Yet, they may need to learn how to name the various building blocks. Consequently, there is no recontextualization, but reformulation strategies are often resorted to so as to make grammatical metalanguage accessible to young learners. These include verbal and visual resources, in a variable mixed proportion, depending on the age of the addressees. However, the emerging approach adopted is always functional: grammar is seen as a tool to use the language more appropriately and successfully. Bimodal input (i.e., access to information via different modes) is often exploited to make comprehension more straightforward, although differently in relation to age groups and genres. Thus, text and images

frequently complement each other, for example, when images succeed in representing abstract concepts and anchoring them to the learners' experience and background knowledge.

The last two works in this volume cover popularization of art for children, explored in Fina's and Sezzi's contributions. Maria Elisa **Fina** proposes a multimodal investigation of twenty audio-delivered pictorial descriptions in English specifically intended for children, accessible on the official website of the Museum of Modern Art (MoMA), a museum that prioritizes social inclusion. Fina put together a corpus of descriptions that were later annotated for several features, such as 'type of speaker', 'speech', 'music', 'sounds', and 'prosody', and analyzed by applying a multimodal framework. As the author remarks, pictorial descriptions emerge as a complex informative text genre, orally presented but based on a previously composed written script. In addition, since the final product is delivered aurally, it exploits all the semiotic forms of "soundscape". The rich and detailed analysis of excerpts from the MoMA corpus evidences that popularization strategies are designed to stimulate children's observation skills and further develop their critical thinking by making the art experience a discovery. In particular, questions and invitations addressed to children stimulate them to search the painting visually, "but also to interact and play games with the artwork to experience first-hand particular visual features or emotional effects". Alongside these involving techniques, more explicitly didactic strategies such as denominations and definitions are aimed at explaining the meaning of scarcely accessible concepts or terms. At the same time, analogy and anchoring are used to make art part of the child's world. Finally, an equally relevant role is played by the soundscape, since the speaker's voice, speech, music, sounds, and prosody merge to suggest what might not be immediately accessible and retrievable by conveying emotions and ideas intuitively and by aurally 'guiding' the exploration of the artwork.

Finally, Annalisa **Sezzi** tackles the identification of the popularization strategies used in websites specifically addressed at children, *Tate Kids*, *MetKids*, and *Destination Modern Art: an Intergalactic Journey to MoMA and P.S.1.*, which stand out as quite innovative in the panorama of popularization of art for children. These websites, Sezzi contends, are not only a privileged locus for knowledge dissemination but also a powerful instrument to involve children by stimulating their curiosity and cultivating their interest in art. They go beyond 'craftivity' and promotion by making works of art and artists more accessible to young people. Sezzi intersects quantitative

and qualitative analyses to uncover the main strategies used in her self-compiled corpus, the *MuseKids* corpus, containing sections from *Tate Kids* and *MetKids* collected in 2019 as part of a project devoted to museum online communication for children and early teenagers. The third object of analysis, the website *Destination Modern Art: an Intergalactic Journey to MoMA and P.S.1*, is described separately and only qualitatively on account of its different structure and its limited verbal text. The analysis of the annotated *MuseKids* Corpus reveals that nearly all types of popularizing strategies are used (e.g., denominations, definitions, exemplifications, analogy). What emerges instead as quite peculiar is the use of reformulation to get children to pronounce the names of artists correctly and effortlessly, a feature shared by *Destination Modern Art* too. Another feature deserving attention is the lack of generalizations, which depends on the unique artistic experience each work of art represents for its viewers. Conversely, this sense of uniqueness is enhanced by the use of direct citations of artists' words to illustrate their works, which gives viewers a key to better understanding them.

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A cross-cultural study of the popularization of environmental issues for a young audience in digital spaces

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ABSTRACT

Digital spaces are being ever more characterized by an increasing presence of educational videos which aim to inform young people on the importance of understanding the need for environmental sustainability and to instruct them on how they could be dynamically involved to act for their future. Drawing upon the popularization techniques identified in previous literature (Cappelli 2016; Diani 2018; Bruti – Manca 2019; Cappelli – Masi 2019), this study aims to identify the popularizing features of multimodal educational videos focusing on climate change and addressed to young people aged 7-13. This qualitative study aims to contribute to the ongoing research on popularizing and innovation for children and on knowledge dissemination for young people within a cross-cultural perspective.

Keywords: young audience, educational videos, environmental knowledge, contrastive analysis, popularization strategies.

1. Introduction

If it is a truism that climate change issues affect all levels of society including the micro level of individuals (Rossini 2012), it is equally true that we are

¹ Although the two authors have collaborated closely on the paper, Elena Manca is responsible for sections 2, 2.1, 3.2, and 4.1, and Cinzia Spinzi is responsible for sections 1, 3.1, 4.2 and 5.

living in the Anthropocene² – i.e., the geological era characterized by the human footprint on the global ecosystem. Ecological concerns for the human impact on the environment and the race to control climate change have been brought to even greater prominence by the unprecedented event of Covid-19. The pandemic has given humanity an opportunity to think about innovative recovery pathways able to tackle one of the biggest issues in today's world, climate change. Indeed, despite great hardship, the environmental benefits of a global lockdown have set in motion a record global recovery (see Buckle et al. 2020). This urgent need for positive change is visible at all levels of society and especially in the education of young people. Digital spaces, for example, are increasingly characterized by a growing presence of educational videos aimed at teaching young people the importance of understanding the need for environmental sustainability and conservation and educating them on how they can actively engage to take action for their future. By raising learners' awareness of environmental concerns, education plays an essential catalytic role in counteracting global climate change and, thus, in building a society resilient to climate hazards. As emphasized in the 2030 Agenda for Sustainable Development Neutralizing of the United Nations,³ education is key to spreading new values and lifestyles that can lead to a more sustainable world. If these values are taught from an early age, people will automatically adopt sustainable attitudes (see Pramling Samuelsson – Kaga 2008).

This research aims to find out how a new ecological onus is popularized among young people. When addressing a lay audience, popularization comprises a wide range of communicative events or genres where specialized knowledge is transformed into everyday knowledge through popularizing strategies; in brief, this process entails "recontextualization of scientific discourse" (Calsamiglia – Van Dijk 2004: 370). Against this backdrop, this paper intends to contribute to contrastive research on forms of popularization of ecological issues, implemented through multimodal videos for children and youngsters. More particularly, we aim, first, to identify the multimodal features of a series of British and Italian videos and, then, to compare these features with the popularization techniques identified by previous studies (Cappelli 2016; Diani 2018; Bruti – Manca 2019; Cappelli – Masi 2019).

² The word Anthropocene was coined by the Dutch chemist and Nobel Laureate (1995) Paul Crutzen. For further information see Oppermann and Iovino (2017).

³ <https://sdgs.un.org/2030agenda>, accessed October 2021.

This study contributes to ongoing research on popularization and innovation for children and helps identify certain cross-cultural features of knowledge dissemination for young people that are specific to the two groups of “lay readers” (the British and the Italian ones).

2. Popularization discourse

Following Calsamiglia and Van Dijk (2004: 370), popularization can be defined as a variety of communicative events or genres where specialized knowledge is transformed into everyday knowledge and in which scientific discourse is recontextualized to be conveyed through the written media of mass communication. Popularization consists in the “reformulation, reconceptualization, and recontextualization of expert discourse that meet the background encyclopaedia of lay readers” (Cappelli 2016: 71). The tenets of Calsamiglia and Van Dijk’s (2004: 371) theory of popularization are reported below and integrated with other scholars’ considerations:

1. Popularization can be seen as a social process consisting of a class of discursive-semiotic practices that involve different types of communicative events with the aim of disseminating lay versions of scientific knowledge among the public at large. Science can be, therefore, considered as a discourse and popularization as a genre (see Myers 2003: 266).
2. Popularization is not characterized by specific textual structures but by the properties of the communicative context. These properties are participants and participant roles, their purposes and knowledge, and the relevance of such knowledge in everyday life. In Myers’ (2003: 273) words “popularization is a matter of interaction as well as information; it involves persons and identities as well as messages”.
3. These context properties are important for the linguistic analysis of the “textual” (verbal) structures of such discourse. Myers (2003: 266), for example, suggests that differences between the discourse of scientific institutions and popular science are to be found in their textual form, sentence subjects, grammatical voice, verb choices, modality and hedging, and rhetorical structure.
4. Popularization consists not only in a reformulation but also in a recontextualization of scientific knowledge and, for this reason, popularization discourse has to adapt to the constraints of the communicative events in which it appears. If the communicative

event is a tourist guidebook for children, the popularization process is partly constrained by the specificities of this genre and partly by the particular nature of the intended audience (Cappelli 2016: 72). This process of recontextualization for a young audience shapes the linguistic code in a more dramatic way as compared to what happens with an adult audience. As it happens for translation, the information process of popularization involves the transformation of an original/source text into a derived text (Gotti 2013: 13). When a text is redrafted to make it accessible to a lay audience, the disciplinary content is not altered and changes occur only at the level of language which needs to be remodeled to suit a new target audience. Information is transferred linguistically in a way similar to periphrasis or intralinguistic translation.

5. The mass media actively contribute to the production of new, common knowledge and opinions about science and scientists; media managers and journalists are those who ultimately decide what to publish about science and how to publish it.
6. The knowledge produced by mass media should be further interpreted by taking into account their entertainment function.

The process of transformation of specialized knowledge into lay knowledge is based on the discourse activity of “explanation” (Calsamiglia – van Dijk 2004: 372). The following strategies, based on Calsamiglia and van Dijk (2004), Garzone (2006), and Gotti (2013), describe the types of explanation available to allow lay readers to integrate their old knowledge with a new lay version of specialized knowledge. They are discursive practices that work at the syntactic level: denomination, definition/description, reformulation or paraphrase, exemplification, and generalization:

- Denomination refers to the introduction of new terms to explain specific meanings.
- Definition is a strategy used to explain unknown words, while description is used to explain unknown concepts.
- Reformulations and paraphrases are explanatory moves characterized by relative clauses, appositions, parentheses, dashes, quotes and metalinguistic expressions (e.g., ‘are called’). They are usually employed when a new notion is introduced and later explained by a reformulation or a paraphrase.
- Exemplification implies the use of specific examples of general phenomena, while generalization draws general conclusions from specific examples or cases.

At the cognitive level, analogies, comparisons, and metaphors are strategically used to organize large parts of a text (see Spinzi 2019). Metaphors, in particular, help establish a link between two domains of experience or knowledge and, for this reason, they play a prominent role in popularization discourse (Calsamiglia – van Dijk 2004: 376).

2.1 Popularizing for a young audience: Previous studies

The popularizing strategies through which children can access specialized knowledge and become engaged by specialized contents have been the object of research by several scholars. Some studies have focused on the dissemination of legal knowledge to a young audience (Engberg – Luttermann 2014; Sorrentino 2014; Diani 2015, 2018; Diani – Sezzi 2019); other studies have investigated the teaching of hard sciences (Myers 1989, 2003) or the dissemination of environmental knowledge in specialized magazines (Bruti – Manca 2019). Finally, some scholars (Cappelli 2016; Cappelli – Masi 2019) have investigated knowledge dissemination for a young audience in the tourism domain. The studies described below are some of the most representative of each knowledge domain and provide interesting insights into the most frequently used popularizing features for a young audience. For this reason, the results illustrated below will provide the basic framework upon which the analyses described in the current paper are based.

Cappelli (2016) analyzes the strategies used in tourist guidebooks for children to make culture-specific or technical terms and concepts accessible to young readers. In particular, the author aims to verify which strategies are used in English tourist guidebooks for children aged 6-12 and which contents have been adapted to make them suitable to their presupposed knowledge and cognitive skills. The most common strategy found in the corpus considered for analysis is explanation, usually consisting of:

- explanatory passages focusing on general concepts;
- definitions instantiated through juxtaposition of specialized terminology and non-specialized vocabulary;
- generalization achieved through paraphrasing or general definitions.

Anchoring to the readers' experience is also pervasive in guidebooks for children and it is instantiated by direct address, wordplay, explicit comparison, and intertextuality. Another very common strategy includes game-like activities which aim to raise children's awareness of the relevant

aspects of the destination described in the guidebook. Conversely, exemplification, analogy, and metaphors are rarely used.

The popularization process in English history information books for children and their translations into Italian is analyzed by Sezzi (2017). As the author points out (Sezzi 2017: 470), when a popularizing text for children is adapted to fit a new social and cultural context, it is further exposed to a re-mediation process and becomes an example of a different idea of popularization and knowledge. Expert discourse has not only to be adapted but also to be re-mediated to arouse readers' curiosity and interest. To achieve this, the strategies used are direct address of the recipient, use of different kinds of images and media, and use of informal language and irony. As for the Italian translations of English history information books, Sezzi (2017: 476) notices that translated versions are characterized more by a sort of "complexification" than by simplification. Notions and historical facts are detailed to be as accurate as possible, and also by adding explanations including more specific terms. The Italian notion of popularization, therefore, seems to tend more towards accuracy rather than "edutainment" (see Scanlon – Buckingham 2002).

Diani and Sezzi (2019) identify the popularization strategies used in two official websites about the EU addressed to children. The results emerging from their study suggest that the strategies used to communicate knowledge to children involve adjusting information through definitions, denominations, similes, and exemplification, and also using some linguistic features typical of dialogic interaction (i.e., the pronoun 'you'). Furthermore, the websites under examination show a highly interactive reader-oriented nature and frequent use of questions as another form of reader engagement. An important role in the communication of EU knowledge to a young audience is also played by images, which are exclusively cartoon-like drawings mirroring the verbal text and thus facilitating its comprehension.

The popularization of scientific discourse in the domain of palaeontology to young children is investigated by Cesiri (2020) by considering a series of episodes from the animated series *Dinosaur Train*. Results from the verbal analysis suggest that the most frequent strategies used in this case of knowledge dissemination are generalization and general terminology, hedging, figurative language, and juxtaposition. Visual elements seem to be exploited to make content clearer and to enhance interaction and comprehension.

An analysis of both verbal and visual popularizing strategies on websites disseminating health concepts for children has been carried out

by Diani (2020). The most frequent strategies are the question-answer mode which suggests the pedagogical function of the website and a game-like structure which acts as an engagement strategy. Furthermore, children are directly addressed using the personal pronoun 'you', to create a feeling of closeness and involvement. Images are meaningfully related to each other and to the verbal content of the websites, thus supporting health popularization for children. For this reason, visual and verbal metaphors are also frequent.

Finally, Bruti and Manca (2019) consider for analysis five online magazines dealing with environmental issues: *the National Geographic*, *Focus*, *the National Geographic Kids* (both the UK version and the US one), and *Focus Junior*. Their aim is to compare popularizing strategies targeting different audiences and in different lingua-cultures. The linguistic popularizing strategies identified in the *National Geographic Kids* magazines tend to involve young readers through a question-and-answer format, through colloquial language including vague terms and informal expressions. Furthermore, there is frequent use of the personal subject pronoun 'you' and of the personal possessive adjective 'our', both contributing to interaction and involvement. The Italian children's magazine also shows a tendency towards the question-and-answer format, but the language used is not more informal and interactive than the language used in the adult version. The adaptation strategies that are most frequently used are explaining, defining, and describing. Language is characterized by highly frequent use of adverbs, conjunctions, and similes. Although both the English and the Italian magazines use the popularizing strategies discussed in the existing literature, the two sets of magazines select these strategies with different frequencies of usage, thus supporting the assumption that requirements of adaptation are culture-dependent.

Based on the results achieved by the studies on popularization for children reported above, to the strategies indicated by Calsamiglia and van Dijk (2004), we can add the following:

- anchoring to the readers' background knowledge and life experience (achieved, for example, through direct address or through expressions that prompt readers to make comparisons with what they know about the world);
- attribution, instantiated by the explicit mention of the source of the information provided;
- use of more than one semiotic code at a time;

- generic hybridization or interdiscursivity (Bhatia 2010: 36), which entails a combination of features typical of different genres;
- reader engagement (Hyland 2005), instantiated by reader pronouns and questions;
- informal and colloquial language;
- irony.

Our aim is to check whether the popularizing strategies discussed in this section are used in the videos selected for analysis and whether they are culture-dependent in their usage. In the following section, a detailed description of the data and methodology adopted is provided.

3. Material and analytical approach

3.1 Data

The empirical data for this study come from a collection of three British and three Italian educational videos for young learners aged 7-13 teaching what climate change is, what its consequences are, and what we can do to stop it and take care of our planet. The compilation of the comparable corpus, which is at a pilot stage, requires a number of criteria to be met to fulfil the objectives of the research, which are described as follows:

- the date of creation of the selected videos is as recent as possible;
- all the video contents pertain to a specialized communicative setting that is about Earth Science, with particular reference to the topical issue of climate change;
- the texts are originally written in one of the two languages (i.e., English or Italian) and belong to the same genre, namely multimodal videos for educational purposes;
- the websites selected for data collection were chosen for their authoritative standing and for their commitment to sensitive issues such as environmental protection.

The first website considered as a source of materials is *National Geographic*, in its education section⁴ where a digital library with a collection of

⁴ https://www.nationalgeographic.org/topics/resource-library-climate-change/?q=&page=1&per_page=25, accessed October 2021.

resources about Earth Science is available for all school levels. As we read on the website, teachers are encouraged to use these resources in their classrooms to help young learners (7-13-year-old students in our case) to better understand environmental issues and also to take action on climate change. The video from this website, *Climate Change 101*, relies on the expertise of the scientist Bill Nye, who not only explains the causes and consequences of climate change but also calls for immediate actions to mitigate its effects.

The second video comes from the *BBC* website, where a section entitled *BBC Teach* is devoted to a variety of classroom resources to disseminate specialized knowledge. The video entitled *Climate Change* starts with a young presenter explaining how she learnt about climate change and her feelings about it. Other children are then invited to discuss the questions posed by the narrating voice. Explanations are provided by the original presenter along with suggestions on how young people could make a difference in climate change through simple behaviour in their everyday life.

The third video comes from *Smile and Learn*, a learning platform internationally awarded by the European Union and other institutions, and used by more than one million young learners worldwide. It is also specialized in Content and Language Integrated Learning (CLIL). In brief, this website strengthens curriculum subjects such as Earth Science.

In order to compile a balanced comparable corpus, the Italian videos were downloaded from a range of websites. The first website taken into account is *Focus Junior* website from which the video entitled *Il cambiamento climatico non è una bufala* (Climate change is not a hoax) was selected.

To find a video that could have matched the *BBC* video, the Italian national channel *RaiScuola*⁵ was explored. The only videos available on the topic considered in this research were from the late 1990s and were therefore excluded. For this reason, another website was explored, *Ambiente Scuola*, a large, multi-company insurance agency that provides every school with many educational services among which educational videos on environmental issues were found. The video included in the data is entitled *Noi e il Clima* (We and the Climate). The last video considered for the Italian group is from *Zanichelli Scuola*, a popular publishing house known in Italy for its seriousness and rigorous methods, and which provides schools, teachers, and families with numerous digital resources. The video consulted on this

⁵ <https://www.raiscuola.rai.it/scienze/articoli/2021/03/Clima-e-cambiamenti-climatici-8e7e0861-ee2b-4db5-8bfe-cd60dbe3af19.html>, accessed October 2021.

website is entitled *Quali effetti ha il riscaldamento globale* (What effects global warming has). An overview of the corpora is displayed in Table 1.

Table 1. The multimodal videos on climate change included in the corpus

Italian Videos	Minutes	Source	English Videos	Minutes	Source
1. Il cambiamento climatico non è una bufala	7:07	Focus Junior	1. Climate Change 101 with Bill Nye	4:09	National Geographic
2. Noi e il Clima	7:39	Ambiente Scuola	2. Climate change	4:11	BBC
3. Quali effetti ha il riscaldamento globale	1:37	Zanichelli Scuola	3. Climate change	4:49	Smile and Learn

3.2 Methodology

As anticipated above, the aim of this paper is the identification of the multimodal features of each group of videos. More specifically, the analysis aims to: 1) compare the strategies of popularization for a young audience with the techniques identified by previous studies; 2) compare and contrast the strategies used by the two lingua-cultures to check if the process of adaptation and recontextualization can be defined as culture-dependent.

The analysis of the video transcriptions is qualitative and aims to explore the five forms of “explanation” indicated by Calsamiglia and van Dijk (2004: 372), and the strategies identified by previous studies on the discursive practices for a young audience, as listed below:

- denomination;
- definition;
- reformulation and paraphrase;
- exemplification;
- metaphor, comparison, and simile;
- anchoring to the readers’ background knowledge and life experience;
- attribution;
- simultaneous use of more than one semiotic code;
- generic hybridization;

- reader engagement;
- informal and colloquial language;
- irony;
- approximation.

Furthermore, to explore the connections between verbal and visual modes and how they both contribute to the popularization of contents, van Leeuwen's (2005) multimodal model of image-text relations has been adopted (Table 2).

Table 2. van Leeuwen's (2005: 230) overview of visual-verbal linking

Image-text relations	Types	Subtypes
Elaboration	Specification	The image makes the text more specific
	Explanation	The text makes the image more specific
		The text paraphrases the image (or vice versa)
Extension	Similarity	The content of the text is similar to that of the image
	Contrast	The content of the text contrasts with that of the image
	Complement	The content of the text adds further information to that of the text, and vice versa

The two key concepts selected by van Leeuwen describe two different connections that words and images may have. In the case of "Elaboration", words and text may be connected by two relation types: "Specification" and "Explanation". When the words pick out one of the possible meanings of the image, and vice versa the relation type is "Specification"; when words explain the image (and vice versa), that is the case of "E".

Words and images can also be in a relation of "Extension": two items, one verbal and one visual, provide different but semantically related information. The content of the text may be similar to that of the image ("Similarity" type), it may be in contrast ("Contrast" type) or it may add further information ("Complement" type).

In the following sections, the verbal and visual analysis of the two groups of videos is described and commented. Due to the relevance of questions in educational videos and the persuasive intent to call to action, Bloom's (1956) taxonomy, later revised by Anderson and Krathwohl (2001), and Aristotle's *On Rhetoric* (1959) are considered.

4. Analysis

4.1 Analysis of the Italian videos

The first video considered for this analysis is entitled *Il cambiamento climatico non è una bufala* by *Focus Junior*. It is an actual interview made by the *Focus Junior* reporter, Francesco Barberino, with a meteorologist, Serena Giacomini. For this reason, the presence of the question-and-answer mode cannot be considered an intended popularizing strategy. However, questions and answers contribute to organizing the text linearly and clearly, making it more accessible to a young audience. Furthermore, the reporter asking questions is a young boy with whom the young audience can easily identify. The first two questions are asked to allow viewers to realize that the woman being interviewed is a scientist who starts working very early in the morning: *‘Ti vedo spesso in TV ma sei anche una scienziata?’* (‘I see you often on TV but are you also a scientist?’), *‘Ma come inizia la tua giornata?’* (‘How does your day start?’). These questions fulfil the aim of establishing a relationship of trust between the audience and the meteorologist, particularly because the interview aims to show that climate change is not a hoax. The personal pronoun *‘noi’* (‘we’) or verbs conjugated in the 1st person plural are used only three times by the reporter and are never used by the expert. Examples are *‘Andiamo a chiederlo a Serena del centro meteo Expert’* (‘Let’s go and ask Serena from the Expert weather centre’), *‘Ma che cosa possiamo fare noi ragazzi di 11 anni per contrastare il riscaldamento globale?’* (‘But what can we, 11-year-old children, do to tackle global warming?’), *‘E’ vero ragazzi, dobbiamo fare qualcosa da oggi, anzi da ieri’* (‘It’s true, guys, we must do something starting from today or, rather, from yesterday’). Conversely, the expert addresses the audience by saying the name of the reporter as if he represented the whole community of children: *‘[...] sono i dati che parlano, Francesco’* (‘It’s data talking, Francesco’). In only one case, replying to the question asking what 11-year-old children can do, she refers to the audience by saying *‘voi ragazzini di 11 anni potete fare davvero tante cose’* (‘you, 11-year-old children, can really do a lot of things’). When the expert describes possible everyday actions to counteract the effects of global warming, the impersonal form is mainly preferred (e.g., *‘Si possono scegliere le verdure di stagione’* / ‘One can choose seasonal vegetables’). The language used is colloquial and the instructive aim is visible in the frequent use of strategies such as definition, reformulation and paraphrase, and exemplification. Examples are expressions and conjunctions such as *‘il cosiddetto global warming’*

(‘the so-called global warming’), ‘*in pratica*’ (‘in practice’), ‘*l’anidride carbonica, che è una piccola molecolina*’ (‘carbon dioxide which is a very tiny molecule’), ‘*ovvero*’ (‘or’), ‘*cioè*’ (‘that is’), ‘*come per esempio*’ (‘as for example’). The strategy of anchoring to the readers’ background knowledge and life experience is also present, particularly when the expert provides some examples of possible actions that can be taken by young people in their everyday lives to reduce pollution and, consequently, global warming. For instance, in the following sentence ‘[...] *l’acqua è meglio evitare di sprecarla quando ci si lava i denti o quando si fa la doccia meglio non lasciare i rubinetti aperti*’ the expert is inviting viewers to avoid wasting water when brushing their teeth or leaving taps running when taking a shower. Another interesting strategy is attribution, which can be observed when the meteorologist makes clear that what she is describing comes from statistical data about weather and climate and from the scientific community, as illustrated by the example: ‘*la comunità scientifica internazionale dice che questo surriscaldamento, quindi il cosiddetto global warming, riscaldamento globale, è perlopiù causato dall’azione dell’uomo*’ (‘the international scientific community says that this warming, the so-called global warming, is mainly caused by human activity’).

The video under investigation features real-life characters, namely Francesco, the *Focus Junior* reporter, and Serena Giacomini, the meteorologist. The interview is carried out at the weather centre where the meteorologist works, and this is visible from the several screens behind the interviewer and the interviewee. The questions asked by the reporter are always preceded by a video sequence in which the question is reported in white letters against a background featuring clouds, rain, and a white semicircle resembling part of the earth covered with clouds filmed by a satellite or from a space shuttle. This image aims to ensure that the audience clearly understands the questions, and the background to the message seems to emphasize the consequences of climate change (clouds, rain), thus adding further information. For this reason, the word-image relation is of Extension, with the Complement type. When the meteorologist replies to the first question, a map of the world showing the increase in temperatures from 1880 to 2018 is shown. Again, information is added and the word-image relation is Extension of the Complement type. For each answer to the questions by the interviewer, on the left bottom of the screen, a message appears in white letters against some red thick lines and summarizes the most important point made in the answers, such as ‘*Negli ultimi 10 anni le temperature sono aumentate troppo velocemente*’ (‘Over the last 10 years, temperatures have increased too quickly’) or ‘*Il riscaldamento globale è causato soprattutto dall’azione dell’uomo*’

(‘Global warming has been mainly caused by human activity’). In this case, the word-image relation is of Elaboration, because the image makes the text more specific. When the North Pole is mentioned referring to global warming, a map with a simulation of the melting of ice in that area of the earth from 1984 to 2016 is shown, and on the left bottom part of the screen a summarizing message appears again (*‘Il Polo Nord risente più di tutto il pianeta del riscaldamento globale’* / ‘The North Pole is that area on earth which is mostly affected by global warming’). In this case, two relations appear at the same time, Extension and Elaboration. The same word-image relations are present when the meteorologist explains what 11-year-old children can do to avoid global warming, in that an account of the temperature anomalies by country from 1880 to 2017 is shown on screen and, on the left-bottom part, suggestions about what children can do to tackle this problem are reported. At the end of the interview, Francesco, the reporter, speaks directly to his audience, looking at the camera and emphasizing the need to do something together. Looking directly at viewers generates involvement, as this type of gaze demands action from the audience (Kress – van Leeuwen 2006; Manca 2016; see Halliday – Matthiessen 2004).

The second video entitled *Noi e il clima*, and which is posted by *Ambiente Scuola*, deals with the topic of climate change and with the strategies we can all adopt to limit the increase of global temperature. The pronoun ‘noi’ (‘we’) is strategically inclusive and announces the involvement of both author and audience with the contents described in the video. Verbs conjugated in the 1st person plural of the Present Tense and in the Imperative form are frequent throughout the text, apart from a paragraph where the greenhouse effect is explained. Furthermore, the pronoun ‘noi’ is explicitly mentioned in a couple of cases (*‘Sono piccole azioni e dipendono da noi’* / ‘These are small actions and depend on us’; *‘tutti noi siamo in pericolo’* / ‘we are all in danger’), along with the object personal pronoun ‘ci’ (‘us’, ‘to us’) and the possessive adjectives ‘nostri’ and ‘nostra’ (‘our’). This video has only three questions which contribute to organizing content in three phases, i.e., description of climate change and its causes (*‘Avete mai sentito parlare di cambiamenti climatici?’* / ‘Have you ever heard about climate change?’), actions we can take to counteract its effects (*‘Sai quanto costano all’ambiente i cibi?’* / ‘Do you know how much food costs to the environment?’), and conclusion with emphasis on the importance of our contribution: (*‘E’ tutto chiaro quindi?’* / ‘Is everything clear then?’). Questions are, therefore, used to organize, define and elucidate contents but also to fulfil a pedagogic aim by involving the addressee and, together with reader pronouns, are an example

of reader engagement strategies (Hyland 2005). The language used is rarely colloquial; there are only two sentences containing exclamatory remarks and having a syntactic organization which suggests a more informal way of addressing the audience: *'Ah, se c'è una cosa che mi piace sono le stagioni!'* ('Ah, if there's something I like, it's seasons!'), *'Ah, che meraviglia le stagioni! Certo, che meraviglia se rimanessero come dovrebbero essere'* ('Ah, how wonderful seasons are! Well, wonderful if they remained as they should be'). Conversely, in many cases, the verbal content of the video is very formal and technical, particularly when phenomena and effects are described (e.g., *'l'incremento dell'effetto serra causa i cambiamenti climatici'* / 'the increase of the greenhouse effect causes climate change'). The main paraphrastic devices used in this video are reformulation and definition, as in the following examples: *'Con la parola clima si intende l'insieme delle condizioni atmosferiche che caratterizzano una certa regione'* ('By using the word climate we refer to the complex of weather conditions that characterize a certain area'), and *'ciò che ci deve preoccupare sono i cambiamenti climatici cioè le variazioni a livello più o meno globale del clima sulla terra'* ('what should worry us is climate change that is to say the variations at a more or less global level of climate on earth'). There are also some instances of exemplification which in four cases are overtly introduced by the expression *'ad esempio'* ('for example') and by the expression *'vediamo qualche esempio'* ('let's have a look at some examples'). The strategy of anchoring to the readers' background knowledge and life experience is also present, for example, in the part of the video focusing on the impact of food production on the environment, where types of food that are part of the young audience's everyday life are mentioned: *'17 kg di CO2 per una bistecca di bovino, 40 litri d'acqua per una fetta di pane, 0,4 kg di CO2 per un kg di patatine fritte, 5000 litri d'acqua per un kg di formaggio'* ('17 kg of CO2 for a beef steak, 40 l of water for a slice of bread, 0.4 kg of CO2 for 1 kg of French fries, 5000 l of water for 1 kg of cheese'). In this video, there is no use of attribution (which was present in the video by *Focus Junior*), irony, verbal metaphor, or simile.

Regarding visual resources, this video shows a cartoon-like visual representation which appeals to very young children because it is relevant to their visual world (Diani 2020: 73). The word-image relation that can be observed in the video is that of Extension, particularly focusing on the type of Similarity where images illustrate exactly what the text says. When terms are explained, a coloured inscription appears in the background, in capital letters, with terms being described, and further details appear, such as the different climate areas of the earth. In this latter case, the type of word-image

relation is Complement. There are also cases of Elaboration with the type of Specification, when, for example, the off-screen voice is defining climate change without referring to its effects and the sequence shows a cartoon character who is being submerged by water and has to wear his mask and snorkel set.

The third video selected for analysis is entitled *Quali effetti ha il riscaldamento globale* and was uploaded by *Zanichelli Scuola*. In this video, there is only one question (*'Ma perché il riscaldamento globale è un problema?' / 'But why is global warming a problem?'*) which is asked after the description of the causes of global warming. Contents are objectively described and personal pronouns are never used. Viewers are not involved in the narration and there is no overt invitation to take action. The language used is very formal and some technical terms are used, such as *'combustibili fossili'* ('fossil fuels'), *'emissioni di gas serra'* ('greenhouse gas emissions'), *'allevamento intensivo'* ('intensive farming'), *'le acque degli oceani si espandono'* ('ocean waters are expanding'), *'competono per le stesse risorse'* ('they compete for the same resources'). Some of these terms are explained using exemplification and by anchoring to the readers' background knowledge and life experience, as in the following sentence: *'Tra queste, ci sono l'uso di combustibili fossili usati, per esempio, per riscaldare le case, per i trasporti e l'allevamento intensivo'* ('Among these, there is the use of fossil fuels used, for example, to heat houses, for means of transportation and for intensive farming'). The usage of fossil fuels is, therefore, explained through examples that are familiar to children. Another paraphrastic device is reformulation, used for example when the term *'gas serra'* ('greenhouse gases') is explained by saying *'si chiamano così perché'* ('are called this way because') or when *'cioè'* ('that is') or *'è detto'* ('is called') are employed. There is only one case of attribution, in the sentence *'Gli scienziati prevedono'* ('Scientists forecast'). No irony or figurative language was detected in the text.

The video has cartoon-like graphics with drawings that visually illustrate what the off-screen voice is saying. When the rising of sea levels is described, a very stylized cartoon character is depicted while wearing a mask and snorkel set before being submerged by water. This visual metaphor referring to the consequences of rising sea levels was also present in the video *Noi e il clima* by *Ambiente Scuola*. The word-image relation which is more frequently visible in the video is that of Extension and the type is Similarity.

In the last scene of the video, when the off-screen voice explains the consequences of climate change for animals, two species of foxes competing

for the same food resources are illustrated, although they are not explicitly mentioned in the text. In this case, the relation is Extension but the type is Complement. The keywords of the verbal content are written in black or red on the different drawings that constitute the video. Their function is to make sure that children understand the most relevant terms referring to global warming and the relationship between the key concepts verbally described in the video and the effect of global warming visually illustrated.

4.2 Analysis of the English videos

The video entitled *Climate Change 101 with Bill Nye*, published on the National Geographic website, addresses the issue of climate change by focusing on its consequences and concludes with suggestions on how to contribute to its solution. The discussion of these contents is foreshadowed by the three questions posed by the science communicator at the beginning of the video: 'Climate change is a real and serious issue but isn't the climate always changing? What exactly is climate change? Why should we care?'. These questions have the clear function of organizing and structuring the popularization of the phenomenon of climate change and they are followed by progressive answers to each of them based on explanations and definitions. They also trigger the use of deep-thinking tactics to solve the problem, strategies that may not be invoked without those queries. In so doing, questions become relevant in disseminating knowledge, because they engage students' minds more dynamically by rousing their curiosity and inquiry. Furthermore, by stirring the young's emotions, and more precisely by stimulating their "pathos" through the question 'Why should we care?', the topic is introduced as a common concern.

The same engaging purpose is pursued by the use of the pronouns 'we', 'us', 'you' together with possessives (e.g., 'our'), as it was in the Italian video by *Ambiente Scuola*. The high frequency of pronouns, which are purposefully inclusive, aim to involve both the addressees (i.e., young learners) and the addresser (i.e., the science communicator Bill Nye) in a problem that does not pertain only to scientists but is closer to us than one might expect. Therefore, the spectator feels directly involved and thus empowered, as in the following example: 'This new tendency is not caused by the variations of the Earth's orbit but rather very likely caused by human activities, that means you, me'. In addition to this, the same intent of engaging the addressees is pursued through the use of directives which

also perform the persuasive function of inviting the young at a personal level by taking action through the use of material verbs, as illustrated by the following utterance:

'Recycle and reuse things, walk or use public transportation to get to work, turn off your electronics when you are not using them, eat less meat while you're at it eat more locally grown vegetables and foods, and last but not least spread your knowledge and concerns about climate change with others'.

Definitions are interspersed in the verbal text and they usually display the form of P is named X or X is P (Gotti 2013: 18). This may be exemplified by 'Climate change is change in our Earth's overall temperature with massive and permanent ramifications', where X is climate change and the rest is its periphrasis. Definitions are followed by reformulations whose purpose is to introduce further explanations through the use of metalanguage (e.g., 'means') as in 'A higher acid content means calcifying species like oysters and clams and shell water corals are at risk putting the entire ocean food web at risk'.

The language used is quite informal and analogies are used to explain more complex ideas. Indeed, in order to elucidate the concept of the rise of sea level and the melting of glaciers, an analogy with an ice cube is constructed. When all that ice melts, it fills the oceans, and this idea is further explained by the use of another analogy: 'just like filling up a bathtub'. Of course, these concrete images are used to locate the abstract concept of rising seas in a real-life context.

Another frequent strategy is that of anchoring to the readers' background knowledge and life experience. Thus, for instance, when explaining the impact that human activities might have on climate, the scientist mentions some examples such as 'like the device you're using to watch this video or the ability to take a plane halfway around the world'. Attribution is also used above all when listing all the necessary activities people are supposed to carry out to save the planet.

As far as the visual components are concerned, this video shows a real-life visual representation where knowledge is disseminated by the science communicator who is visible and speaks in most of the video. The word-image relation is indeed that of Extension, more specifically the type of Similarity where images display the verbal text. Keywords (e.g., 'climate'; 'oceans'; 'acidification') are graphically displayed to connect images and concepts.

In this way, young people organize what has been popularized and what they have to do. Diagrams, figures, and drawings are also shown to facilitate comprehension, and knowledge is then presented like a “scaffolding” work. Extension and Elaboration overlap in most of the cases, as when analogies are introduced. Thus, a cube is graphically represented to convey the idea of the phenomenon of melting. Indeed, the ice inside melts and fills the ocean, which is verbally described as a ‘victim’. At the visual level, real-life images of flooded areas are displayed to describe the phenomenon again. In this way, the real image reinforces the emotionality conveyed by the verbal text. At the end of the video, the directives are symbolically represented as a list of circled activities that contain the strategy to follow (e.g., ‘walk’, ‘eat’, ‘do not eat’).

In the video from the BBC, entitled *Climate Change*, a primary school pupil explains what she has learnt about climate change and her shocking reaction to it. The young presenter has set up an emotional tone since the very beginning of the video. After saying that she learnt about climate change at school when she was six, she highlights her active involvement by stating that it is really important to start marches and protests because ‘if we ruin this planet there’s really nowhere else to go’. She is then joined later by other pupils who, in turn, discuss a range of questions such as ‘Do you know what climate change means?’, ‘Do you know what causes climate change?’, ‘Is it important to look after the planet?’, ‘What can you do to help stop climate change?’, ‘Do grown-ups care enough about protecting the planet?’ and provide answers to them. These questions confer a conversation-like quality to the verbal text. Apart from the last two more open questions, the other three are yes/no questions that define what climate change is according to the usual pattern P is X, as in ‘Climate change is basically the heating of our planet’; ‘Climate change is when the earth is getting too hot’ or by the use of ‘means’ (‘Climate change means that all the pollution from cities and cars gets into the atmosphere and it’s making the whole planet warmer’). The second question focuses on the consequences of climate change and, apart from the negative answer from the first child, very simple answers are provided by the use of one relevant word such as ‘pollution’. In other cases, a more ethical perspective is introduced (‘Like disrespect of the earth creates it’) through approximation (‘mostly like smoke’), which is compatible with the low specialized degree of these digital texts (Gotti 2013: 18).

The third rhetorical question (‘Is it important to look after the planet?’) allows the repetition of the question in the answer ‘It is definitely important that humans look after the planet because it’s the only one we’ve got’. This

repetition highlights the importance of “taking care” reiterated through a number of reformulations: ‘It’s our home and if we destroy it then we’ve lost our home, we’re homeless’. In the answers to the fourth question (‘Let’s say you usually drive to school’; ‘maybe try walking to school’; ‘reduce the amount of waste and plastic bags’), again approximation (‘maybe’) and exemplification in a more informal way (‘let’s say’) are visible.

The answers to the last question are formulated as opinions introduced by the hedge ‘I think’ and contain a call to do much more. When all responses are offered, the original presenter comes back again to give us an explanation of what climate change is and some of its effects. She then provides suggestions by reformulating the previous answers in a more discursive and fluent, but simplified, way. No instantiation of figurative language and attribution were found.

The simplicity of the verbal text, which does not compromise its effectiveness, but rather constitutes its strength, is also reflected at a visual level where only the tactic of Extension through Similarity is used. Indeed, every verbal formulation is also visually denoted; so, for instance, the most common drawings are the thermometer which symbolizes heating and the upward arrow which stands for the rising sea level. Prohibition and concession signs recur frequently to guide young people towards the right behaviour. In this way, the graphic framing may be interpreted as the visual representation of modality which reinforces the verbal text. All the young speakers are shown not as isolated individuals but rather in groups of two or three children at the same time and are foregrounded. In this way, the viewer is asked to enter into a relation of social affinity with them.

The last English video, entitled *Climate Change*, from the website *Smile and Learn*, starts with the interactive and stimulating question ‘Have you ever heard of Global warming?’ The first question is followed by another query that introduces the topic by presenting a fact: ‘Did you know that over the past decades sea level has risen?’. Three questions of this “Did you know” type are present in this video. The other four questions are more knowledge related and the last one, which concludes the video, is an overt invitation to take action. All these questions serve the purpose of organizing knowledge transfer by presenting a fact and then adding further information. The pervasive use of questions along with the inclusive ‘we’ are forms to engage the spectator. Directives are also employed as in the other videos, above all towards the end of the verbal text, when the message to start action is delivered. The language is colloquial as in the previous videos, but less simple as far as the length of sentences is concerned. Figures are mentioned to support what is said and are introduced by the simple expression ‘Here are some facts’.

From a visual standpoint, the resources used are those of cartoons. The strategies adopted are both Extension and Elaboration. Examples of the former are given by representation of the different types of climate which support the definition, while an example of the latter is the representation of a digital tool (e.g., a tablet, see also Figure 1) through which reality is exemplified: every time the finger of an off-screen character slides over the screen, a new bad effect, represented as a real-life image, pops up, such as flooded areas, polluted areas, droughts. In this video, the function of anchoring to the addressees' background knowledge and life experience is performed by visuals. Visuals also complement the verbal text, as in Figure 1 where the word 'help' is written in red in the speech bubble as if the Earth were speaking. In the meantime, the off-screen voice is describing the consequences of climate change. Similarly, while describing the viable solutions, further examples of Complement are visible: when directives are used to invite the young to intervene by making a difference in their everyday life, alternatives to what the speaker says are shown (e.g., paper cutlery instead of plastic cutlery). Interestingly, when the verbal text describes the actions to be taken, the visuals shift to real-life images.

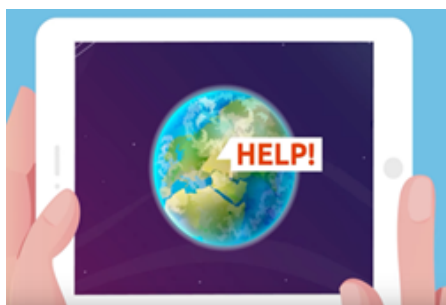


Figure 1. Visual metaphor of the planet asking for help

5. Concluding remarks

The main aim of this research was to identify the most pervasive linguistic and cultural features of popularization of climate change in multimodal videos for young people, aged 7-13, across the English and Italian languages and cultures. To pursue this intent, a corpus of six comparable videos was assembled which was qualitatively investigated in the light of the main popularizing strategies highlighted in the literature.

Results demonstrate that all the videos investigated share some linguistic features even though they differ substantially. In both languages and cultures, the visual/pictorial channel and the auditory/verbal-processing channel have been exploited to facilitate the transfer of information and also to maximize memory capacity (see Mayer 2001). Additionally, for the same reason, all the videos are short and respect the typical average engagement time of less than six minutes (Guo – Kim – Robin 2014).

The popularizing verbal tactics found in the Italian and British videos are seen in the use of questions, definitions, and reformulations, use of attribution, pronouns, and metaphors. The only technique fully shared is Attribution (e.g., ‘according to scientists’); this emerged in those videos where scientists are the main narrating voice. This common finding may be explained considering that, when the narrator explains certain events, the expertise of the scientific community he/she belongs to is called upon to ensure credibility. A number of differences were also identified in the corpus. First of all, learners’ engagement is maximized in the English data, where a higher degree of interaction is achieved through the pervasive use of inclusive pronouns (e.g., ‘we’ and ‘you’) and a conversational style (e.g., ‘Let’s say you usually drive to school’). Through the use of pronouns, more particularly the second person singular pronoun ‘you’, authority is given to the audience, a connection with them is favoured and peer-to-peer interactivity is established. In this way, the recipients feel involved in the construction of knowledge. Similarly, the use of colloquial language during multimedia knowledge transfer has been demonstrated to have a large effect on students’ learning, because it encourages students to develop a sense of social partnership (Brame 2016). On the contrary, the Italian texts minimize inclusiveness and the sense of social partnership among learners due to the presence of specialized terms (e.g., ‘*allevamento intensivo*’/ ‘intensive farming’), impersonal constructions (e.g., ‘*l’acqua è meglio evitare di sprecarla quando ci si lava i denti*’/ ‘when brushing teeth, it is better to avoid wasting water’), and less interactional communication.

A further crucial engagement strategy is the use of questions mentioned above. In both the Italian and English videos, questions are used for topic organization; they also have a relevant pedagogical role, even though with a different number of occurrences (in the English data, eleven questions were found against seven questions in the Italian texts). Bearing in mind Bloom’s taxonomy (1956), questions may address various levels of reasoning skills, from a mere recall of memorized facts to more complex cognitive processes based on critical thinking (e.g., remember, understand,

apply, analyze, evaluate, and create). In the Italian data, apart from two questions performing a phatic function (i.e., starting a conversation), most of them are mainly of the “knowledge” type, (e.g., *‘Ma perchè il riscaldamento globale è un problema?’* / ‘But why is global warming a problem?’). A higher cognitive effort is required by the English questions used in the verbal texts, where more analytical skills are required. Application questions (e.g., ‘What can you do to help stop climate change?’) together with Evaluative questions (e.g., ‘Is it important to look after the planet?’; ‘Why should we care?’) do not only stimulate the recall of important factual and conceptual knowledge but also require the learner to execute a more complex mental process, to analyze, to evaluate and hence, to build up a more exploratory and participatory knowledge.

At a rhetorical level, it is worth mentioning that persuasion in the Italian data is achieved by prompting ethical values (“ethos”). An example may be the question used to start the conversation (*‘Ti vedo spesso in TV ma sei anche una scienziata?’* / ‘I see you often on TV but are you also a scientist?’), which sets up a trustful relationship with the audience by highlighting the scientific credibility of the woman being interviewed. Reputation, namely the belief in the speaker’s expertise, is then the strategy used in Italian to establish ethos⁶. Unlike Italian texts, in the English data persuasion mainly relies on triggering the young’s emotions (“pathos”). As a matter of fact, numerous linguistic patterns seem to be used for this purpose such as the questions ‘Do grown-ups care enough about protecting the planet?’, ‘Why should we care?’ or the use of some negatively-connoted words, such as ‘victim’ to refer to the oceans or highly persuasive conditional formulations through which the narrating voice anticipates the young people’s emotions and in so doing encourages their engagement: ‘Worse consequences are predicted in the future if we don’t take measures urgently’; ‘if we destroy the planet that is our home then we will be homeless’; ‘if we don’t look after it, then one day the world might not be there’.

At the visual level of the analysis, both languages and cultures resort to the techniques of Extension and Elaboration and their types, except for Contrast which is never used. However, some observations are worth making: in the Italian data the discourse of the “planet in danger” is more softened and mainly conveyed through the context rather than the text, namely it is more implicitly than explicitly delivered. An example of this

⁶ The other strategies for establishing ethos (credibility) are similarity, authority, and trustworthiness (see Scotto di Carlo 2014).

different type of communication is given by the Italian visual metaphor for natural disaster which transfers the idea of danger through the image of the little man who wears a mask and a snorkel to survive rising sea levels. This visual metaphor is not sustained by verbal text. Similarly, the verbal metaphor '*che è una piccola molecolina ma riesce a fare il suo sporco lavoro*' ('it's a little molecule but it's able to do its dirty work') is not further specified nor visually represented. On the contrary, in the English data, the metaphors encountered verbally are furtherly explained through a drawing and a real-life picture. This brings us to another relevant difference between the two groups of videos: the Italian videos mainly rely on cartoon-like representations whereas the English videos are more hybrid and make recourse to real-life pictures when serious events (e.g., natural disasters) are talked about. Finally, when relevant information has to be highlighted, on-screen texts or symbols are used in both groups.

The implications of this research to educational videos for popularizing environmental knowledge for Translation Studies are manifold. It is fundamental that translation, as a practice of intercultural mediation, is intently concerned with cultural sensitivity. At a time when environmental issues matter, agents working as interpreters and mediators need to be sensitive to the fact that popularization may be misconstrued in its interlingual transmission. Contrastive studies, such as the one in point, enhance intercultural comprehension which relies on in-depth analysis of how language is used; hence, these findings may support translators' acts of negotiating between complex cultural differences when dealing with the popularization of climate change.

To put it in a nutshell, when translating popularized multimodal videos from Italian into English a more informal style should be used, with very simple definitions of the 'P is X' type; less specialized terminology should be favoured for engagement purposes; a higher degree of interaction should be achieved through the use of inclusive pronouns and analytical questions which contribute to constructing an identity of learners as participant personae. Finally, given the low-context profile of English communication (Katan 2004; Manca 2016), explicit information should be preferred; briefly, text should be prioritized over context.

Further avenues for this research may concern the investigation of young people's reception of educational videos. The use of technological devices such as eye-tracking may indeed offer a more objective window into the young audience's perception and comprehension of both verbal and visual texts.

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Ecology for children: Examples from popularizing texts in English and Italian

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ABSTRACT

This contribution aims to compare how information is conveyed in texts for children dealing with ecology in English and Italian. Starting from findings in the relevant literature, the aim of this work is to ascertain whether popularizing Italian texts, despite being influenced by the Anglophone tradition and market, are still more informative and often less engaging than their English-speaking counterparts. To this purpose, three texts for each language are analyzed and the two sets are compared and contrasted to evidence which popularizing strategies are used and which linguistic and stylistic devices are exploited.

Keywords: popularization, children, ecology, edutainment.

1. Introduction

In this contribution, I aim to compare how information about currently-relevant topics within the domain of ecology is conveyed to an audience of children of different ages, in both English and Italian and how “expert discourse [is re-contextualized to] meet the needs, tastes and background encyclopaedia of lay readers” (Cappelli – Masi 2019: 126). Similar to tourist guides for children¹, for example, the way scientific informative texts destined for an audience of young readers are organized depends on the cultural mores of a specific lingua-culture. Previous studies on how cultural orientation influences the presentation of knowledge (Hall 1990;

¹ The two genres, despite topic differences, share, in fact, a similar informative aim.

Hofstede 1991, 2001; Katan 2006; Manca 2012, 2016, 2017) have indicated that English texts, in line with the features of *Low Context Cultures* (Hall 1990; Katan 1999), tend towards simplicity and reader-friendliness, and, especially if destined for children, they aim at edutainment. Italian texts for young readers, on the other hand, despite a noticeable influence of the Anglophone tradition and market², are still richly informative and often less engaging (cf., *inter alia*, Diani 2015, 2018; Cappelli – Masi 2019; Diani – Sezzi 2019, 2020; Bruti – Manca 2019 and the contributions by Denti – Diani, Manca – Spinzi, Peruzzo in this issue).

To ascertain whether or not these trends are still verified or show signs of changes instead, I chose to analyze three books in English, *The Adventures of a Plastic Bottle: A Story about Recycling* by Alison Inches (2009), *The Everything Kids' Environment Book* by Sheri Amsel (2007) and *Generation Green: The Ultimate Teen Guide to Living an Eco-Friendly Life*³ by Linda and Tosh Sivertsen (2008). They are addressed to three different age groups and, consequently, the theme of ecology is treated in three different ways, both in terms of the content and the language used. These three texts clearly show that the dissemination strategies of such a complex topic depend on the type of audience the author is addressing. *The Adventures of a Plastic Bottle*, destined for preschool children, as we shall see, makes use of narration, phonetic fabric and full-page illustrations to convey information; *The Everything Kids' Environment Book*, for middle-grade readers, uses an articulated organization in paragraphs, subparagraphs and boxes and includes games, activities and experiments; finally, *Generation Green*, a text for teenagers, employs a conversational style and several typical features of teen talk.

In order to compare and contrast popularization for children in the same domain, I chose three comparable books for children in Italian: *L'ecologia spiegata ai bambini* ['Ecology explained to children'] by Marco Rizzo (2017), *L'ecologia siamo noi* ['Ecology is us'] by Marco Paci (2009) and *L'ecologia spiegata ai ragazzi* ['Ecology explained to teenagers'] by Giuseppe Brillante (2010).

The contribution is organized as follows. After reviewing the relevant literature on the aims and strategies of popularization for children, I present my research questions and methodology and describe the corpus in some

² As Cappelli and Masi (2019: 127) claim, at first, Italian tourist guides for children consisted mainly of translations from English. Gradually, the subgenre started to develop under the influence of the full-fledged English tradition.

³ I wish to thank Greta Antonioni, who translated into Italian extracts from these books and commented on them in her dissertation.

detail. Afterwards, I comment on the English texts' main features and compare them with their Italian counterparts. Some concluding remarks follow.

2. Nonfiction for children and popularization: Aims and strategies

Information or nonfiction texts for children still lag behind compared to fiction in English-speaking countries, but even more so in Italy, where these texts were for a long time only translated from English. Yet, as observed in Bruti and Manca (2019), data available for the Italian book market are quite promising in this respect, with nonfiction titles having become more numerous in recent times, despite the supremacy of fiction. The domains where nonfiction seems to thrive are nature, science/technology and thought/society.

Writing for children makes it necessary to mould the text differently, for both content and language. Texts need to be cognitively adequate for the particular stage of the development of the reader (or the listener, if the text is to be read aloud by parents). Apart from that, informative books need to be accurate in the information that is given, and also orderly in the way they are structured, for example moving from simpler to more developed concepts and processes. A study by Bianchi (2018) has recently highlighted how the changes that language undergoes in this process are usually tackled in studies on language acquisition but not in relation to popularization for children (see Bianchi 2018 and Bruti – Manca 2019 for an account of the linguistic strategies that are to be implemented when adapting texts for children).

Popularization itself is a concept that has been at the core of reflection lately and has undergone critical re-evaluation (Anesa – Fage Butler 2015 for a useful background). Two aspects that have been highlighted as crucial are the fact that “popularization is a matter of degree” (Hilgartner 1990: 528), meaning that the dividing line between experts/specialists and lay people is gradual more than discrete. This is not true in the case of children, who are really the best example of lay readers, veritable *tabulae rasae*. The second issue is that, as Calsamiglia and van Dijk (2004) argue in a seminal study, popularization is a co-constructive process that entails several changes in the roles taken by the actors involved. This becomes especially relevant in texts for children, where readers are often engaged in a series of practical activities in which the information learned is put to use. As rightly pointed

out by Diani and Sezzi (2020: 284), adding fun activities, such as games and hands-on tasks, “helps to develop ‘learning by doing’. This can boost children’s motivation and desire to learn, as well as increase awareness and experiential knowledge” (cf. also Buckingham – Scanlon 2004).

Diani and Sezzi (2019, 2020) claim that the strategies employed in texts created to disseminate knowledge for children are the same that are used when re-contextualizing a text originally written for specialists for an audience of lay readers. In fact, similarly to nonspecialists in a specific discipline, children, when compared to adults, are in a different stage of cognitive development and possess a more limited background knowledge. For this reason, recasting the content affects lexico-syntactic choices as well as discourse strategies. In addition to the changes that “translate” specialized knowledge into more graspable language (Calsamiglia – van Dijk 2004;⁴ Garzone 2006; Gotti 2013), nonfiction books for children also skillfully exploit the potentialities of multimodal communication to teach by entertaining (Maci 2014; Diani – Sezzi 2020).

3. Research questions, methodology and data description

Firstly, given that the purpose of texts on ecology is to inform and raise awareness of the environment and the various policies adopted by different countries for its protection, the most significant research question I aim to answer concerns the popularizing strategies used in relation to the age of the addressee. The distinct cognitive development of the addressee may well influence his/her understanding of complex lexicon and syntax, in particular of specialized vocabulary and concepts. Since informative texts aim to provide readers with specific domain knowledge, which may become an asset in young people’s future professional lives (Colman 2007), authors might employ different strategies to make the text easier to understand and process.

Secondly, starting from the hypothesis, already proven for different genres popularized for children (Cappelli – Masi 2019; Bruti – Manca 2019), that the information books market in Italian is developing rapidly but is still in its infancy in comparison with the Anglophone, I would like to compare

⁴ The model by Calsamiglia and van Dijk (2004), which is followed in the analysis, includes the following strategies: definition, denomination, exemplification, and analogy and, on a more general level, a tendency to simplification.

and contrast the main popularizing strategies at work across languages and culture. Such an investigation aims to shed some light on different communicative strategies at work in the data set and, more specifically, to ascertain whether books on ecology in Italian are more informational than entertaining. Another corollary of this question is to evaluate whether the 'constraints' of the genre, e.g., instructional/informative, are more stringent than those imposed by the lingua-culture.

The methodological framework adopted in this study draws from discourse analysis and cross-cultural studies. More precisely, it relies on previous studies that indicate the preferred re-contextualization verbal and non-verbal strategies to make content accessible for less skilled recipients (Calsamiglia – Van Dijk 2004; Garzone 2006; Gotti 2013). As hinted at above and shown in the analysis, children represent a peculiar case of lay readers, in that they might lack crucial background knowledge and can rely on less developed resources to process information in texts. As a consequence, the analysis also focuses on the multimodal affordances of the texts under investigation, e.g., the use of images and layout and their interplay with the verbal code (Kress – van Leeuwen 2001). Finally, since the focus is a comparison of texts in English and Italian, this contribution also draws on works that describe cross-cultural textualization patterns (cf., *inter alia*, Manca 2012; Diani 2018; Cappelli – Masi 2019; Bruti – Manca 2019).

The Adventures of a Plastic Bottle (from now on abbreviated as *APB*) is a picture book for children aged 4 to 6 years in the form of a journal narrated by the protagonist, a plastic bottle. This character communicates by means of a journal and reports daily on its adventures, i.e., the process of transformation from "an oozing blob of crude oil" to a plastic bottle, and then, finally, a fleece jumper worn by an astronaut during his space journey. The prevalent form of disclosure is therefore narration but the information on the various stages of the metamorphosis of the bottle is granted considerable space. There is also a glossary, at the end of the book, that explains with simple words some of the specific terms of ecology which appear in the text and are highlighted in bold.

As a picture book, visual code undoubtedly plays a key role. The illustrations, masterfully created by Pete Whitehead, occupy the entire page and the colours are brilliant. The text is a feature of the pictures themselves and, at times, is inserted in balloons. Noteworthy is the font used, which imitates handwriting, as if the bottle had actually written the journal in its own hand. This calligraphy, as well as being very attractive to a child, is also a bearer of meaning.

The author, Alison Inches, is a Californian writer who has published more than 80 children's books, both fiction and edutainment. She is also the author of *The Adventures of an Aluminum Can* and *I Can Save the Earth*.

The Everything Kids' Environment Book (from now on abbreviated as EKEB), for middle-grade readers (children aged 7/8 to about 12 years) is part of a series of books called *The Everything Kids' Books* aimed at providing young readers with information about many topics. Each book deals with a particular field of study, such as physics and chemistry (*The Everything Kids' Science Experiment Book*), mathematics (*The Everything Kids' Math Puzzles Book*), but also cooking (*The Everything Kids' Cookbook*), and sports (*The Everything Kids' Soccer Book*). The theme of the text is the environment and aims at teaching children the different habitats that exist on Earth and the importance of protecting them all. The book is well-organized into chapters, which in turn are divided into paragraphs and subparagraphs, each of which is preceded by titles and subtitles. These explanatory sections alternate with games such as crosswords, join the dots and inserts in which more detailed information ("Did You Know"), experiments ("Environmental Experiment") and activities ("TryThis", or "What Can Be Done?") are presented to demonstrate what is happening globally on a small scale, thus trying to raise awareness among young readers. The specialized terms, which may be unknown to children, are explained both in a glossary at the end of the book, and in the text in special explanatory boxes entitled: "Words to know". The first two chapters describe the planet in general and the various habitats that can be found at different latitudes, while the following six chapters explore topics that have already been introduced (air and water pollution, recycling and so on) in more detail. The last two propose concrete actions to be put into practice at school, home, and travelling to lead a 'greener' life and thus reduce the environmental impact. The author, Sheri Amsel, is a New York writer, illustrator and scientist. With a degree in botany and zoology and a master's degree in anatomy, she has written more than 20 essays on the subject of the environment, nature and the human body.

Generation Green: The Ultimate Teen Guide to Living an Eco-Friendly Life (from now on abbreviated as GG) is a popular text for teenagers. It is meant to be an authentic guide to teach teenagers how to undertake an eco-sustainable lifestyle. As for the organization of the contents, the text is divided into nine chapters plus an introduction and a final section entitled "resources". The first chapter gives an overview of the main environmental problems (climate change, reduced fossil fuel reserves, water shortages, loss of topsoil,

desertification, the collapse of marine ecosystems, electromagnetic pollution and increased waste). The other sections provide numerous indications on how to behave in every area of daily life (at school, during meals, when going out with friends, etc.) and how to live in a 'green' way. Each chapter is followed by interviews with young people who are more or less famous and involved in environmental causes. In this book, too, there are boxes with interesting information about the subject dealt with in the corresponding paragraph. The authors, Linda and Tosh Sivertsen, are mother and son. Linda is a famous environmentalist, journalist and author; Tosh, seventeen in 2008 (the date of release of the book), is an actor who has been raised in a 'green' way. Tosh authors the introduction to the book in the first person singular, whereas the rest of the book uses the first person plural.

In order to carry out a comparison with popularization for children in Italian on the same topic (ecology), I looked for comparable examples. The books I chose are addressed, more or less, to the same audience groups as the American texts. They are: *Lecologia spiegata ai bambini* ['Ecology explained to children'] by Marco Rizzo (2017), from now on abbreviated as *ESB*, a picture book for children aged 5 to 8; *Lecologia siamo noi* ['Ecology is us'] by Marco Paci (2009), from now on abbreviated as *ESN*, which is destined for middle grade readers aged 7/8 to 12; and *Lecologia spiegata ai ragazzi* ['Ecology explained to teenagers'] by Giuseppe Brillante (2010), from now on abbreviated as *ESR*, a book for adolescents.

ESB is an illustrated book for young readers in the first three classes of primary school. It addresses, therefore, an audience older than *ASP* (for children aged 4 to 6 years), as can be recognized both by the amount of text, slightly longer in the Italian book, and by the subject itself. While the English book has as its sole theme recycling, explained through the transformations that lead to the 'birth' of the plastic bottle, *ESB* addresses several environmental problems such as air and hydrological pollution, global warming and even illegal disposal of toxic waste. However, this does not detract from the fact that the book can be read by parents or teachers to even younger children who will be enlivened by a text rich in dialogue and authentic figures.

It is the story of a fox called Sandy, who, together with her friend Ettore the pelican, makes a trip around the world and, in doing so, notices the enormous damage that the environment is suffering: forests are continually felled, glaciers melt, landfills increase, the air is increasingly polluted and the reef is disappearing. The conclusion is optimistic, however, as it makes the reader understand that not everything is lost and that if we all start to change

our lifestyles together, we can still save the planet. The dominant popular text type here too, as in *APB*, is narrative, as it is the story of a journey through which children are informed of environmental disasters. Contrary to the English text, however, the book by Rizzo does not include a glossary because the technical terms are fewer, and those few that there are (e.g., “discariche”, ‘landfills’, “bracconieri”, ‘poachers’, etc.) are explained in the text through dissemination strategies.

ESN is a book for middle grade readers, from 7/8 to about 12 years, the same age group as the readers of *EKEB*. It is an illustrated book, not a picture book, which is different from *ESB* and especially *APB*, because the text is preponderant, and the images are either decorative or illustrative but do not contribute to the meaning of the verbal text. It is, at the same time, a narrative information book (contrarily to *EKEB*, which is a nonfictional topic book) and employs the device of a question-and-answer dialogue between an old ecology professor and two children, Silvia and Giorgio. All young readers can easily identify with Silvia and Giorgio, two curious kids eager to learn more about the topic. Through their questions and the professor’s comprehensive answers, the reader can acquire a great deal of knowledge about the environment and the damage that humans constantly cause. This format seems to be one of the structures preferred for dissemination in both English and Italian.

4. An analysis of texts on ecology across English and Italian

4.1 Title, layout and images of the English texts

The first relevant feature of the books to take into account is their titles, which are the first access key to the texts. The picture book, *APB*, makes reference to exploration and exciting activities and provides a clearer explanation in the subtitle. *EKEB* is a less engaging title, as it alludes to a book series and exploits a well-known format. Finally, *GG* offers an example of an alliterative title selecting potential addressees and providing an explanation in the subtitle. Cleverly the term “eco-friendly” is used instead of “ecological” because it is more engaging and reminds potential readers of a group of adjectives that are formed by exploiting the same component “-friendly”.

In *APB*, which is a picture book, addressees are probably more ‘listeners’ than ‘readers’, and the bond between text and images is very strong. The pictures follow the comic strip format, but extra pictures are added that look like the ruled pages from a journal or actual photographs,

to obtain a realistic and documentary quality. A vast array of font types, sizes and colours are used for an overall effect of variety and attractiveness.

EB also employs illustrations, though their role is ancillary and entertaining, as a complement to the text. The book is provided with a very clear text architecture, with several sections and boxes to mark topic shifting or relevant topics (see 3 above).

GG adopts the colour green to highlight important text partitions: chapter and section titles are in green, as well as some footers and boxes with highlights and follow-ups. A feature of the text is that the interviews are printed on green pages, whose texture resembles that of a leaf, with the central rib and vein system.

4.2 Title, layout and images of the Italian texts

The titles of the Italian books are quite homogenous across age groups, all of them revolving around the term “ecologia”: *L'ecologia spiegata ai bambini* [= *Ecology explained to children*], *L'ecologia siamo noi* [= *Ecology is us*] and *L'ecologia spiegata ai ragazzi* [= *Ecology explained to teenagers*]. *ESB* and *ESR* allude to the informative nature of the text by means of the adjective “spiegata” (‘clarified’), thus classifying the book neatly into nonfictional genres, even though *ESB* is a narrative text. In this case, the title is misleading and probably not the best marketing strategy in that children are probably more attracted by stories than explanations. *ESN* is certainly a more involving title, in that it uses the inclusive personal pronoun “noi”, ‘us’, encompassing both the author and the addressees in a joint venture for the benefit of the environment and the Earth.

As for the layout, *ESB*, which addresses slightly older readers than *APB*, contains, in fact, more text than pictures, which are lovely coloured-pencil drawings, partly interspersed in the text, and partly independent, as some completely occupy the space of two pages. Drawings are quite numerous and assist the narrative from cover to cover. *ESN* contains coloured pictures, usually every 2-3 pages, sometimes aligned with the text, other times occupying more space. Most are pictures, but some are diagrams, e.g., illustrating the distribution of different plant species over the five continents. *ESR*, despite a green-coloured cover, contains only black and white illustrations, which are in most cases graphic representations of events or processes, e.g., the greenhouse effect, the causes of desertification, clean energies, or diagrams containing data or percentages, e.g., how oil is employed, or the most polluted countries in the world.

4.3 Popularization strategies in the English texts

A preliminary observation on the genre of the English texts is in order. In terms of genre, they can all be described as 'impure' informative texts, as the aim they pursue is clearly edutainment. While *APB* is a mixture of facts and fiction, the latter in the form of a journal, *EB* contains an array of engaging activities such as role plays, crosswords, puzzles and several interactional tasks. This is, as shall be seen below (see 4.5), reflected in the structures used, among which are questions and imperatives aimed at engaging the audience. The older readership makes it possible to resort to puns, which like all instances of humorous and figurative language are not always accessible to younger children. *GG*, which is aimed at fully developed readers, is a fact book, written in first person narration and detailing the authors' personal experiences plus interviews. Being authored by a teenager and his mother, the book is also rich in teen talk and often tries to involve the audience by means of questions and imperatives, like *EB*.

In *APB*, popularization strategies are primarily visual rather than verbal, as images are meant to clarify any difficult term by making it visually accessible, but there is also a glossary of specialized words at the end of the text. The specialized terms contained in the glossary are written in capitals within the text. A couple of examples of this type of clarification are the following, which are respectively an instance of denomination (1) and explanation (2), in the form of a definition:

- (1) The changes I went through were called POLYMERIZATION.
- (2) Hey, Diary! Did you know that plastic comes from the Greek word *plastikos*? It means easy to mold or shape.

More frequently, though, there are instances of re-contextualization through metaphors and similes, as in (3), (4) and (5), which exploit figurative language to make difficult concepts accessible for young children.

- (3) I was sucked [...] into the belly of a giant boat (= the tank).
- (4) [...] especially designed to carry liquids – like a big, floating fish tank.
- (5) Then I oozed through an extruder where I was squeezed out into long, thin, strands like spaghetti.

In *EB*, most section titles contain questions that are subsequently answered, but special terms are granted their own space in separate boxes located to the left or right of the running text. They are easily recognizable, in that they always have the same layout: the title is in capitals, and just above it, there is a black and white caricature of Einstein with messy hair and a puzzled look. Difficult words are in bold capitals, each followed by a definition and, in some cases, additional details (e.g., the explanation of how the word “smog” was coined as a blend). A glossary follows at the end of the book.

As for popularization strategies proper, definitions can be contained in the sections mentioned above, or in the text (6). Denominations are quite frequent, on account of their instructive function (see 7 and 8), but re-contextualizations via metaphor (9) and exemplification (10) can also be found.

- (6) Marshes are open wetlands dotted with reeds, sedges and grass.
- (7) Many countries, like Costa Rica, have discovered how saving their rainforests can make them money! [...] This is called ecotourism.
- (8) Over the last 250 million years the continents have broken up and drifted to where they are today. Scientists call this Continental drift.
- (9) The earth’s gravity holds the air in an envelope around the planet that’s about 6.5 miles thick. This is called our atmosphere.
- (10) Too much light can make seeing stars harder. [...] For example, when the California Institute of Technology built its observatory on Palomar Mountain in the 1930s, the spot was chosen because it was so dark that the 200-inch telescope could see very faint, distant galaxies.

In *GG*, the main popularization strategies are definition (11), denomination (12), and exemplification (13). Re-contextualization via analogy is also resorted to, as in (14) and (15)

- (11) Global warming refers to the fact that worldwide temperatures are rising, both on land and sea, and are expected to continue to go up over time.
- (12) This atmosphere of ours allows our global temperatures to remain “just right” – what scientists call the Goldilocks Principle.

- (13) Think about all the relatively recent inventions you use every day that require electricity – your phone, iPod, TV [...].
- (14) [...] greenhouse gases in our atmosphere act like a blanket to trap the warm air from escaping into the great beyond.
- (15) Living on Earth will feel like being forced to stay under the heaviest down comforter while wearing flannel pyjamas and wool socks on the hottest summer night.

As was observed for *EB*, denomination is a convenient strategy when it is crucial to instruct readers and teach them the appropriate words to talk about a topic, an aim that is obviously less important with younger readers. Re-contextualization via analogy, as in 14 and 15, is a typical way of making something concrete by establishing parallelisms with items taken from people's everyday life.

4.4 Popularization strategies in the Italian texts

Differently from *APB*, Rizzo's book *ESB* does not include a glossary because the technical terms are fewer and the ones that are used (see "discariche", 'landfills', "bracconieri", 'poachers', already mentioned above, but also "raccolta differenziata", 'waste sorting') are explained in the text through various reformulating strategies. In particular, the strategies that can be observed in this Italian text are: denomination (quite widely used), as in (16), (17), (18) and (19), re-contextualization through analogy in (20) and (21), and explanation by means of description as in (21) and (22).

- (16) Sandy venne travolta all'improvviso da un'enorme ondata d'acqua di un brutto colore. L'acqua era sporca, arrivava dalla montagna e stava invadendo le vie della città. [...] C'è stata un'alluvione e una frana.
- (17) Guarda qua, – disse Ettore – questa è la Foresta Amazzonica.
- (18) Gli umani mi hanno reso la vita facile: adesso separano la spazzatura... si chiama raccolta differenziata.
- (19) Sapete – spiegò – il mondo è pieno di posti così: li chiamano discariche.
- (20) [La foresta Amazzonica] è enorme, ma ogni tanto perde un pezzo grande quanto sei volte Roma.
- (21) Arrivarono al Polo Nord, un immenso deserto di ghiaccio.

- (22) I bracconieri! Sono dei cacciatori senza scrupoli! Vogliono diventare ricchi vendendo le ossa, le zanne e i corni di noi animali.

Popularization strategies in *ESN* are also widely used, as the professor tries to make the two children understand the functioning of the environment by using simple words, explanations through definitions and reformulations, and denominations. There are also examples of generalizations, often made by children, who thus show that they have understood their teacher's lesson. Explanation by means of definition can be found in various passages. In (23), the terms are accompanied by a definition in brackets; in (24), the word "biosfera" is followed by the copula and a periphrasis and in (25), the reformulation connective "that is" is inserted.

- (23) Erbivori (consumatori di piante), carnivori (consumatori di erbivori).
- (24) La biosfera è l'insieme delle zone della Terra, comprese l'acqua e l'aria, in cui esistono le condizioni essenziali per lo sviluppo della vita.
- (25) [...] superorganismo cioè un grande organismo formato da tanti piccoli organismi.

Reformulation of concepts with simpler vocabulary is quite widespread throughout the book. An example can be found in (26) below, where the professor rephrases the concept of the food chain introducing the reformulation by means of the connective "come dire che" ("as if to say that").

- (26) Come dire che ogni organismo riceve l'energia da una fonte e, a sua volta, è fonte di energia per un altro.

Denomination is also found, although not very pervasively, as can be seen in (27) and (28):

- (27) Gli alberi, per svilupparsi, hanno bisogno di acqua, CO₂ e luce solare: il processo si chiama fotosintesi.
- (28) Queste piante, a differenza delle precedenti, non evitano il secco chiudendo "porte e finestre", cioè gli stomi.

Re-contextualization sometimes takes place, for example in (29), with an analogy between an ecosystem and a car:

- (29) L'ecosistema è questo: un meccanismo complesso i cui ingranaggi sono rappresentati da componenti viventi, mentre i fattori non viventi sono la messa in moto e il lubrificante.

Generalization can also be found when children elaborate on what they have learned, as in (30), when Silvia, by means of induction, understands that, since a forest is a system and in a system each element is connected to the others, then all the elements in a forest must be connected:

(30) Se è un sistema come dice lei, tutto deve essere collegato!

Finally, in *ESR*, popularization strategies are well-spread, such as definition in (31) and (32), denomination in (33) and exemplification in (34). Much less relevant, in comparison with books for younger children and with the English books, in particular, is the use of re-contextualization by means of metaphor (apart from a comparison between the environment and an apartment; Brillante 2010: 7), a fact which is compensated for by plentiful examples and by constant reference to precise data and historical and current information, which make concepts more relevant for readers.

(31) La penicillina (un antibiotico molto usato perché in grado di sconfiggere diverse specie di batteri).

(32) Gli esseri umani sono onnivori, cioè sono capaci di nutrirsi di una vasta varietà di alimenti.

(33) [...] il più piccolo cervo del mondo (il suo nome scientifico è *Muntiacus putaoensis*).

(34) [Talking about the killing of endangered animals in order to get their fur] Il caso più emblematico è forse quello delle foche della Groenlandia.

4.5 Main linguistic features in the English texts

The linguistic texture in *APB* is quite limited but very skilfully conceived to be catchy and memorable. The means exploited the most is phono-symbolism, especially in the use of alliteration: “cranking and clattering”, “floating fish tank”, “squishy... squeezed” (“my little crumbs got nice and squishy” [...] “a machine squeezed me”. “Cranking” and “clattering” refer to the sounds made by a drill punching through the bottom of the ocean, whereas “fish tank” is used to explain the meaning of a less attractive vessel, a tanker; finally, “squeeze” and “squishy” both indicate the action and the property of pressing something firmly).

Interjections also contribute to reinforcing sound effects by appealing to the ear as well as to the eye by means of some well-spread interjections such as “hey”, “huh”, “wow” and “whee”, and some less common ones, such as “tee-hee” and “cowabunga”. The latter, for example, an exclamation of surprise and anger, is quite inventive and was first used in a TV programme for children in 1954, *The Howdy Doody Show*, and later employed by surfers in the 1960s as a shout of triumph. It was then spread worldwide in the 1990s by the Ninja Turtles.⁵

Lexis and syntax are both kept quite simple, the former with the adoption of colloquial terms, and only a few occasional technical terms (e.g., “mulch pile”, meaning ‘pacciamé’, ‘concime’), the latter with a typical paratactic style, with very few logical connectives, and many passive structures, especially with verbs of action (“I was sucked”, “I could be made”).

EKEB is equally characterized by simple lexis and syntax, with a few distinctive traits. Although the text is much more articulated, sentences are not often connected by means of subordinators. Parataxis, in fact, dominates in this text, which also makes use of parallelism and repetition instead of substitution or endophoric references that are more difficult to process: “The living things include animals, plants, bacteria, algae, fungi, etc. The non-living things include rocks, mountains...”, “This is called atmosphere. The atmosphere is very important in protecting us from things in space”. Vocabulary, however simple, includes the use of vague terms, quite a popular feature in teen talk (see, among many, Tagliamonte 2006), especially in the choice of rather generic verbs, e.g., “his book will tell you about the environment”, “the rainforest is famous for its biodiversity because it has so many different species”. In these examples, “tell” and “have” have been preferred to the more specific and informative “inform” and “instruct” and “host” or “house”. A certain tendency to employ involving features is mirrored in the use of puns, which make titles catchy and memorable (Morley 1996, 1998; Isani 2011), and intertextuality, which creates a certain complicity between the author and the recipients who recognize it. Examples of puns are, for instance, “Do you get my drift?” (where “drift” can be understood as ‘the flow or velocity of a current’ or, more plausibly, as the ‘continental drift’); “Whose fault is that volcano?” (where again “fault” is polysemous and the reader needs to select either meaning 1, ‘responsibility’, or, more coherently here, meaning 2, ‘crack’), and “hidden danger”, which

⁵ See <https://www.urbandictionary.com/define.php?term=cowabunga>, accessed February 2022.

refers to an iceberg, so the adjective “hidden” in this case does not mean ‘unsuspected’ but ‘concealed’ (under water). Finally, as is also quite typical in headlines, the section title “Water, water everywhere” alludes intertextually to S.T. Coleridge’s *The Rime of the Ancient Mariner*. One of the positive aspects of intertextuality is that it is understood by the more accomplished readers, it allows the reader to feel connected and gratified at being able to ‘decode’ it, but, at the same time, it makes perfect sense even for children who do not grasp the literary connection.

GG is far more complex than both the other texts. The most striking feature is the informal tone, which manifests itself in the use of an extremely colloquial language, rich in slang, vague language, abbreviations, interjections or heightened expressions, all features of teen talk, probably ascribable to Tosh’s (one of the two authors) voice (Tagliamonte 2006; Bruti 2023). This is a strategy to captivate the attention of young readers, who find many of their linguistic habits reflected in the text. Examples of slang terms include, among others, “blast”, “shizz”, “wacky”, “psyched”, “cool”, “hippest”, “go bat guano crazy”, the latter meaning ‘go crazy’ but being reinforced by alluding to a vulgar expression. Another feature of youth language and of informal conversation is vague language, which is used among collocutors who share background information and are present in the same situation of utterance, being able to disambiguate when necessary. Apart from quite typical elements such as “stuff” and “kind of”, there is also the term “gizmo”, which indicates a usually small mechanical or electronic device (“Advertisers spend billions telling you their latest gizmo will make you happy”). The text also uses instances of initialisms, such as BFFS, TMI and abbreviations, such as “Grams”. Still linked to the colloquial tone is also the presence of instances of deviant spellings, which is meant to represent sloppy pronunciation (“you might want to become for the rest of your rockin’ and hopefully very long life”) and syntax, which does not necessarily indicate rusticity, but often hints at casual, informal conversation among peers (“If Mama Earth ain’t happy, no one’s happy”; “the environment is stressed out. Sure seems so”). In addition, as the text is quite dense, and might also be read by adults, it is also deeper in content and references, so culturemes and puns are often found. References to Mexican culture are particularly frequent (e.g., “burrito”, “sweat lodge ceremonies”, “consique”, the latter two having to do with traditional tribal rituals of native American people), but there are also various other references to aspects of daily life (e.g., Greatest Generation = great depression and WWII, 60 minutes = a TV show, SAT = university admission, big game = baseball).

In addition, puns also appear, often involving some key term from the lexical domain of the environment: this is the case with the expression “to think outside the sandbox”, which alludes to the phrase “out of the box”, meaning something creative and unusual, but here referring to the risk of desertification. The phrase “trash talk” is also used, in this text with its literal meaning, i.e., about rubbish, and not to the extended meaning of ‘boastful comments’. Finally, the term “extra” triggers a pun in the sentence “You’re earning extra credit when you support wind farms [...] it’s not really extra, because you can’t erase your impact”, where “extra” has two different meanings, the first is an abbreviation of “extraordinary”, the second means ‘more than expected’.

4.6 Main linguistic features in the Italian texts

Rizzo’s book *ESB* belongs to the narrative text type. In this book, text certainly dominates over illustrations, syntax is more complex and the register is less colloquial than in its English counterpart, in line with the Italian rhetorical tradition, which sees a clear separation between writing and orality (Bruti – Manca 2019). This tendency can also be seen in the presence of subjunctives (“se dovessero mandare via tutta questa spazzatura”, ‘if they had to take all this trash away’, “non ha trovato nulla che la frenasse”, ‘didn’t find anything that slows it down’), in the abundance of qualifying adjectives, elements that characterize the written language, but which are rare in spoken language (“possenti ali”, ‘strong wings’, “vita delicatissima”, ‘most delicate life’, “città antica ed elegante”, ‘an ancient, elegant city’) and by the almost total absence of interjections, fundamental, however, in the English picture book. The collocational patterns of adjective + noun are quite difficult, both for the choice of high-register terms (e.g., “possenti”, ‘strong’) and for the low predictability of the combination, which is unusual (e.g., “vita delicatissima”, ‘most delicate life’). Both the English text and the Italian text rely on sound patterns that also make them suitable for reading aloud. In particular, in *ESB*, there are anaphoras (“volpi curiose / volpi fifone”, ‘curious foxes’ / ‘fearful foxes’) and parallelisms (“scimmie e serpenti / ragni e armadilli / giaguari e pipistrelli”, ‘monkeys and snakes / spiders and armadillos / jaguars and bats’) while in *APB* there are many alliterations and phonosymbolic effects.

The text for slightly older children, *ESN*, is even richer in text than in pictures, because they are cognitively more developed and do not need pictures to fully understand the topics. The genre is hybrid, as the narrative

type is interwoven with the informative one, differently from *EKEB*, which is a non-narrative topic book. Despite the fact that the Italian text is in the form of a dialogue, it is by no means more informal than its English counterpart. There are, in fact, no phonosymbolic patterns, so, presumably, it is meant for autonomous and silent reading. On the syntactic level, the book reaches a trade-off between para- and hypotaxis, and also employs several instances of parallelism, which is a very useful cohesive device: “in modo da spiegare cosa stia accadendo al progresso tecnologico, che ci permette di valutare le nostre condizioni di salute [...]; che ci consente di raggiungere qualsiasi posto [...]; che con un computer ci fa entrare all’istante in una rete di informazione” (‘in order to explain what is happening to technological progress, which allows us to assess our state of health [...]; which allows us to reach any place [...]; which, with a computer, gives us immediate access to an information network’).

Overall, however, sentences are longer in comparison with the English text. Vocabulary is also more formal, as very few exclamatory and colloquial expressions are employed (e.g., “già che ci siamo”, ‘while we’re at it’, “stai a vedere che”, ‘you watch’, “affamata da morire”, ‘starving to death’), whereas, instead, several very precise and formal expressions are used (e.g., “accrescimento”, ‘growth’, “apice”, ‘apex’, “componente”, ‘component’), together with some patterns that are typical of written registers (e.g., “in modo da spiegare cosa stia accadendo”, ‘in order to explain what is happening’, “emette un grido di stupore”, ‘emits a cry of wonder’).

The book for the ‘oldest’ age group, *ESR*, does not contain any feature that might appeal in particular to an audience of adolescents, the ideal readership for this text. The genre adopts a format typical of informative texts, i.e., a question-answer structure (cf. “Che cos’è il cibo di Frankenstein?”, ‘What is Frankenstein’s food?’). Although a few colloquial expressions are used (“Facciamo un salto”, ‘Let’s pop into’, “ecco”, ‘here’, “insomma”, ‘well’), the register is quite high, with numerous subjunctives (“se la casa non venisse mai pulita”, ‘if the house were never cleaned’, “se nessuno pulisse”, ‘if nobody cleaned’), and rather formal terms, often nominalizations, which are more typical of written styles (“innalzamento”, ‘rise’, “controbilanciare”, ‘counterbalance’, “accorgimenti”, ‘measures’, “liquami”, ‘slurries’). On the other hand, in order to involve the audience, this text also largely employs engagement markers (Hyland 2005) such as direct address pronouns (“voi” in the main text and “tu” in sections with practical advice to live a ‘greener’ life), questions in titles, imperatives (“immaginate la scena”, ‘imagine the scene’, “comincia a prendere i mezzi pubblici”, ‘start taking public transportation’ ...)

and inclusive first personal plural forms (“Facciamo un salto”, ‘Let’s pop into’, “guardiamone”, ‘let’s have a look at one’, “spostiamoci”, ‘let’s move’, “i nostri nonni”, ‘our grandparents’).

Even though the language used in GG is extremely ‘spoken’, recalling the tone and mode of a conversation between young people, there are in ESR some attempts at colloquialization: first of all, there are many engagement markers, in particular, *tu/voi* pronouns in the sections with suggestions (“la tua missione contro la deforestazione”, ‘your mission against deforestation’), imperatives (“comincia a prendere i mezzi pubblici”, ‘start taking public transportation’, “non sprecare inutilmente”, ‘don’t waste’) and inclusive second person plural (“spostiamoci”, ‘let’s move’, “i nostri nonni”, ‘our grandparents’) that reduce the author/reader distance. Secondly, although lexis is mainly formal, there is an expression that provides humorous relief in the text, thus catering for the desire of young people to be amused while reading: “una mucca con le sue puzzette e i suoi ruttini produce chili di metano ogni giorno” (‘a cow, with its farts [plus diminutive] and burps [plus diminutive] produces kilos of methane every day’) (see Bruti – Manca 2019: 189 for an almost identical example in an English text). Twenty years ago, such a reference in the scatological sphere would not have been possible in Italian books for children, but luckily it is now recognized, in both literary works and nonfiction, that young readers’ “interest [is] piqued by disgust” (Lichtig 2016, referring to Roald Dahl) and they are attracted “by filthy details, including the so-called ‘potty humour’, all of which were for instance skilfully concocted in Roald Dahl’s tales” (Bruti – Manca 2019: 200).

5. Conclusion

The analysis of the six books, three in English and three in Italian, although limited, has shown that their common aim is to provide children of different ages with information on a specific subject. This purpose is achieved mainly by means of popularizing strategies, which are especially geared toward making specialized terminology and concepts accessible to the intended reader.

In terms of popularization strategies, the English texts integrate old and new information well by highlighting what is new and linking it with what is already known, but also by exploiting graphic resources, such as text partitions, expanding boxes, do-it-yourself sections (experiments, try this) and the like, and a glossary, either within the text or at the end (words in capitals in *APB* and a glossary at the end; boxes entitled “Words you know”

in *EKEB* plus a glossary at the end). *GG* aims at an older public and exploits different means: although it is a highly conative text, suggesting, explaining, convincing the reader of what is advisable to do for the environment, it is also interspersed with some personal anecdotes regarding the authors themselves, and employs colloquial and teen talk. No special sections or new words are provided, nor is a glossary.

Re-contextualization as similes or metaphors is a strategy that cuts across age groups, being beneficial for everyone, while denomination is more common in both *EKEB* and *GG*, because it is meant to teach useful terminology.

There are no glossaries or boxes in the Italian texts to highlight important vocabulary. In *ESB*, important and difficult words appear in bold text; in *ESN*, they appear in italics, while in *ESR*, they are not singled out at all. In addition, in the Italian text, multimodal and typographic resources are less exploited: apart from illustrations, text partitions are not as clearly highlighted as in the English ones, which use boxes, sections, figures, and a vast array of different typefaces. *ESN* has a final section suggesting a few further activities, which are integrated within the main texts in *ESR*, indicated by a different font.

Re-contextualization via metaphor or analogy seems to be less resorted to in Italian texts. Many reformulations characterize *ESN* in particular, with simpler vocabulary announced by reformulation connectives, typical of formal, written Italian, and by generalizations drawn by the child-protagonists.

The verbal texture of the English texts for a younger audience relies very much on phono-symbolism and expressive language (e.g., interjections), occasional puns and instances of vague language, which reduce the number of specialized terms. In contrast, the text for adolescents is rich in calls to the reader, colloquialisms and teen talk. In the Italian text, the register is largely more formal, across all age groups, because of the use of more complex syntactic and lexical patterns (e.g., the use of subjunctives and highly formal collocations are already used at the primary school level).

Overall, it can be argued that, although a certain awareness of multimodal affordances is present in the Italian texts, they still seem to favour a clear “formative function” (Cappelli – Masi 2019: 156), not so much because of the greater accuracy of the text, but because of the limited amount of space assigned to multimodal resources. The path towards edutainment seems to have been travelled only half-way, with the preoccupation still being placed on the verbal text. The results for children’s tourist guides, perhaps

because of their more practical nature, also showed a marked turn towards edutainment in Italian (Cappelli – Masi 2019), while the current investigation for texts on ecology, on the other hand, seems to show that cultural tendencies and orientation towards either doing or being, respectively associated with English-speaking and Italian cultures (Hofstede 2001), are very much ingrained. The English texts analyzed here aim to teach by describing facts verbally and visually and by stimulating experiential knowledge and action, whereas the Italian sample displays a preference for detailing notions, couching them in a rather formal style, with only occasional incursions into experimentation. Overall, it seems that in Italian texts destined for children, the movement towards a more pragmatic way of instructing is slow, with still some distance to cover.

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Empowering children: The UN Convention on the Rights of the Child and its English and Italian child-friendly versions

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ABSTRACT

The UN Convention on the Rights of the Child (CRC) is the most widely ratified human rights treaty in history and sets out children's civil, political, economic, social and cultural rights. From a linguistic and subject-specific perspective, it is a typical international convention, which is most likely incomprehensible to children. For this reason, the Convention has undergone a process of reformulation and recontextualization (Calsamiglia – Van Dijk 2004) leading to the creation of a variety of child-friendly (CF) versions in many languages. This paper presents a corpus-based study of four CF posters explaining the rights enshrined in the CRC in English and Italian. The comparison of the CF versions with the original CRC revealed that the reformulation and recontextualization entailed a change in genre (from convention to poster), a significant reduction in length, a shift in focus from States Parties to children, a different use of deontic modality, and a limited use of cognitive popularization strategies.

Keywords: child-friendly writing, children's rights, legal knowledge, discourse analysis, popularization strategies.

1. Introduction

In the last two decades, there has been a growing interest in popularization, which is – by quoting the widely accepted definition by Calsamiglia and Van Dijk (2004: 370) – “a vast class of various types of communicative events or genres that involve the transformation of specialized knowledge into ‘everyday’ or ‘lay’ knowledge, as well as a recontextualization of scientific

discourse, for instance, in the realm of the public discourses of the mass media or other institutions". The study of the dissemination of specialized knowledge has its roots in the 1980s (for an overview, see Myers 2003) and, since then, the literature in the field has burgeoned with the publication of journal special issues, single-author books (e.g. Garzone 2006; 2020) and edited volumes (e.g. Kermas – Christiansen 2013; Bongo – Caliendo 2014; Bhatia – Chiavetta – Schiarrino 2015; Salvi – Bowker 2015b).

While a full review of the literature in the field is beyond the scope of this article, two considerations are in order here. The first is that the year 2004 represents a cornerstone in the study of popularization due to the publication of the ground-breaking paper by Calsamiglia and Van Dijk (2004) in which a classification of popularization strategies is proposed. Since then, their classification has been at the core of linguistic research in the field of popularization discourse. The second consideration is that most publications in the field of popularization focus on not-further-specified "non-specialized readers", who are canonically adults. However, since the mid-2010s, children as a separate group of lay recipients of popularized texts have attracted increasing attention, with studies concentrating in certain domains in particular, namely tourism (Cappelli 2016; Cappelli – Masi 2019; Sezzi 2019), science (Diani – Sezzi 2020), the environment (Bruti – Manca 2019), health (Diani 2020), and law (Diani 2015, 2018; Diani – Sezzi 2019; Peruzzo 2021). And it is precisely to the field of dissemination of legal knowledge for children that the present paper means to further contribute, with a study conducted on four child-friendly versions of the United Nations Convention on the Rights of the Child.

2. The United Nations Convention on the Rights of the Child

This study is based on the analysis of two English and two Italian child-friendly (CF) versions of the United Nations Convention on the Rights of the Child (CRC), which is acknowledged by the Office of the United Nations High Commissioner for Human Rights as one of the nine core international human rights instruments.¹ Adopted in 1989 and entered into force in 1990, the CRC is available in six equally authentic language versions (Arabic, Chinese, English, French, Russian, and Spanish) and is a legally

¹ The full list is available at <https://www.ohchr.org/EN/ProfessionalInterest/Pages/Core-Instruments.aspx>, accessed August 2021.

binding agreement with 196 States Parties, including every member of the United Nations except the USA. Consisting of 54 articles and divided into three parts, the CRC sets out children's civil, political, economic, social and cultural rights, namely the right to life, survival, and education; the right to protection from violence, abuse, or neglect; the right to be raised by, or have a relationship with, their parents; the right to privacy and freedom of expression; and the right to be listened to.

One aspect that differentiates the CRC from other international human rights instruments and is particularly relevant to this study is that it gives non-governmental organisations (NGOs) a direct role in overseeing its implementation. In fact, Article 45a states that, "in order to foster the effective implementation of the Convention and to encourage international co-operation in the field covered by the Convention", "[t]he Committee [on the Rights of the Child] may invite the specialized agencies, the United Nations Children's Fund and other competent bodies as it may consider appropriate to provide expert advice on the implementation of the Convention in areas falling within the scope of their respective mandates". The fact that child-focused NGOs have a recognized, active role in the implementation of the CRC has a bearing on the study presented in this paper in that they are involved in the production of child-friendly materials, including the CF versions of the CRC analyzed here.

As stated above, the CRC's main aim is to set out, protect and promote the rights and welfare of children in all the signatory countries. As an international treaty requiring ratification, the Convention addresses States Parties and possesses the typical linguistic features of international treaties in terms of structure, terminology, and phraseology (Cao 2007: 143ff.). Given the CRC's aim and binding force, the intended readers of the Convention are the States Parties rather than children, although the rights enshrined in it concern children. However, the CRC itself provides that "States Parties undertake to make the principles and provisions of the Convention widely known, by appropriate and active means, to adults and children alike" (Article 42). This means that children are supposed to be informed of – and ideally also understand – what their fundamental rights are. Yet, given the linguistic features of the Convention, the text may well not be intelligible to them. In order to make the CRC accessible and understandable to children, and thus to empower them, various child-focused organisations have thus developed CF versions of the Convention.

3. Materials

In this case study, four child-friendly versions of the CRC are analyzed: two produced by UNICEF (in English and Italian), one by the international NGOs Plan International (in English) and one by Save the Children (in Italian).

UNICEF's child-friendly English text (UNICEF(EN)) was developed in collaboration with Child Rights Connect, a registered Swiss association with a network of more than eighty-five national, regional, and international organisations, and was supported by UN's Committee on the Rights of the Child. It represents UNICEF's standard child-friendly version of the CRC aimed at children aged between 10 and 17 and was released in 2019, on the occasion of the 30th anniversary of the Convention. The purposes of this publication are manifold: to overcome the country specificities introduced in previous CF versions produced by UNICEF country offices and National Committees and local NGOs, to take into account the readers' needs through consultations with children, and to develop a comprehensive, universally meaningful set of visual icons for the Convention to accompany its verbal content (UNICEF 2019c). The English text is accompanied by a separate guidance document for internal use on how to adapt the text into other languages (UNICEF 2020: 3). The adapted versions, obtained through child participation processes, must be approved by a UNICEF Representative or Executive Director of the country in which they are meant to be used, who may decide to collaborate with non-UNICEF partners. All this considered, it is clear that UNICEF's Italian child-friendly version (UNICEF(IT)) analyzed in this paper is an adaptation of the English text obtained via translation.

Both linguistic versions are a two-page poster. The first page consists of forty-three boxes with a coloured background, each of which contains a number corresponding to the article number, a white icon and a short wording summarizing the content of the relevant article. At the bottom of the page, the title "Convention on the Rights of the Child" (and the Italian equivalent) appears, without specifying that the poster is meant for children. The second page contains the child-friendly version of forty-two articles: each article is in a separate, numbered box, and the number is of the same colour as the box containing it on the first page. The bottom of the second page reports three logos pointing at the Convention, Child Rights Connect and UNICEF. Next to the first logo and above the other two we find what could be considered to be an introduction to the child-friendly version. This introduction is a first hint to the fact that the adaptation in a language other than English may require various interventions on the target text, additions of information included. In fact, while the English text explains what the CRC

is and what it contains, the Italian version adds a linguistic note, specifying that the term *bambino* ('child') is used to refer to both young children and teenagers, no matter what their gender is.

The number of articles included in both UNICEF's versions does not correspond to the actual number of articles contained in the original CRC. Considering the wording appearing in box 43, which states that articles 43-54 "explain how governments, the United Nations – including the Committee on the Rights of Child and UNICEF – and other organisations work to make sure all children enjoy all their rights", the reason for such a discrepancy seems to be that those twelve articles do not confer any right on children but rather set forth technicalities that are considered irrelevant from a child's point of view.

The other two CF texts follow the same line in excluding articles 43-54 but do so without signalling it in any way. Plan International's English text (PI) is a double-page poster and contains a small print disclaimer: "This text constitutes a simplified version of the CRC, not the official text". Like UNICEF's texts, PI's poster is considered a multimodal text, since the verbal elements are accompanied by flat-coloured illustrations as if hand-drawn by children. As regards its textual organization, the poster features a title ("Learn about your rights!") and a subtitle ("The UN Convention on the Rights of the Child"), with illustrations on both sides. The body of the text is then contained in forty-two numbered boxes showing the CF version of the articles of the Convention.

The fourth text under analysis is a CF version of the CRC in Italian produced by Save the Children (StC). The NGO's website offers two "simplified" versions. One is a visually complex booklet² with abundant illustrations and various activities (e.g. a maze, colouring and drawing activities) meant for elementary school pupils, i.e. children aged from 6 to 10 according to the Italian school system. The second, which is the one considered in this study, is a one-page poster with no visual elements except for a red frame at the top, the NGO's logo at the bottom and the alternation of red and black fonts. The reason for including this version in the corpus lies in the attempt to build a homogeneous corpus in terms of target readers: although it fails to specify the age group addressed, since it is visually plain and uses no complementary modes typical of multimodal communication addressed at young children, it is arguably closer to UNICEF's versions directed at an older, though still young, readership.

² See https://www.savethechildren.it/sites/default/files/files/Convenzione_UNU_sui_diritti_infanzia_adolescenza.pdf, accessed September 2021.

4. Methods and aims

The aim of this case study is to analyze the features of the four child-friendly versions in the light of previous studies on knowledge dissemination and popularization for children. The methodological framework is therefore discourse analysis, and this study relies upon the “generalizable discursive strategies” identified by Salvi and Bowker (2015a: 13), i.e. recontextualization, re-conceptualization, and trans-mediation. In this framework, recontextualization is intended as the re-shaping and re-writing of discourse for a different type of recipients with different purposes, and “may reflect popularization or simplification of expert knowledge, or, on the other hand, switches between discourse communities, domains or fields” (Salvi – Bowker 2015a: 13). This leads us to what is referred to as the “dominant view” (Hilgartner 1990) or the “canonical model” (Grundmann – Cavaillé 2000: 355) of popularization, which assumes that “there are two separate discourses, one within scientific institutions and one outside them, and that information is translated from one of these discourses to the other” (Myers 2003: 266). This view has been convincingly questioned in the literature (for an overview, see Garzone 2014: 76-78). However, the process that has led to the creation of the CF texts analyzed here seems to bear a strong resemblance with intralingual translation, and in particular with what Dressler and Eckkrammer (2001: 40) have termed “intergeneric intralingual translation”. This is so for various reasons. At the outset, it appears clear that the CF versions follow the same macrostructure of the Convention by being divided into articles, each dealing with one right. Yet the CRC has been re-written for a target group of readers with a different level of knowledge of the topic and at a different stage of cognitive development compared to the drafters and the intended recipients of the original CRC. This means that, despite presenting the same content with a different degree of specificity, the original CRC and the CF versions pursue different purposes and belong to different genres: the CRC is a prescriptive legal instrument aimed at States Parties, whereas the CF texts are informative posters aimed at children.

Precisely because of the new recipients and their need to have the CRC adapted to their level of knowledge and stage of cognitive development, the re-writing of the Convention requires re-conceptualization, i.e. a “re-working of cognitive representations and mental models” (Salvi – Bowker 2015a: 13). This process may take various linguistic forms and require the adoption of different discursive strategies as well as the inclusion of semiotic modes that

are not typical of the genre the “source” text belongs to but are characteristic of the genre the “new” texts are examples of. Indeed, except for StC’s text, whose child-friendly version does not resort to a strategic use of the visual mode, UNICEF’s and PI’s texts apply a form of trans-mediation by integrating the verbal part of the message with a visual component (icons in the former case and illustrations in the latter case).

5. Data analysis

As stated in the previous section, the four texts analyzed in this paper are directly derived from the original CRC, which is meant for a very specific adult readership and works as a “source” text for the “translation” aimed at a broad young readership. This is a peculiar feature of the corpus investigated, since in other studies dealing with popularization aimed at children no actual “source” text was compared to a child-friendly version. Therefore, what follows can be considered to be a comparative analysis between the original CRC and the four CF versions described in Section 3.

5.1 Text length and level of specificity

The first aspect that emerges from the comparison between the original CRC and the CF versions is a reduction in text length. Given that articles 43-54 as well as the Convention’s Preamble are absent from all four CF texts, this observation is not particularly surprising, but to show the impact of recontextualization for children on the CRC in terms of length, the figures presented in the tables below (obtained from SketchEngine) refer only to Articles 1-42.

Table 1. Text details of the English subcorpus

	CRC(EN) Articles 1-42	UNICEF(EN)	Plan International
Tokens	5,226	1,399	1,151
Types	966	396	366
Sentences	109	75	62
Average n. of words per sentence	47.94	18.65	18.56
Shortest article	20	10	12
Longest article	516	74	46

Table 2. Text details of the Italian subcorpus

	CRC(IT) Articles 1-42	UNICEF(IT)	Save the Children
Tokens	5,475	1,527	820
Types	1,206	521	329
Sentences	110	73	47
Average n. of words per sentence	49.77	20.91	17.45
Shortest article	20	9	4
Longest article	531	68	33

The comparison reveals that all the CF texts are significantly shorter than the source text, with UNICEF(EN)'s text shorter by 73.23% and PI's text by 77.98% for the English language and UNICEF(IT)'s text shorter by 72.11% and StC's text by as much as 85.02% for the Italian language. Shifting our attention onto sentences, we can notice that the reduction in the number of sentences is not as remarkable: the number of sentences is smaller by 31.19% in UNICEF(EN)'s text, by 43.12% in PI's text, by 33.64% in UNICEF(IT)'s text and by 57.27% in StC's text. It follows that the creation of CF texts in both languages implied a substantial cut in the average number of words per sentence. Indeed, while in the original CRC in English the average number of words per sentence is 47.94, the average number in the two English CF versions is below 19 words per sentence. A similar pattern can be observed in Italian, where the original CRC has an average of 49.77 words per sentence, while UNICEF(IT)'s and StC's texts have an average of slightly less than 21 and almost 17.50 words per sentence, respectively. However, there are a few exceptions to this general pattern: in UNICEF(EN)'s text two articles are longer than in the CRC, while in both UNICEF(IT)'s and StC's texts one article is longer than in the CRC.

The difference in length has an impact on the amount and specificity of the information provided in each article. Let's take the longest article in the English CRC (Article 40), which revolves around the rights and safeguards that the States Parties must give to children who are accused of or recognized as having violated criminal law. The original Article contains 516 words and is divided into four paragraphs, two of which contain detailed lists of obligations imposed upon States. An extract of the Article³ is shown below to illustrate the level of detail contained in the CRC:

³ In all the examples, emphasis is added in italics.

- (1) 2. To this end, and having regard to the relevant provisions of international instruments, States Parties shall, in particular, ensure that:
- (a) No *child* shall be *alleged as, be accused of, or recognized as having infringed the penal law* by reason of acts or omissions that were not prohibited by national or international law at the time they were committed;
 - (b) Every child alleged as or accused of having infringed the penal law has at least the following guarantees:
 - (i) To be presumed innocent until proven guilty according to law;
 - (ii) To be informed promptly and directly of the charges against him or her, and, if appropriate, through his or her parents or legal guardians, and to have legal or other appropriate assistance in the preparation and presentation of his or her defence;
 - (iii) To have the matter determined without delay by a competent, independent and impartial authority or judicial body in a fair hearing according to law, in the presence of legal or other appropriate assistance and, unless it is considered not to be in the best interest of the child, in particular, taking into account his or her age or situation, his or her parents or legal guardians;
 - (iv) Not to be compelled to give testimony or to confess guilt; to examine or have examined adverse witnesses and to obtain the participation and examination of witnesses on his or her behalf under conditions of equality;
 - (v) If considered to have infringed the penal law, to have this decision and any measures imposed in consequence thereof reviewed by a higher competent, independent and impartial authority or judicial body according to law;
 - (vi) To have the free assistance of an interpreter if the child cannot understand or speak the language used;
 - (vii) To have his or her privacy fully respected at all stages of the proceedings.

Unlike the source text, the CF versions of the whole Article are concise, as shown below:

- (2) *Children accused of breaking the law* have the right to legal help and fair treatment. There should be lots of solutions to help these children become good members of their communities. Prison should only be the last choice. (UNICEF(EN))

- (3) If *you* are *accused of breaking the law*, you must be treated in a way that respects your dignity. You should receive legal help and only be given a prison sentence for most serious crimes. (PI)

The first difference that can be noticed by comparing (1) with (2) and (3) is that in (1) the rights apply to children “alleged as, accused of, or recognized as having infringed the penal law”, while in (2) and (3) only “accused” children are mentioned, thus implying that the subtleties of such a distinction may be confusing or superfluous for a young audience. Therefore, the reduction in terms of length also entails a reduction in detail and a form of simplification.

In the Italian CF texts a remarkable reduction in length and a high level of condensation can also be observed:

- (4) *I bambini accusati di aver trasgredito la legge* hanno il diritto all’assistenza legale e ad un giusto trattamento. Prima della reclusione devono essere trovate soluzioni alternative che li rieduchino ad essere validi membri della loro comunità. (UNICEF(IT))⁴
- (5) Hai diritto a essere adeguatamente difeso nel caso in cui *tu sia accusato o abbia commesso un reato*. (StC)
(You have the right to an adequate defence if *you are accused of or you have committed an offence*.)⁵

By comparing the English and the Italian versions a difference can be noticed: despite its conciseness, StC’s text somehow maintains one of the complexities found in the source CRC by distinguishing between children accused of having committed an offence and children who have actually done so.

These examples show how a significant cut in the length of the texts corresponds to an unavoidable need to summarize and reduce the amount of information conveyed. Nevertheless, a closer look at the wording of the extracts provided above reveals another relevant aspect, namely the fact that the recontextualization necessary to adapt the CRC to the needs of a young readership also leads to a reformulation that shifts the focus from the subjects that must ensure the implementation of children’s rights (i.e. States Parties) to the subjects whose rights are to be implemented (i.e. children). In the next section, this shift is further explored.

⁴ In all the examples extracted from UNICEF(IT), no translation is provided since they correspond to the examples taken from UNICEF(EN). In this case, example (4) corresponds to example (2).

⁵ The translations in examples extracted from StC are mine throughout.

5.2 Child-centredness

The examples provided in Section 5.1 hint at how in the CF versions of the CRC the focus turns from States Parties, whose duty is to recognize and implement children’s rights, to children, who are both the holders of such rights and the intended readers. The purpose of such a shift is to orient the text towards the readers so as to make its content understandable to them and, by so doing, to empower them. Such child-centredness is obtained through various strategies, the most evident of which operates at the syntactic level and consists in the change of the argument occupying the subject slot.

To illustrate this shift, subject-verb sequences have been considered and in particular S-V sequences in which the subject slot is filled by a noun either referring to “States Parties” or to “children” and the verb slot is filled by a (modal) verb. The results of the extraction are shown in Tables 3 and 4 below.

Table 3. S-V sequences with nouns referring to “States Parties” or “children” in the subject slot in the English subcorpus

S-V sequence	CRC(EN) Articles 1-42	UNICEF(EN)	Plan International
<i>States Parties</i> + verb	70	0	0
<i>State Party</i> + verb	1	0	0
<i>government</i> + verb	0	2	0
<i>Government</i> + verb	0	0	7
<i>governments</i> + verb	0	2	1
<i>Governments</i> + verb	0	13	6
<i>child</i> + verb	30	10	0
<i>children</i> + verb	2	10	0

Table 4. S-V sequences with nouns referring to “States Parties” or “children” in the subject slot in the Italian subcorpus

S-V sequence	CRC(IT) Articles 1-42	UNICEF(IT)	Save the Children
<i>Stati parti</i> + verb	54	0	0
<i>Stati</i> + verb	1	17	1
<i>Stato parte</i> + verb	1	0	0

<i>Stato</i> + verb	0	0	1
<i>governo</i> + verb	0	0	0
<i>governi</i> + verb	0	0	0
<i>fanciullo</i> + verb	8	0	0
<i>fanciulli</i> + verb	1	0	0
<i>bambino</i> + verb	0	1	0
<i>bambini</i> + verb	0	24	0

To interpret the tables correctly, it must be borne in mind that the frequency of S-V-O sequences is generally higher in English than in Italian, since the latter tends to use a broader variety of syntactic patterns in declaratory sentences. Despite this structural diversity, the data presented in Tables 3 and 4 are still considered useful to show a shift in focus. In the original CRC in both languages, in S-V sequences “States Parties” prevail over “children” in the subject slot, giving the idea that States Parties have an active role in ensuring and protecting children’s rights, such as in the following example:

- (6) 1. *States Parties undertake to respect the right of the child to preserve his or her identity, including nationality, name and family relations as recognized by law without unlawful interference.*
 2. *Where a child is illegally deprived of some or all of the elements of his or her identity, States Parties shall provide appropriate assistance and protection, with a view to re-establishing speedily his or her identity.*

When recontextualized for children, States Parties’ obligations are frequently presented as children’s rights, and, from a linguistic perspective, this is done by moving “children” to the subject slot, as in the following example:

- (7) *Children have the right to their own identity – an official record of who they are which includes their name, nationality and family relations. No one should take this away from them, but if this happens, governments must help children to quickly get their identity back. (UNICEF(EN))*

However, this tendency is not a general rule: in the second sentence in (7), which corresponds to the second paragraph of the original CRC, “States Parties” keep their subject position to highlight the assistance they must provide. This reformulation entails two lexical substitutions, i.e. “governments” for “States Parties” and “must” for “shall”, both of which are regarded as appropriate for a text that is not legally binding and is meant to be comprehensible to a young audience (see Section 5.3).

A very similar shift in perspective can also be observed in the Italian subcorpus. In the CRC, most subject slots are occupied by “*Stati parti*” (‘States Parties’), while children are referred to as “*fanciulli*” (literary word for ‘children’). Before proceeding further, a brief digression is in order here. The lexical choice of “*fanciullo*” is particularly interesting, since it points at the historical period in which the CRC is situated, given that the use of the word “*fanciullo*” is nowadays rare and limited to formal discourse (although it may also be used with a humorous intent). It follows that in UNICEF(IT)’s text, which is more recent, children are referred to by the currently much more common word “*bambini*”. Considering that UNICEF(IT)’s version is an adaptation of the English text, it is not surprising that the Italian version of example (7) resembles the English version, with “*bambini*” (instead of “*fanciulli*”) in the subject slot in the first sentence and “*Stati*” (rather than “*Stati parti*”) in the same position in the second part of the sentence:

- (8) *I bambini hanno il diritto di avere una identità; ovvero di disporre di un documento ufficiale che comunica chi sono elencando nome, nazionalità e identità dei genitori. Nessuno deve privarli di questa documentazione ma, se ciò accade, gli Stati devono fare in modo che riescano velocemente a ottenerla di nuovo.* (UNICEF(IT))

By taking a closer look at the fourth column in Table 3, it can be noticed that in PI’s text “governments” (rather than “States Parties”) occupies the subject slot, while “children” does not do so. For example, Article 8 in PI’s text reads as follows:

- (9) *Governments should respect your right to a name, a nationality and family ties.* (PI)

The same, although with a lower frequency, occurs in StC’s text, where *Stati* are mentioned only twice. The reason for a complete absence of “children” in subject position in PI’s and StC’s CF versions is that in these two texts a different reformulation strategy has been used. In these texts, the subjectivization of children has taken a step further: the fact that the target audience coincides with the right holders has been made clear linguistically through the use of the second person in both languages. As regards English, in PI’s text there are 60 occurrences of the personal pronoun “you” in subject position followed by a (modal) verb. In StC’s text, since in Italian the second person is not usually made explicit through personal pronouns but rather through verb conjugation, there are 39 sentences starting with “*Hai diritto a*” (‘You have the right to’).

Based on the observations above, we could say that children are somehow presented in two different ways in the CF versions of the CRC. In both UNICEF's versions, recontextualization and reformulation have led to a shift in focus from States Parties to children as right holders, thus giving children a linguistically more central position but still keeping them separate from the actual reader of the texts. By contrast, in PI's and StC's the discursive strategy adopted has required the use of an explicit reader engagement device, namely the second person, which allows young readers to identify with the subject of the text and the creation of a greater sense of concreteness and applicability of the text.

5.3 Modality

The change in function (see Section 4) and focus (see Section 5.2) has also led to a change in modality. This is particularly visible in English, since legally binding texts – whose function is predominantly prescriptive – are characterized by a deontic modality expressed through modal verbs, and in particular by the modal verb “shall”. Indeed, as Garzone (2001: 156, emphasis in the original) puts it, “while [...] SHALL is relatively infrequent in general usage in comparison with other modals, in legislative texts it is certainly the most frequent modal, being customarily used to express legal provisions in alternation with the simple present, and, more generally, qualifies as one of the most frequent lexical items”.

Table 5. Modal verbs extracted from the English subcorpus

Modal verb	CRC(EN) (Articles 1-42)	UNICEF(EN)	Plan International
can	5	13	5
could	1	0	1
may	10	0	0
might	0	2	2
must	1	11	4
shall	108	0	0
should	3	36	41
will	1	3	0
would	2	0	0
Total	131	65	53

Table 5 above shows that “shall” has the highest frequency among modal verbs in the original CRC, which is not surprising considering the legal force of the Convention. In fact, in 51 occurrences out of 108, the subject slot preceding the modal verb is occupied by “States Parties”, which further supports the idea that the main responsibility of acknowledging, protecting and ensuring children’s rights lies upon Governments. On the contrary, shall is totally absent from the two CF versions under analysis. The reason seems self-evident: the reformulation of a legally binding Convention into informative texts addressed to children requires discarding the deontic modality imposing obligations on States and creating child-centred text. In such texts, children’s rights are presented as if they were a matter of fact, and are therefore frequently expressed through non modal verbs, although modal verbs do not disappear completely. To illustrate this point, let’s look at how Article 2 is formulated in the three English texts under examination:

- (10) *States Parties shall respect and ensure the rights set forth in the present Convention to each child within their jurisdiction without discrimination of any kind, irrespective of the child’s or his or her parent’s or legal guardian’s race, colour, sex, language, religion, political or other opinion, national, ethnic or social origin, property, disability, birth or other status. [...]* (CRC(EN))
- (11) *All children have all these rights, no matter who they are, where they live, what language they speak, what their religion is, what they think, what they look like, if they are a boy or girl, if they have a disability, if they are rich or poor, and no matter who their parents or families are or what their parents or families believe or do.* (UNICEF(EN))
- (12) *You should not be discriminated against for any reason, including your race, colour, sex, language, religion, opinion, origin, social or economic status, disability, birth, or any other quality of your parents or guardians.* (PI)

In example (10), the modal verb “shall” is used to impose on the States Parties the acknowledgment and respect of children’s right against any type of discrimination. In (11), “all children” becomes the subject of the sentence and no modal verb is used, taking for granted that the right at hand is actually available to any child. In (12), on the contrary, we can see that “shall” is replaced by “should” and is preceded by the personal pronoun “you”. What is interesting here is that the modal verb “should” in (12) is used in a passive construction, while in (10) and (11) the sentence is in the active voice.

Indeed, in both UNICEF(EN)'s and PI's texts, "should" is most commonly used to point at duties incumbent upon governments rather than children. Therefore, the typical patterns found in the corpus are constructions with "Governments" as the subject followed by an active construction or with either "children" or "you" as the subject followed by a passive construction, as in the following examples:

- (13) *Governments should ensure* that you survive and develop healthily. (PI)
- (14) *Children should be encouraged* to go to school to the highest level possible. (UNICEF(EN))
- (15) *You should be protected* from any activities that could harm your development and wellbeing. (PI)

A similar pattern, though with a lower frequency, can be noticed with the modal verb "must", which tends to be followed by an active construction when the subject is "Governments" and by a passive construction when the subject is either "children" or "you", as exemplified in the extracts below:

- (16) *Governments must make sure* that children survive and develop in the best possible way. (UNICEF(EN))
- (17) *Children must be registered* when they are born and given a name which is officially recognized by the government. (UNICEF(EN))
- (18) If you are accused of breaking the law, *you must be treated* in a way that respects your dignity. (PI)

In Italian, modality in general and deontic modality in particular are expressed in a different manner compared to English, especially in legal language (see Garzone 1999). The most common way of expressing prescription in legal provisions in Italian is through the *presente indicativo* ('simple present') with no modal verb, and this is also the case in the Italian translation of the CRC, where the modal verbs "*dovere*" ('must') and "*potere*" ('can') (in various verb tenses) play a marginal role (see Table 6 below).

Table 6. Modal verbs extracted from the Italian subcorpus

Modal verb	CRC(IT)	UNICEF(ITA)	Save the Children
<i>dovere</i>	14	43	6

<i>potere</i>	18	11	4
Total	32	54	10

What deserves our attention is that in one of the Italian CF texts the frequency of modal verbs is higher compared to the CRC. In particular, it is the verb “*dovere*” that appears more frequently. Article 11 can serve as an example:

- (19) 1. *Gli Stati parti adottano* provvedimenti per impedire gli spostamenti e i non-ritorni illeciti di fanciulli all'estero.
 2. A tal fine, *gli Stati parti favoriscono* la conclusione di accordi bilaterali o multilaterali oppure l'adesione ad accordi esistenti. (CRC(IT))⁶
- (20) *Gli Stati devono impedire* che i bambini vengano portati fuori dal loro paese contro la legge, per esempio nel caso in cui un genitore conduca all'estero un figlio senza l'accordo dell'altro genitore. (UNICEF(IT))
 (*States must prevent* children from being taken out of their country when this is against the law, for example when a parent takes their child abroad without the other parent's consent.)

Therefore, in both subcorpora we notice a transition from a form of expression of deontic modality with a prescriptive purpose, which is typical of legally binding texts, to a form of deontic modality with an informative purpose, which is obtained by means of modal verbs in both languages.

5.4 Popularization strategies

The last aspect analyzed here is the presence of popularization strategies used in the CF versions under examination. These texts have a practical aim, i.e. to inform children and raise their awareness of their rights, which may contribute to their empowerment and thus have a direct effect on their lives. To reach this aim, the texts should be comprehensible to their readers and may thus resort to some of the cognitive (rather than communicative) strategies discussed in the literature on popularization discourse (Calsamiglia – Van Dijk 2004; Ciapuscio 2003; Gülich 2003; Turnbull 2018). To investigate the cognitive strategies used in the CF versions of the CRC, the generally accepted distinction between illustration (also known as formulation or

⁶ Article 11 CRC(EN) contains the modal verb “shall” and reads as follows: 1. *States Parties shall take* measures to combat the illicit transfer and non-return of children abroad. 2. To this end, *States Parties shall promote* the conclusion of bilateral or multilateral agreements or accession to existing agreements.

explanation) and reformulation is applied here. Illustration is used to introduce new knowledge and “to relate new knowledge to old (perhaps experiential) knowledge” (Turnbull 2018: 204), and manifests itself in the following forms: (i) denomination, used to introduce new terms (Calsamiglia – Van Dijk 2004: 374); (ii) definition, used to explain the meaning of new terms (Calsamiglia – Van Dijk 2004: 379); (iii) exemplification, i.e. the explanation of complex concepts in a simpler, everyday manner (Calsamiglia – Van Dijk 2004: 383); (iv) scenario, i.e. the creation of a possible yet imaginary situation that allows to address the interlocutor directly and to explain a complex event (Brünner 1987); (v) metaphor (including comparison and analogy) (Calsamiglia – Van Dijk 2004: 376); and (vi) concretization, i.e. a wide array of “procedures which consist of rewording abstract information in a non-abstract manner” (Gülich 2003: 244). Reformulation, on the contrary, is employed when what has already been presented requires modification or clarification, such as “when the speaker realizes his interlocutor has difficulty in understanding in an ongoing process of constructing meaning together” (Turnbull 2018: 204), and therefore takes the form of either paraphrase or repetition. The following two tables show the cognitive popularization strategies found in the CF versions of the CRC.

Table 7. Cognitive popularization strategies identified in the English subcorpus

Cognitive popularization strategy	Metalinguistic expression or punctuation (italics signal variable elements)	UNICEF(EN)	Plan International
Denomination	called a “X”	1	0
	(or <i>alternative denomination</i>)	1	0
Exemplification	for example	3	0
	(i.e.)	0	3
	(for example)	0	1
Paraphrase	(<i>paraphrase</i>)	5	0

Table 8. Cognitive popularization strategies identified in the Italian subcorpus

Cognitive popularization strategy	Metalinguistic expression or punctuation	UNICEF(IT)	Save the Children
Denomination	“X”	1	0
Exemplification	(<i>ad esempio</i>)	0	2
	<i>per esempio</i>	1	0
	(example)	0	3

Paraphrase	<i>Ciò significa che</i>	0	1
	<i>Questo significa che</i>	0	1
	<i>ovvero</i>	1	0

What emerges from the tables above is that a limited array of cognitive strategies is present in the corpus, since only a small number of instances of denomination, exemplification and paraphrase were retrieved. In both languages, the most represented strategy is exemplification, although with a minor difference: in English, examples are always preceded by a metalinguistic expression (“for example” and “i.e.”, see example (21)), while in Italian examples are signalled either with or without such markers (see example (22)).

- (21) Children should not be separated from their parents unless they are not being properly looked after – *for example, if a parent hurts or does not take care of a child.* (UNICEF(EN))
- (22) Hai diritto a vedere realizzati i tuoi diritti da parte delle Istituzioni pubbliche (*Parlamento, Governo, Scuola ecc.*). (StC)
(You have the right to have your rights protected by public institutions (*the Parliament, the Government, the school system, etc.*).)

The second most frequent strategy observed is paraphrase. In the English subcorpus, all the instances of paraphrase are marked by the presence of parentheses, such as in example (23), whereas in Italian paraphrases are introduced by various metalinguistic expressions, such as in example (24).

- (23) Children must have a nationality (*belong to a country*). (UNICEF(EN))
- (24) Hai diritto ad un livello di vita adeguato. *Ciò significa che* i tuoi genitori, o in mancanza lo Stato, dovranno garantirti cibo, vestiti e una casa in cui vivere. (StC)
(You have the right to an adequate standard of living. *This means that* your parents, or the State in their absence, will have to provide you with food, clothing and a place to live.)

With regard to paraphrase, it is interesting to note that in one case (example (25)) the information provided in parentheses is used to explain the meaning of what precedes it (i.e. refugees) through a cause-effect relationship expressed by the conjunction *because* rather than as an apposition or by means of a metalinguistic expression.

- (25) Children who move from their home country to another country as refugees (*because it was not safe for them to stay there*) should get help and protection and have the same rights as children born in that country. (UNICEF(EN))

Finally, the analysis has revealed a few instances of denomination. In English, this strategy is signalled using metalinguistic expressions (see example (26)), whereas in Italian we find inverted commas (see example (27)).

- (26) The law must protect children's privacy, family, home, communications and reputation (*or good name*) from any attack. (UNICEF(EN))
- (27) Qualora il bambino non abbia i genitori, un altro adulto verrà nominato "tutore" e si occuperà della sua crescita. (UNICEF(IT))

6. Conclusions

Despite having children's rights at its core, the UN Convention on the Rights of the Child, with its typical linguistic features of an international treaty addressed at its signatories, poses comprehension difficulties to children. To overcome these difficulties, various child-focused organisations have developed child-friendly versions of the CRC, four of which have been analyzed in this paper.

The analysis has revealed that, in order to "translate" the CRC in a language that children can understand, the recontextualization process necessary to address a different audience and to pursue a different function (informative rather than prescriptive) entailed a major change in genre, with the original text of the CRC being reduced so as to fit the size and layout of a poster. In terms of layout, in three CF versions out of four the verbal mode was integrated with a significant visual component (icons and illustrations), which has not been further explored here to leave room for a more extended discussion of the impact that the "intergeneric intralingual translation" (Dressler – Eckkrammer 2001: 40) had on the language used. The comparison of the original CRC with its CF versions has shown that they differ in various ways, save for the macrostructure which was kept unaltered, and that such ways converge to a great extent in the two languages analyzed, namely English and Italian.

The first major difference relates to the length of the text. In order to fit a poster's size, the original CRC was significantly reduced, with a whole

part (Articles 43-54) completely omitted from all the CF versions and almost all the articles being much shorter in the CF texts. This, in turn, means that the CF texts are condensed as well as highly simplified versions of the CRC, which cannot in any way be as detailed and fine-grained as the original they were derived from.

The second difference concerns the shift in focus from States Parties, which are in charge of recognizing and ensuring the protection of children's rights, to children, who are the holders of such rights and the target readers of the CF versions. In two CF texts, child-centredness was obtained through syntactic recasting, i.e. by moving nouns referring to "children" to the subject slot. In the other two texts, "children" also ideally occupy the subject slot, but the second person was preferred to the third one, since "children" and readers coincide. Therefore, in this second case prominence was obtained through a direct reader engagement device.

The change in function and in focus expressed via (morpho-)syntactic means also led to a visible difference in terms of deontic modality. The original CRC has a prescriptive function, which is mainly expressed through the use of "shall" in English and of the *presente indicativo* (simple present) as well as of the modal "*dovere*" ("must") in Italian. Since the CF versions have an informative function, they do not impose any obligation on their receivers. For this reason, "shall" and its Italian equivalents do not occur in the CF versions, where the modals "should" and "must" in English and "*dovere*" and "*potere*" in Italian were preferred, especially in order to point at duties towards children.

The difference is related to the informative purpose and the recipients of the CF texts. Considering the young age of the addressees, cognitive strategies could be reasonably expected to assist the readers in the process of understanding. However, in the four texts analyzed these strategies do not seem particularly significant in terms of frequency and variety, given that only instances of denomination, exemplification and paraphrase have been found in both subcorpora. This can be explained by the fact that the four texts underwent the process of intergeneric intralingual translation mentioned above. The transition from a convention to a poster necessarily entails a process of condensation that goes through a simplification of the content and does not allow dilutions, while in most cases cognitive strategies require the addition of words to exemplify, clarify or explain what is assumed to be obscure to the intended reader.

The study presented in this paper has two kinds of limitations. The first limitation is the dataset used: since the study is based on a very small

corpus, the results presented cannot be generalized. The second limitation is the lack of a reception study capable of verifying whether the discursive strategies observed in the corpus actually helped in creating texts which are understandable and useful to a young audience. Notwithstanding these limitations, we believe that the study contributes to shedding some light on the close relationship between genre and popularization strategies for children, a topic that deserves further investigation.

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Kids in the House: How the U.S. House of Representatives addresses youngsters

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ABSTRACT

Educational websites for children are becoming more and more popular as sophisticated sources of specialized content dissemination. *Kids in the House*, the website for children created and run by the U.S. House of Representatives, is an interesting example as it is distributed in four different versions targeting preschoolers, grade schoolers, middle schoolers and high schoolers. This contribution aims to analyze quantitatively, qualitatively and comparatively some of the most recurring linguistic features that characterize the four website versions, by concentrating on verbal, and occasionally nonverbal, popularizing strategies. The analysis reveals that there are marked differences among the website versions both in terms of lexical complexity and discourse. Also, verbal and nonverbal popularizing devices seem to closely reflect the needs and tastes of the target audiences.

Keywords: educational websites for children, popularization for children, verbal and nonverbal language, corpus analysis.

1. Introduction: Educational websites for children

This article intends to inquire into how the U.S. House of Representatives explains its principal duties and how it functions to youngsters of different age groups who have reached specific educational stages. In particular, the object of the analysis is the official website for children created and run by the Office of the Clerk, namely *Kids in the House*.¹

¹ As regards the website “[t]he Office of the Clerk provides this website as a public service. The information on this site is considered public information and may be

As the UNICEF website states (UNICEF 2019), in the digital, media-saturated environment we are living in, “like adults, children use the Internet for their right to information”. Indeed, in the last two decades different types of educational website especially designed to convey sectoral information to children (e.g., in the fields of science, sociology, ecology, politics) have started to flourish, with English-speaking countries playing a pioneering role (Buckingham – Scanlon 2004; Diani 2020; Diani – Sezzi 2019, 2020). In line with what has been described in seminal studies that considered specialized knowledge dissemination in different types of texts targeting adult laypeople (cf. *inter alia* Calsamiglia 2003; Calsamiglia – van Dijk 2004; Garzone 2020), specialized knowledge in child-oriented websites is carefully moderated and tends to undergo a meticulous process of recontextualization and mediation in order to be accessible and appreciated by this special group of receivers. Children, in fact, are a particularly demanding target audience as they represent the quintessence of the lay reader (or better lay user) for whom the capacity to decode opaque expert information is further complicated by their not fully completed cognitive development and their partial encyclopaedic knowledge (Diani 2015; Bianchi 2018; Bruti – Manca 2019; Cappelli – Masi 2019; Sezzi 2019). That is why, both verbal and nonverbal knowledge dissemination strategies need to be tactically deployed to translate and “digest” the package of information and create a multimodal environment suited for children’s requirements, which should be entertaining as much as it is educationally stimulating.

Unlike grown-ups, youngsters are generally not merely looking for informational materials on a website. They are looking for a virtual space where they can have fun and, possibly, discover new content that could also be useful at school. In other words, when looking for specialized information about something, they most often seek edutainment contents that are more than just informative, but combine entertainment, engagement and education in a hybrid multi-layered text type (Buckingham – Scanlon 2004). Indeed, if an educational website is not able to grab and hold their attention, the risk is that children will just move on to other web content, which is nowadays very easy, given the large number of options available in the digital(ized) world.

A recent survey on children’s perception and consumption of websites in the USA (Sherwin – Nielsen 2019) suggested that, in order to be successful,

distributed or copied unless otherwise specified. Images on this site are provided as a contribution to education and scholarship”. All the images used throughout this paper are in the public domain (<https://kids-clerk.house.gov/privacy-policy.html>, accessed September 2021).

educational websites are required to follow certain usability approaches (e.g., the use of guided and interactive learning paths) and narrowly targeted content. This is because children, as digital native literates, are becoming more and more web-proficient, demanding, and aware of age differences in content design. Thus, they will not engage with something they perceive as too babyish, and they will be discouraged from interacting with a website they find too challenging and thus unappealing.

In line with these ideas, *Kids in the House*, was released in four different versions each of which targeting children at different stages in the U.S. educational system, i.e., young learners (3 to 6 years), grade schoolers (6 to 11 years), middle schoolers (11 to 14 years), and high schoolers (14 to 18 years). In the present study, I therefore aim to examine quantitatively and qualitatively (through comparison) some of the most recurrent linguistic features in each of these website versions, by concentrating in more detail on lexical features and on the popularizing strategies and devices, both at a verbal and nonverbal level, selected to convey specialized information and cater for the needs of children at different educational stages.

The article is organized as follows: Section 2 describes in detail the corpus under analysis and outlines the methods used for the analysis discussed in Section 3 and Section 4. Section 3 presents a corpus analysis of the most salient lexical features of the four website versions, and Section 4 expands on the popularizing tools selected to effectively reach the different target audiences. Some final remarks and suggestions for further research are gathered in Section 5.

2. Corpus description and methodology

The website analyzed here, i.e., *Kids in the House*, was launched in 2009 by the Office of the Clerk of the U.S. House of Representatives as a public service to promote and disseminate knowledge about the legislative branch of the United States Government among schoolchildren of all ages. The website is the result of an agenda set by President Bill Clinton in 1997 for the World Wide Web to be in every classroom by the year 2000. In fact, he wanted those websites sponsored by United States government agencies to be enriched and become a tool for students (and teachers) for retrieving reliable and accessible information on the principal institutions. Therefore, he suggested children's pages as a possible improvement (Clarke 2006).

As stated in the mission statement present on the main landing page, all information is meant to be both educational and entertaining

for the target audience, making the website a typical example of an edutainment or infotainment text (Djonov 2008). As previously suggested, the distinctiveness of this page as compared to other similar institutional websites for children is that from the navigation menu of the main page the user is given the opportunity to choose between four distinct versions aimed at schoolchildren of different age groups. The contents adapted for each website version are very similar and they are sorted into the same thematic macrosections that revolve around i) the functioning of the Congress, ii) how laws are made, iii) the works of art that can be found in the Capitol building and some interesting historical facts, iv) a guided tour of the Capitol, and v) some information about the Clerk of the House. This repetitive structure, which enhances thematic consistency for the benefit of the recipients who may want to engage with different website versions, makes the texts and the paratexts easily comparable. In general, the website has a drill-and-practice approach, i.e., it is based on systematic structural and content repetitions, as has also been noted by Diani and Sezzi (2019) for educational websites for children about the EU.

In order to carry out a quantitative linguistic analysis of the verbal language across the four website versions, all the textual content retrievable on the website was used to assemble a corpus (henceforth *KidsHouseCorpus*) with four sub-components. Table 1 offers an overview of the composition of *KidsHouseCorpus*.

Table 1. *KidsHouseCorpus* composition

Corpus components	Word tokens	Word types
<i>Young Learners</i>	911	281
<i>Grade School</i>	7,351	1,445
<i>Middle School</i>	10,385	1,951
<i>High School</i>	11,288	2,126
TOTAL <i>KidsHouseCorpus</i>	29,935	2,664

All the webpages from which the texts were retrieved were also saved and stored as PDF files so as to have access to nonverbal data as well.

Young Learners targets preschoolers from 3 to 6 years old who have not yet developed reading skills. As shown in Figure 1, the menu page is very cheerful, featuring an outdoor setting with a cartoon-like blue sky as the background and animated graphics below on the grass (an anthropomorphic smiling scroll of parchment and the capitol building) that not only adorn

the page to appeal to very young children, but they also frame, introduce, and meaningfully mirror the contents. The four macrosections into which the website is organized are presented by animated visual icons that again hint at the contents (e.g., *Around the Capitol* is introduced by a camera taking shots with the Capitol building in the background) and are accompanied by introductive short sentences.



Figure 1. *Young Learners* main page

As is evident from the low number of word tokens and types, texts within the thematic macrosections are kept to a minimum and rely more heavily on graphics. Interestingly, apart from short textual paragraphs, each section features colourful icons depicting either coloured pencils or scissors that are anchors sending the user to printable educational content. The website also contains a *Little-Known Fact* box that tells a different item of interest about the House of Representatives every time you refresh the webpage and a link to a glossary section that lists the definitions of seven technical words (e.g., *Bill*, *Capitol*, *Impeach*) found in the texts.

Grade School is designed for children in primary school aged from 6 to 11 years old (1st to 5th grade) who have just started to read texts on their own. The menu page is very different from the *Young Learners'*. Here all the graphic elements evoke the school setting: the banner headline is a blackboard sketch of the Capitol building and the Stars and Stripes Flag, the plain white background appears to be stapled to resemble a piece of paper, and the thematic sections are organized by four colourful pieces of paper

attached to the background with thumb tacks. The iconic illustrations for *How Laws Are Made* and *Around the Capitol* are the same as those for *Young Learners*, but here they are not animated. *What is Congress?* and *Art & History*, instead, are extensible sections that enclose different thematic subsections all accompanied by photos related to the contents (Figure 2).

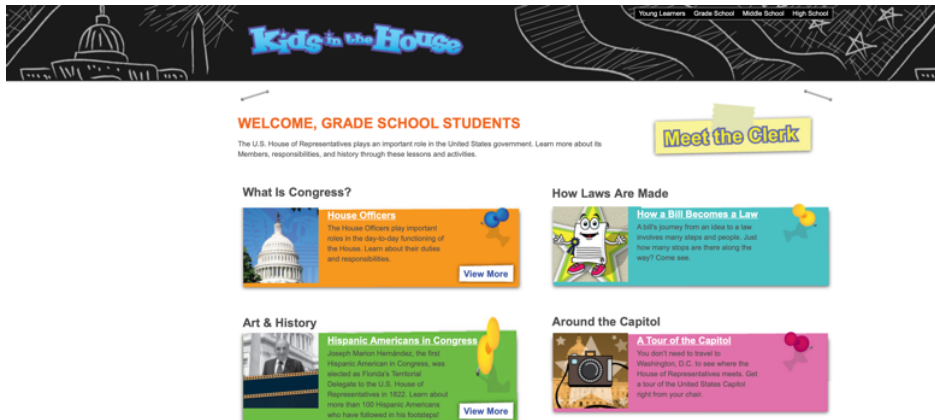


Figure 2. *Grade School* main page

Within the sections, the amount of written text is much greater, with numerous paragraphs, though short, for each topic. In this case, sectorial and potentially opaque words are highlighted and when placing the mouse over them their definitions automatically pop up. There is also a glossary page where all twenty-six terms are located. Educational activities are also embedded in the text and are linked to specific terms (e.g., the *Capitol Maze* is accompanied by a colouring picture).

Middle School addresses children within the age range of 11-14 (6th to 8th grade). The page has a more traditional layout with a thematic background representing stars and stripes (recalling the American flag). However, it is rendered more engaging for teenagers by the option *choose your style* allowing the user to select a different colour and style for the background. The macrosections are still sorted in colour bands, but some of the cartoon-like illustrations that adorn *Young Learners* and *Grade School* are substituted by more realistic thematic icons. As Figure 3 illustrates, the landing page also contains a *search* band that enables the user to search for specific contents on the website, a link to the *Glossary* page (here containing sixty-nine items), and a link to the *For Teachers* section. This last page gathers educational resources and activities specifically created on the basis of the contents of the site.

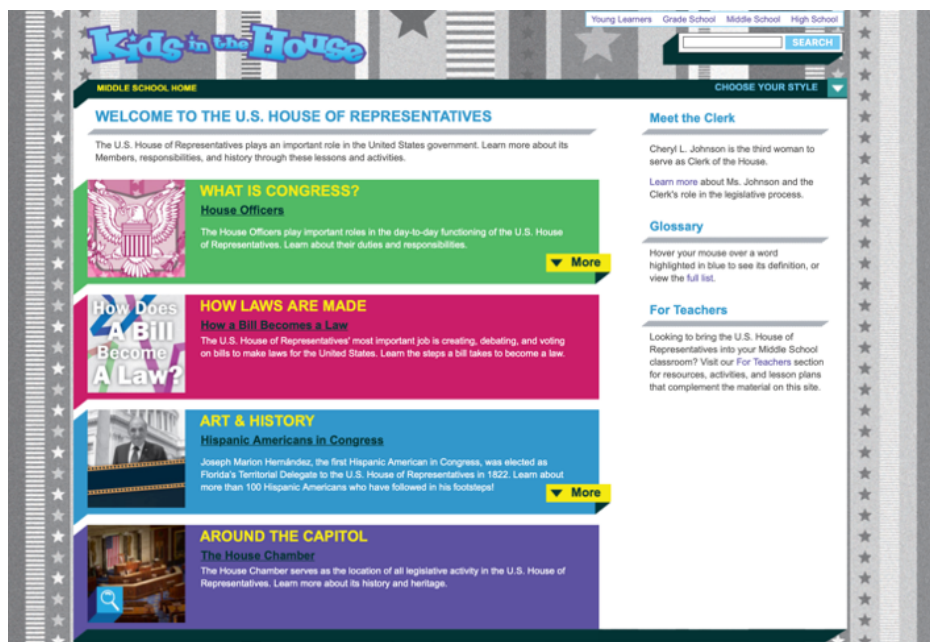


Figure 3. Middle School main page

The sections are structured in paragraphs with longer texts often arranged in bulleted lists. Besides the highlighted terms accompanied by the corresponding glossary definitions, other words in bold are direct links to different internal sections of the website. A new resource that is added to this website version is an apparatus of photos embedded within the text and accompanied by explanatory captions. For example, when talking about the *House of Chamber*, a picture of the House and a brief description of its functions are embedded within the text. A last noteworthy characteristic of all section subpages is the *Did You Know?* box, which is a more grown-up version, in a question/answer format, of the *Little-known Fact* present in the *Young Learners'* page.

The last website version is *High School*, a page aimed at and designed for adolescents from 14 to 18 years old (9th to 12th grade). The layout of the page is akin to the *Middle School* one, with a plain background with the American bald eagle symbol foregrounded at the top of the page and four monochromatic dark bands framing the thematic macrosections. Specific to this website version are the *What's New* box, which lists the latest contents published, and the link to a *Social Media* webpage, i.e., the official YouTube Channel of the Clerk of the House (Figure 4).

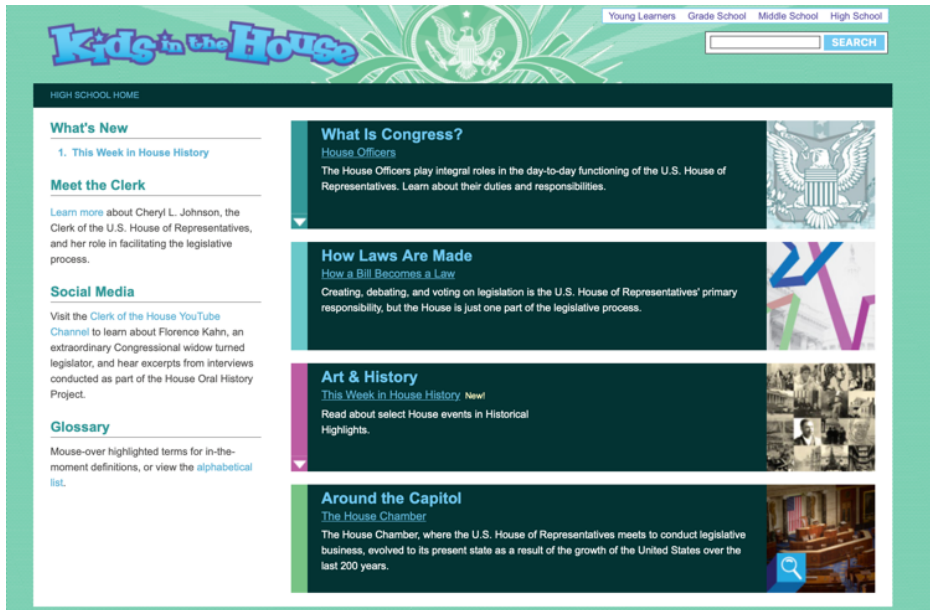


Figure 4. *High School* main page

The internal organization of the thematic sections is not dissimilar to *Middle School*, with the addition of a greater number of captioned photos, glossary terms, and a series of words highlighted in grey that are links to the official website of the House of Representatives and to other governmental websites, so that the user can examine certain topics in more depth. Accordingly, at the end of the texts in each macrosection there is an *Additional Sources* box with different references to external websites.

Having outlined the most relevant organizational features of the webpages, the following sections focus on the verbal contents, in particular the lexical features, of the *KidsHouseCorpus*. These are analyzed with some of the tools of corpus-assisted discourse analysis (cf. Baker 2006; Partington – Duguid – Taylor 2013 for an introduction to corpus-assisted methods) which will be introduced when relevant throughout the analysis. The corpus software used to process the data are: *Word Smith Tools* (Scott 2016), for calculating some measures of lexical complexity, i.e., the lexical variation and the lexical density, and *Sketch Engine* (Kilgarriff et al. 2014), for retrieving keywords and assessing concordances. The subsequent examination of the popularizing strategies draws on Calsamiglia and van Dijk's (2004) classification, which brings to the fore the rhetorical means used to turn "specialized knowledge into 'everyday' or 'lay' knowledge" (Calsamiglia – van Dijk 2004: 370). These include i) definition, to introduce unknown

words or concepts by briefly outlining the salient traits of the referent, ii) denomination, to assign specialized labels to specialized concepts, iii) description, through which additional information on the subject matter is added so as to enrich the reader's knowledge, iv) reformulation, to offer a more accessible paraphrase of a selected discourse fragment, v) exemplification, to provide the addressee with familiar examples to support the decoding and understanding of specific situations, vi) generalization, to exploit wide-ranging and general conclusions in order not to burden the receiver with technical information, vii) analogy, to resort to metaphors, similes, or other tropes to bridge old and new knowledge by means of figuration.

Relevant comments on significant nonverbal features associated with knowledge popularization are inspired by the tenets of multimodal discourse analysis according to Kress and van Leeuwen (2001).

3. Quantitative analysis of lexical features across website versions

3.1 Descriptive statistics

The first exploratory statistics carried out to describe the lexical complexity of *KidsHouseCorpus* and its components was the standardized type/token ratio (STTR), which is a standardized index computed by *Word Smith Tools* to measure the level of lexical variation of a text. The type/token ratio is often used in discourse analysis when describing the specificity of a particular text type or register (Baker 2006). Its value is obtained by dividing the number of unique words (i.e., types) by the number of running words (i.e., tokens), thus turning the result into a standardized and comparable percentage². The higher the result, the wider the variety of different words in a corpus.

The other measure that was computed to estimate lexical complexity across the corpus components is lexical density, a parameter that calculates the proportion of lexical words to grammatical words (Ure 1971). Hence, a high lexical density value indicates a large number of information-carrying words, whereas a low value denotes relatively few of them. The results of these analyses are displayed in Table 2.

² For an introduction to the operations carried out by *Word Smith Tools* to standardize the values, cf. https://lexically.net/downloads/version5/HTML/index.html?type_token_ratio_proc.htm.

Table 2. Lexical variation and lexical density in *KidsHouseCorpus*

<i>KidsHouseCorpus</i> components	Lexical variation (STTR)	Lexical density
<i>Young Learners</i>	34.35%	55%
<i>Grade School</i>	38.73%	61%
<i>Middle School</i>	41.09%	62%
<i>High School</i>	43.67%	65%

As clearly emerges from the table above, both lexical variation and lexical density progressively increase from *Young Learners* to *High School*, thus indicating the different degrees of complexity in terms of lexical diversity and vocabulary richness across the four website versions.

If we compare the percentages found for lexical variation, ranging from 34.35% to 43.67%, with the written and the spoken sections of the British National Corpus (BNC)³ that have a STTR of respectively 57.81% and 32.45%, it emerges that all *KidsHouseCorpus* subcomponents have values more similar to the spoken register, generally known for its repetitiveness and constrained vocabulary range. A comparable, but less marked, trend was noted by Bruti and Manca (2019), who computed STTRs values ranging from 43% to 48% for a collection of specialized corpora of British, American, and Italian science magazines for teenagers. By contrast, in terms of information content (i.e., the lexical density) the percentages of the *KidsHouseCorpus* components are decidedly on the high end of the 40-65% span for written non-fiction texts signalled by Stubbs (1996) on the basis of a large-scale study that also assessed that conversation hardly ever exceeds 40% of content carrying words.

Therefore, these statistics point to the fact that the texts in *KidsHouseCorpus* contain a rather restricted vocabulary whose range steadily increases from young learners to high schoolers. Notwithstanding this, they seem to be quite dense in informational content as testified by the significant presence of lexical words. These results could be telling of the nature of popularizing texts for children, for which the limited (and repetitive) amount of different lexis may be interpreted as a strategy to enhance textual coherence and cohesion. In fact, repetitiveness can ease decoding especially for children and can help them cope with the complexity, both at a linguistic and cognitive level, brought about by the specialized information load (Cappelli – Masi 2019).

³ The BNC is intended here as a general reference corpus to compare *KidsHouseCorpus* with spoken and written English.

3.2 Keywords

With the aim of continuing the analysis with an inductive approach, the four components of *KidsHouseCorpus* were compared through a keyword analysis. Keyword lists, i.e., statistically overused words in a corpus as compared to a reference corpus (cf. *inter alia* Scott – Tribble 2006), were created by using *Sketch Engine*. In this case, the non-queried components of the corpus were set as the benchmark. In other words, when extracting the keywords for *Young Learners* the other parts of *KidsHouseCorpus* were set as the reference corpus, so as to extract some particularly significant words for each subcomponent as compared to the others.

The analysis yielded numerous keywords for each corpus component, and it would be beyond the scope of this paper to consider them all. The following observations focus on some interesting cases, established through manual concordance reading, among the top-twenty most significant words for each website version. Starting from *Young Learners*, the most relevant among the function words, i.e., highly frequent grammatical words telling of text style (Flowerdew 2003), is ‘you’ that occurs as the third most significant element in the corpus. As amply suggested in the literature (cf. *inter alia* Diani – Sezzi 2019; Bruti – Manca 2019; Vignozzi 2020), the second person pronoun is often used in monologic discourse to directly address and involve the non-present audience by setting a dialogic, symmetrical, and friendly atmosphere (1).

- (1) In the House Chamber, where the Members of the U.S. House of Representatives meet, you will see eagles on special items like [...].

In this case, the direct receivers are children who are not able to read and navigate the internet on their own, consequently adults are inevitably addressed as well. They are what can be called the covert audience. In fact, various other lexical keywords (e.g., ‘help’, ‘print’, ‘grown-up’) point to the active role adults have in making the information presented accessible and enjoyable to a young audience. The interactional style of this website version is also testified by the keyword ‘hello’, an opening greeting which is repeatedly used at the beginning of paragraphs, before the explanations, to build rapport and establish an informal friendly tone. By contrast, the second person pronoun and the greeting rarely occur in the other website versions. As for lexical keywords, which are indicators of the aboutness (i.e., subject matter) of the text, the most salient one is ‘lawmaker’. This term

is specific to this corpus component as in the others the more formal and technical synonym 'legislator' is employed. 'Most' also emerged as key, as it is repeatedly used to generalize about some potentially specific and too detailed passages (2).

- (2) Most laws in the United States begin as bills.

Moving on to grade schoolers, the first functional word in terms of keyness is the first plural person pronoun 'we', which often occurs when introducing denominations, perhaps as a strategy to reduce the distance between the expert/narrator and the receiver, and to turn the specialist information into everyday shared knowledge (3,4).

- (3) In 1791, George Washington chose the 10 square miles offered by Maryland to become the capital. We know this area as Washington, D.C.
- (4) When Congress first moved to the Capitol, the House of Representatives met in the room we now call Statuary Hall.

As for 'you' in the *Young Learners* subcorpus, the pronoun 'we' is specific to this corpus component. A further group of keywords is represented by 'stuff' and 'cool', two words pointing to a very informal tone reminiscent of the language used by teens. In terms of knowledge recontextualization, the keyword 'like' is particularly interesting as it is used in similes that help non expert readers correlate new knowledge with known experiences, which, in the case of the example below, parallels the functioning of the House Chamber with the school setting (5).

- (5) First the Members elect the Speaker of the House. The Speaker is a lot like the class president.

Taking *Middle School* as the focus corpus, the most striking result is that the first item that was yielded in the keyword list is the punctuation mark '?', which points to the high occurrence of direct questions. Accordingly, the concordance lines confirm that on different occasions information is presented in a question/answer format (6), which is clearly a strategy used to arouse curiosity in the reader.

- (6) So what happens on Congress's first day? The Constitution states that each new Congress must convene, or assemble, for the first time at noon on January 3 [...].

In addition, imperative verb forms seem to be particularly relevant in this corpus section, as testified by the keywords 'see', 'learn' and 'get', which are usually employed to stimulate users to acquire new information (7) and engage in educational activities.

- (7) See how Representatives use committees to organize their work!

Some lexical keywords specific of the aboutness of the texts are also relevant, for example 'delegates' and 'caucus', both followed by their definitions, as described in more detail in the next section.

To conclude, the most striking result when assessing the keywords for *High School* is that the only function words occurring among the top-twenty most key items are the personal pronoun 'they', which especially occurs in longer and more complex sentences as an anaphoric referent (8), and the conjunction 'and', again signalling an additive style (i.e., hypotaxis).

- (8) The committee members will seek expert input, hold "mark-up" sessions to make any changes or updates deemed important, and, if necessary, send the bill to a subcommittee for further analysis through research and hearings.

Indeed, most keywords in *High School* are sectorial nouns conveying specific contents (e.g., 'committees', 'injunction'), adjectives employed in detail descriptions (e.g., 'historical', 'pending') and more formal verbs (e.g., 'highlight', 'preserve'), all signals of a more academic style.

4. Exploring strategies for popularization

As declared in the mission statement and as confirmed by some of the keywords evaluated in the previous section, the intent to present knowledge in a simplified, and possibly amusing, way to children of all ages is the main endeavour of the website. Therefore, in what follows I concentrate on the analysis of the popularizing devices that are deployed to disseminate specialized knowledge to readers with different needs and tastes. By relying on the model put forward by Calsamiglia and van Dijk (2004), all verbal techniques of popularization in the four corpus components were singled out and classified. In order to be able to draw comparisons among corpora of different sizes, the quantitative results of this scrutiny into popularizing strategies are collected in Table 3 as percentages.

Table 3. Popularizing strategies in *KidsHouseCorpus*

Popularizing strategies	Young Learners	Grade School	Middle School	High School
<i>Definition</i>	13%	29%	30%	31%
<i>Denomination</i>	–	7%	16%	21%
<i>Description</i>	45%	34%	20%	16%
<i>Reformulation</i>	–	4%	21%	25%
<i>Exemplification</i>	33%	12%	9%	7%
<i>Generalization</i>	9%	5%	3%	–
<i>Analogy</i>	–	9%	1%	–

4.1 Young Learners

Starting from *Young Learners*, it is evident that popularization in texts is mainly based on (paratactic) descriptions (45%), which depict objects in a more extensive, but less specialized, way than definitions. Descriptions contain details considered unnecessary for experts but that help the lay reader (or in this case the hearer as pre-school children cannot read alone) picture potentially missing items in their encyclopaedic knowledge. Example (9) shows how a description is used to define the artistic and historic value of the United States Capitol building.

- (9) The United States Capitol is more than 200 years old. Many important people have walked its halls, including John Quincy Adams and Abraham Lincoln. It is also home to many beautiful and important works of art, such as paintings and statues.

Here the description first gives an idea of the epoch and of the importance of the building by concretely presenting its approximative age and two notable people related to the place, names which are very likely familiar to American kids. It then continues with some words on its artistic contents, whose reputation is rendered through positive everyday descriptive adjectives (e.g., ‘beautiful’, ‘important’) and is linked to the concrete sphere by means of two generic examples of categories of works of art. Furthermore, the description is also complemented by a ludic activity. Children are asked to open a link and print (with the aid of a grown-up explicitly encouraged) a colouring sheet representing a comic-like version of the most iconic painting in the Capitol: *The Apotheosis of Washington*, where angels are substituted by smiling

kids with George Washington in the middle, easily recognisable by his stern facial expression (Figure 5).

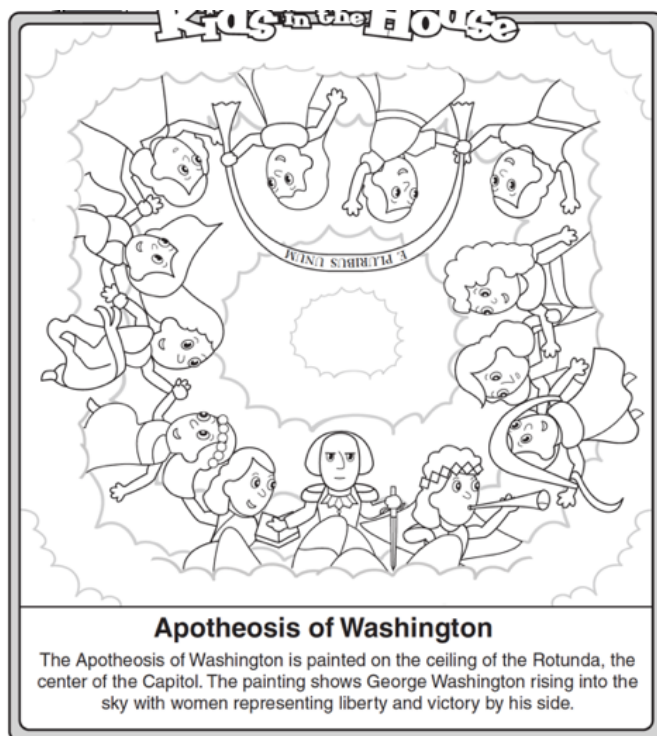


Figure 5. Colouring sheet for *The Apotheosis of Washington*

Hence, the colouring activity in this case not only offers a moment of relaxation and play but also illustrates and further clarifies the contents of the generic description.

Exemplifications (33%) are frequently used to enhance the comprehension of difficult concepts by providing down to earth and more specific illustrations of general and vague concepts that might be difficult for young children to grasp and concretize. The passage below (10) illustrates the examples provided in the text to explain what laws are.

- (10) The laws Congress makes help Americans. There are laws that say kids have to go to school, laws that protect animals and nature [...].

The scenarios selected (school and nature) are meant to be familiar and easily distinguished by children in as much as they are already part of their still developing knowledge of the world.

To a lesser extent, definitions (13%) occur to explicate some selected unknown words key to understanding the topic being examined. It is noteworthy that in many instances they are not expressed in the text but are contained in colouring sheets (Figure 6) linked to specific words, as example (11) shows for the term 'hopper'.

- (11) Once the bill is written, it is placed in the hopper, and introduced to the rest of the Members of the U.S. House of Representatives.

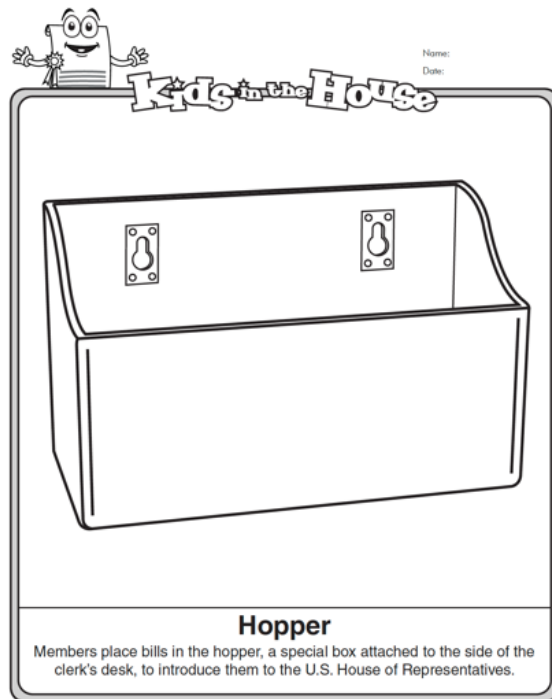


Figure 6. Colouring sheet for *Hopper*

The colouring sheet presents an illustration of the object to be coloured as well as a defining verbal caption.

The only other popularizing strategy found in *Young Learners* is generalization (9%), which is resorted to in cases where a wide-ranging description of a definite concept can ease the comprehension without loading the recipient with unnecessary details. The excerpt that follows (12) exemplifies how the long list of duties and responsibilities of the Clerk of the House is cut short by using the vague quantifier 'lots of'.

- (12) The Clerk has lots of jobs.

Finally, it is worth pointing out that metaphors, denominations and reformulations are absent in this corpus component perhaps because it was felt they are ineffective and unnecessary for the cognitive capacities and needs of preschoolers.

4.2 Grade School

In *Grade School* the use of simple and not too detailed descriptions (34%) is still the most common explanatory device to introduce unknown concepts, as in the account of the ‘fresco technique’ showcased in the example below (13).

- (13) Constantino Brumidi [...] used a fresco technique in which water-based paints are applied to freshly spread plaster.

This description is enriched by various captioned photos which display sections of the described work of art.

Definitions (29%) are used far more in this website version than in *Young Learners*, as the recipients are children of reading age who can understand verbal clarifications. Some of these definitions are embedded in the text as periphrases (14); others, instead, are introduced by the verb ‘mean’.

- (14) Subcommittees are smaller groups of the committee’s members who are experts in a specific part of the committee’s area of public policy.

However, in most cases they are linked to the words that need to be defined as self-opening boxes that appear when the mouse is placed over the highlighted term (Figure 7). In this way, the detailed definition is accessed only if necessary and if the reader is interested. This allows the displayed cognitive load, which may present too much specialized information, to be reduced.

Each Representative, Delegate, and Resident Commissioner serves on two standing assignments are given at the start of each Congress. A nonvoting representative in the U.S. House from American Samoa, the Commonwealth of the Northern Mariana Islands (CNMI), Guam, the Virgin Islands, or the District of Columbia. and returning Representatives usually have expertise and seniority. To learn more, click on the word Congress.

Figure 7. Pop up definition of *Delegate*

Cases of exemplifications (12%) are present, though to a slightly lesser extent than in *Young Learners*. In many contexts they are functional in adding

information or introducing curious items rather than explaining something unknown, as displayed in (15), where the name of a famous citizen whose portrait hangs in the Capitol's Rotunda is added as a parenthetical element introduced by 'such as'.

- (15) Also, distinguished citizens, such as Rosa Parks, are honored in the Rotunda after they die.

Differently from what was found for preschoolers, analogies in the form of metaphors and similes (9%) are repeatedly employed in this corpus section. It is relevant to observe that the term of comparison introduced by these figures of speech is very often taken from the school environment (16), a domain familiar and mastered by elementary schoolers whose comprehension of metaphoric language could otherwise be limited.

- (16) Just like your teacher, the Clerk of the House takes attendance to be sure everyone is there so they can get to work.

Denominations (7%) are also sometimes used to enhance popularization for grade schoolers. Hence, some specific labels are attached to concepts which are generally introduced by metadiscursive verbs such as 'called' or 'named' (17).

- (17) To be sure that one branch does not become more powerful than the others, the Government has a system called checks and balances.

As for generalization (5%), it can be observed that it is slightly less common in this corpus component compared to *Young Learners* (but still higher than in *Middle* and *High School*). It is principally used to recapitulate by using informal vague quantifiers such as 'lots of' (18), 'a lot of', or 'most'.

- (18) With the rules decided, the first day activities are over, but Congress has lots of work to do making laws to keep Americans safe.

Lastly, a few cases of reformulation (4%) could also be singled out, as in (19) that is taken from a passage where the different methods for voting on a bill are listed.

- (19) – Viva Voce (corresponding to voice vote).

Here the technical term *Viva Voce*, a Latin phrase, is paraphrased with its meaning given in this particular context and placed between round brackets in a simpler and more straightforward way.

4.3 Middle School

In contrast to the two previously discussed corpus sections, *Middle School*'s most employed popularizing device is definition (30%), which surmounts description (20%). Definitions are both embedded in the text or linked to some specific disciplinary terms. However, a peculiarity of definitions in *Middle School* is that they are very often connected to one another through partial repetition (20).

- (20) Like the majority leader, the minority leader is not mentioned in the U.S. Constitution.

In the example above, and in many other cases, the defined object (in this case the 'minority leader') is introduced by referring to a previous definition through the preposition 'like' that works as a textual anaphora. Some defined words are also accompanied by photos that can be clicked on and enlarged in order to read the descriptive caption that adds extra information and peculiar items of interest. For example, 'hopper' is defined in the text as "a wooden box on the side of the Clerk's desk", and is complemented by the photo and the caption in Figure 8.



Representatives introduce bills by placing them in the bill hopper that is attached to the side of the Clerk's desk. The term comes from a funnel-shaped storage bin filled from the top and emptied from the bottom. The storage bins usually hold grain or coal.

☒ CLOSE

Figure 8. Photo of the *hopper* with its descriptive caption

The second most used strategy is reformulation (21%), which is much more frequent here than in the previously discussed website versions. This is principally because the texts contain more numerous terms that need to be abridged for students to fully grasp their meaning. In (21) we can notice how an apposition (the most recurrent type of reformulation in this corpus section) is used to explain the sense of ‘Representatives’.

- (21) Representatives, the title given to Members of the U.S. House of Representatives, are elected to serve a two-year term.

Descriptions (20%) are employed to a similar extent to reformulations and typically occur in self-opening in-depth information boxes such as the one in Figure 9, which explains what the ‘Great Depression’ is and expands on some details, such as its time span and location.

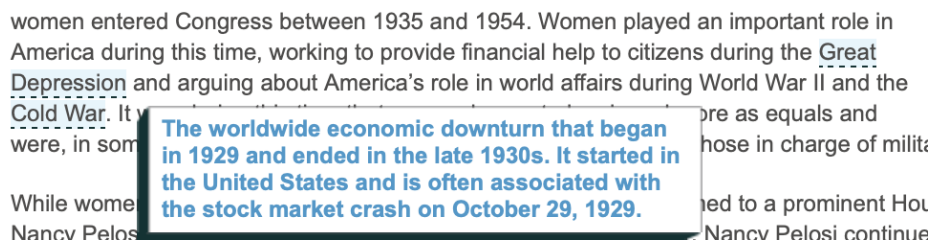


Figure 9. Pop up box for the *Great Depression*

Moving on to the practice of denomination (16%), we can note that specific concepts are designated by technical terms more than twice as much in this corpus section than in *Grade School*. Denominations are usually triggered by some specific verb phrases such as ‘meaning’, ‘called’ and ‘known as’ (22), and the technical term is regularly put between inverted commas so as to highlight its status as a sectorial expression.

- (22) The Member introducing the bill is known as its “primary sponsor”.

It is interesting to notice that, embedded in the heading picture of the thematic page where most denominations can be found (i.e., ‘The Role of the House’), there are two buttons that send users to some educational printable activities related to technical words. More in detail, there is a word search where users must find hidden words in a puzzle, and a crossword where there are definitions of words used in the text (Figure 10).

Kids in the House

NAME: _____
DATE: _____

CAPITOL CROSSWORD

The House of Representatives has to juggle many different activities on the first day. Juggle the answers to the questions below by filling them in the indicated boxes on the puzzle grid.

DOWN

- 1. The document that outlines the United States government and its functions.
- 4. A person designated to act for or represent another or others; a deputy; representative, as in a political convention.
- 5. A proposed law requiring the approval of both Houses and the signature of the President to enact.
- 7. A rule of conduct established and enforced of by the authority, legislation, or custom

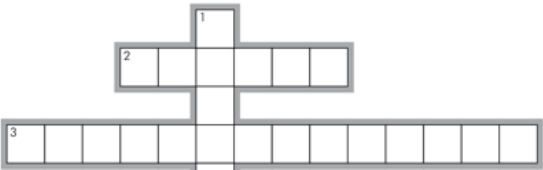


Figure 10. Capitol crossword activity

The use of exemplifications (9%) plays an even more marginal role in the adaptation for middle schoolers. Some of the examples that were provided in *Young Learners* and *Grade School* are simply omitted, probably because they were found to be unnecessary for comprehension as well as too obvious.

Also, generalizations (3%) and analogies (1%) are kept to a minimum, perhaps because it is felt they are not required to explain content.

4.4 High School

Popularization in *High School* principally rests on definitions (31%), reformulations (25%) and denominations (21%), which score the highest results in this website version. Definitions are very similar, both in quality and quantity, to those found for middle schoolers. Reformulations, instead, are far more numerous. Some of the technical terms which were left unexplained in *Middle School* are explained here especially through paraphrases, as in the example that follows (23) where the concept of ‘Committee of the Whole’ is paraphrased through juxtaposition.

- (23) The Committee of the Whole, a committee on which all Members of the U.S. House of Representatives serve, is a mechanism for quickly moving legislation through to the House floor for a vote.

Regarding denomination, abbreviation is the only type singled out in this website version. In some cases, acronyms and initialisms (24) are offered so as to provide the user with the abbreviated label that is commonly found in texts for experts and that, therefore, is worth learning.

- (24) Quickly surrounded by well-wishers, the first Asian Pacific American (APA) Member of Congress [...].

Another feature of *High School* is that the images and photos that often accompany the explained terms in the other corpus sections are significantly reduced here. They are very often substituted by smaller captioned images (Figure 11) that, if enlarged, send the user to the official website of the U.S. House of Representatives, where in-depth information sheets can be found.



**Historical Highlight: The first
Speaker of the House,
Frederick A.C. Muhlenberg
of Pennsylvania
June 04, 1801**

Figure 11. Captioned picture in *High School*

Also, educational activities are omitted and substituted by direct links placed on technical words or phrases that point to the higher degree of hypertextuality of *High School*. These links lead to the official page of the House of Representatives or to other official governmental pages (e.g., the webpage of the U.S. Senate), where the highlighted item is dealt with in more detail. This continuous reference to external sources is also the reason why descriptions (16%) are minimized.

Although the percentage of explaining examples (7%) is further reduced compared to the other website versions, they are sometimes used in passages in which not only do they help to picture a concept, but they also add information, as in (25) where an example of a Hispanic American Member of the Congress is provided.

- (25) Over the years, Hispanic American Members, such as Representative Henry B. González who chaired the powerful House Banking and Currency Committee [...].

Finally, the analogies and generalizations which were exploited in the other website versions to ease comprehension are not used in *High School*. In most cases, the concepts that for young learners, grade schoolers and middle schoolers are explained through an analogy, or a generalization, are left to the user's interpretation, or they are clarified through a link to the pop-up glossary.

5. Concluding remarks

The study of *Kids in the House* was an attempt to describe how differently the four specific versions of this educational website address the respective designated audiences. The quantitative and qualitative analysis principally focused on verbal language with occasional comments on the interaction with the nonverbal apparatus. More precisely, the attention was on the lexical contents of the four website versions and on the popularizing structures that are exploited to mediate and translate specialized contents (e.g., the functioning of the U.S. House of Representatives) according to the accessibility needs and tastes of young learners, grade schoolers, middle schoolers and high schoolers (cf. Sherwin – Nielsen 2019). On the whole, the analysis brought to light the specificities of each website version, showing how linguistic resources and edutainment contents in *Kids in the House* are carefully adapted for each group of addressees, making it an example of a highly accessible educational website.

The inductive quantitative analysis showed that both indicators of lexical richness, i.e., lexical variation and lexical density, increase steadily from young learners to high schoolers, thus clearly showing how lexical complexity is gradually amplified according to the target audience. Nevertheless, if lexical variation remains within the reference value ranges

that point to repetitiveness, lexical density is overall quite high, thereby testifying to the lexical complexity of specialized contents. The exploratory keyword analysis helped to disclose the most salient words distinguishing each corpus component and revealed interesting discourse-bearing trends. For example, *Young Learners* emerged to be overtly oriented towards the receivers and their involvement (e.g., the occurrence of the pronoun 'you' and the greeting 'hello'). In *Grade School* a more inclusive perspective is usually adopted (e.g., the usage of the pronoun 'we') so as to share knowledge with the users. *Middle School* is distinguished by the abundance of questions and of the imperative mood, which are other tools used to encourage the audience to get involved and engage with the website contents. *High School*, instead, presents elements pointing to a more complex and elaborate style (e.g., 'and' and 'they'), more suitable for teenagers already familiar with a hypotactic essay-like style. A group of keywords across the four website versions point to their popularizing intent (e.g., 'most' indicating generalizations in *Young Learners*, or 'like' used for similes in *Grade School*), thus confirming the mission statement of the website landing page, according to which information should be presented and explained to schoolchildren of all ages.

The more detailed qualitative analysis on the popularizing devices selected to facilitate the understanding of specialized content revealed marked differences in the way distinct target audiences are catered to. For preschoolers, paratactic descriptions and targeted examples are the most exploited popularizing strategies, with occasional recourse to definitions and generalizations. Descriptions and definitions are often accompanied by educational activities (e.g., printable colouring sheets), which involve the nonverbal apparatus and help the user disambiguate and memorize new specialized concepts. Grade schoolers are children who have started elementary school and thus are learning how to read and surf the internet on their own. Popularization for them chiefly rests on descriptions and definitions, but also other strategies not used for young learners could be located here, for example denominations, reformulations, and analogies in the form of similes and metaphors. The presence of captioned photos and hypertextual elements (e.g., pop up definitions) play a crucial role in supporting verbal popularizing strategies, which make them more interesting and engaging. When looking at texts for middle schoolers and high schoolers, it is evident how reformulations and denominations, which are quite marginal in grade school, take on an important role, whereas analogies, examples and generalizations are often omitted. In *Middle School* a wide range of educational activities accompany and

elucidate denominations and, in general, specialized terms. *High School*, instead, more frequently relies on external supplementary worksheets thought to be for grown-ups (e.g., the official webpage of the House of Representatives).

Experimental research would be needed to further interpret the results and assess the actual usability and accessibility feedback of target users. In particular, it would be interesting to verify whether the verbal and nonverbal popularizing devices adopted by the author(s) are recognized as useful and adequate to disseminate knowledge, and if the explained concepts are successfully assimilated.

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What is *Copyright*? Communicating specialized knowledge on CBBC

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ABSTRACT

The paper provides a qualitative investigation into the many ways in which exposition mediates exclusive knowledge about *copyright* to children in Key Stage 3 on the *Bitesize* and *Newsround* pages of the British Children's BBC online platform. The analysis compares objective exposition in the COPYRIGHT article of OUP's *A Dictionary of Law*, primarily intended for inclusion and knowledge transfer to late youth and adults, with the *Bitesize* sister directories on *Copyright and intellectual property*, and a *Newsround* story about *EU copyright law*. Data suggests that the *Bitesize* pages address excellent readers using specialist terminology; they pursue brevity, precision, and conciseness. While still comprising expository passages for explanatory purposes, *Newsround* adopts interlocutive strategies and provides verbal and visual stimuli – including clever language play within memes – that are clearly intended to engage with users, arouse their curiosity, and promote identification with the represented participants and actions.

Keywords: copyright, education, exposition, knowledge transfer, KS3, popularization, readability, usability.

1. Introduction

The mission of the BBC (British Broadcasting Corporation) is “to transform lives through media, [and] create a world where informed and empowered people live in healthy, resilient and inclusive communities” (<https://www.bbc.co.uk/mediaaction/about>). The information provided is intended to serve communities all over the world, honestly share and deliver information, in innovative and adaptable ways that make lasting improvements to people's

lives. Making general and specialized knowledge accessible to people with different backgrounds is seen as a public good for all (UNESCO 2005, in Bondi – Cacchiani 2021: 117). At the same time, both the BBC and the UK government as the principal (Goffman 1981) institution behind the public broadcasting corporation gain credibility when delivering good value to users (Marková et al. 2008).

Trustworthiness (Origgi 2013) and successful delivery for lasting improvements is only possible via innovation and, crucially, by adapting to two main factors:

- a. the needs and profiles of the intended audience(s); and
- b. against the background of the digital revolution (Moor 2005), changing search habits, which have increasingly seen users move towards free online content and a spreadable media landscape (Jenkins et al. 2013, quoted in Bondi – Cacchiani 2021: 117).

In this context, this paper concentrates on the meaning representation of *copyright* on the BBC pages. More particularly, as a follow-up to my own research on the meaning representation of *copyright*, the paper aims to shift attention from the popularization strategies at play with content intended for the older youth and adults in old and new genres and media (Cacchiani 2018a, 2018b, 2020), to content that at first glance appears to address older children (aged 11 to 14).¹ The question is one about the ways and extent to which highly trustworthy pages use stimuli and adopt strategies – also multimodal (Maier – Engberg 2021) – that signal and encourage recognition and fulfilment of the promise of communication and information relevance (Forceville 2020) to children in Key Stage 3 (KS3), or years 7 to 9 of the UK national curriculum.

To this purpose, Section 2 provides a working definition of popularizing and pedagogic texts. We are interested in content that is designed to meet children's needs and goals, reading skills, previous general, propositional and encyclopaedic knowledge, and cognitive background – that is, aspects that are part of their cognitive environment (Forceville 2020). This motivates our genre selection in Section 3, where we also flesh out the many aspects of our approach and integrate insights from diverse frameworks of analysis. Since comparison and contrast help highlight distinctive features of popularizing

¹ Although the definition of children and youth changes with circumstances, in line with the UN Secretariat and UNESCO (2013), I take 'childhood' to cover up to year 14 and 'youth' to cover the age cohort 15-24 (UNESCO 2013).

and pedagogic texts for older children (vis-à-vis older youth and adults), we select for analysis the *copyright* article of Jonathan Law's authoritative *A Dictionary of Law*, whose 9th edition (Martin – Law 2019, 9th edn., ODL9) is also remediated online on the *Oxford Quick References* (OR) platform. As will be seen, we take it as the standard for pedagogic communication in objective exposition (Werlich 1983 [1976]). Additional articles about *copyright* come from the *Bitesize* and *Newsround* directories that are part of the British Children's BBC pages (CBBC). Setting the stage for the ensuing exploration, we shall move from Werlich's (1983 [1976]) work on text types and Wiegand's (1977, 1992, 2015) Lexicographic Theory of Dictionary Form, through usability research (Nielsen 1995 and associates at NN/G) and studies on popularization (Calsamiglia – van Dijk 2004), to work in multimodality (Martinec – Salway 2005; Kress – van Leuween 2006; Bateman 2014) and visual relevance (Forceville 2020). As the analysis unfolds from Sections 4 to 6, they will be used differently, so as to account for variation in formats or (sub-)modes ("types of discourses" in Forceville 2020: 85) and (dis-)similarities in the communication and information strategies and stimuli adopted across the articles and (sub-)directories under scrutiny. Section 7 concludes and wraps up.

2. Knowledge dissemination, popularizing and pedagogic intent

This paper concentrates on exposition as a means for knowledge transfer, i.e., an information mode that provides knowledge about things and events (Smith 2003). Exposition reflects the basic cognitive process of comprehension (Werlich 1983 [1976]). Linguistically, exposition correlates with phenomenon-identifying and phenomenon-linking sentences (respectively, *definiendum* IS *definiens/definientia*; *definiendum* INCLUDES *definiens/definientia*). Dictionary definitions and dictionary articles (Bergenholtz – Tarp 1995: "microstructures") – which primarily cater for the cognitively oriented needs of the dictionary user – are prototypical manifestations of the objective, analytical, expository text type (see Cacchiani 2020 for more on this point).

Our question is one about exposition in online genres that are expressly designed for children, and older children in particular. Given their cognitive background, profiles and needs, and their cognitive environment at large, we assume a shift from the relatively more objective type of exposition to more subjective forms, with popularization strategies aiming at engaging with the user, and making knowledge understandable.

Knowledge transfer in asymmetric contexts may take multiple forms and meet diverse goals. Quoting Engberg et al. (2018: xii), the following factors are understood to be simultaneously at play in case of popularization:

- A knowledge asymmetry exists between the participants in the communicative situation (expert-lay-relation).
- The [...] knowledge is moved outside the institutional context, in which it is normally applied (intent of recontextualization).
- The expert aims to present knowledge to the lay person (intent of dissemination).
- The expert aims to present knowledge in a more accessible way than is the case in expert-expert communication (intent of popularization). [This involves creating common ground with the audience and catering for their cognitive environment.]

Also, adapting somewhat Engberg's discussion of the dissimilarities between pedagogic and popularization intents (Engberg 2020), we would like to make an additional point:

- There is a *pedagogic* intent (Gotti 2008) when the text provides semantico-encyclopaedic definitions – in primarily expository texts which cater for the cognitive (“what”) and procedural (“how-to”) information needs of prospective members of the community of practice (Wenger 1998) and discourse (Swales 1990).

Broadly, pedagogic texts cater for the secondary culture of a discipline (Gotti 2008), and introduce students to shared, uncontroversial knowledge within the discipline. But, of course, there are also texts that are pedagogic and at the same time can cater for the needs of the general public, not just prospective active community members. One such example is the *Oxford Quick References* (OR: <https://www.oxfordreferences.com/>), including ODL9: public libraries in the UK maintain subscriptions to the authoritative platform for public use, to make specialized knowledge accessible to law students and lay-users in general.

As far as the CBBC pages of our choice are concerned, we shall focus on content about *copyright* for older children (KS3 – Key Stage 3, for ages 11 to 14, school year groups 7-9 in England) and the early youth. The point at issue, then, is to what extent the pages offer information and stimuli that speak the general language of the receivers' primary culture.

3. Materials and methods

In this section I present the materials selected for analysis and outline the descriptive system and methods adopted to address the question of knowledge mediation for older children about *copyright*. For brevity, we will expand on theoretical notions along the way, together with the examples under scrutiny.

To begin with, in Section 4 we will look at the *copyright* article of Johnathan Law's (Martin – Law 2019; 9 edn.) *A Dictionary of Law* (ODL9), published online on the Oxford Quick References Platform (OR) without changes to the microstructure – hence, an extant sub-genre (Yus 2011: 62).

Wiegand's (1977; 1992; 2015) Actional-Semantic Theory of Dictionary Form can be used here to identify the key structural and linguistic features of the lexicographic meaning description in the dictionary article. Our goal is to assess whether or not the article proves to be the classic type of objective exposition (Werlich 1983 [1976]). Another important point concerns the article's readability level, which will be measured using WebFX's Readability Test Tool.² Third, while addressing dialogic references to other texts, we shall also look at interlocutive dialogic devices (Bres 2005) that help engage and create proximity with the user – e.g., the question/answer (Q/A) pattern, or recourse to the first and second person.

Although this may appear to be a detour from our main goal, focus on the article enables us to access trustworthy content (Origgi 2013) and acquire shared knowledge about the principle of *copyright*. Additionally, the analysis allows us to come out with a list of features that characterize a semantico-encyclopaedic dictionary article intended for adult and older young lay-users and semi-experts – which, in principle, should not characterize the contents of pages primarily designed for older children.

Turning to trustworthy pages for older children, a Google search for 'copyright' on the BBC online platform returns 29 articles and programmes (20 October 2020). Since they do not appear to be intended for the youth (Cacchiani forthc.), we restrict discussion to the hits returned from the CBBC pages. These comprise the BBC *Bitesize* sister directories:

- *Copyright overview* (CBBC-BSa: <https://www.bbc.co.uk/bitesize/guides/zchcwmn/revision/1>),

² WebFX's Readability Test Tool is available on <https://www.webfx.com/tools/readable/>. It provides text scores for the most used readability indicators: Flesh Kincaid Reading Ease and Flesh Kincaid Grade Level; Gunning Fog Score; Coleman Liau Index; Automated Readability Index; Smog Index.

- *Intellectual property* (CBBC-BSb: <https://www.bbc.co.uk/bitesize/guides/zchcwmn/revision/2>),
- *Creative Commons licences* (CBBC-BSc: <https://www.bbc.co.uk/bitesize/guides/zchcwmn/revision/3>),

all expressly designed to help pupils in KS3 with their homework, revision and learning.

Another case is the article *EU Copyright Law. Your memes and GIFS are safe*, from the long running *Newsround* online magazine and news programme (CBBC-nr: <https://www.bbc.co.uk/newsround/47721090>). *Bitesize* and *Newsround* are part of the British Children's BBC television channel and website aimed at children aged 6-15.

This being hyper(multi)modal communication (Maier – Engberg 2021) for (older) children, it makes sense to adapt notions from work on popularization discourse and usability research for our purposes, while also looking at image-text combinations and meaning co-construction via visuals and written text.

As far as popularization strategies are concerned, we rely on Calsamiglia – van Dijk (2004), which provides a set of recontextualizing knowledge-oriented strategies (Jacobi 1987), most notably:

- the 'word *called* term' type of denomination and designation for indirect metalinguistic naming with a word-to-term direction (Löffler-Laurian 1983);
- exemplification via generalizations and hypothetical exemplificatory situations (Calsamiglia – van Dijk 2004: "scenarios");
- concretizing associative tropes such as analogy, metaphor and similes.

Yet, Calsamiglia – van Dijk's (2004) popularization strategies do not work equally well with interlocutive dialogic devices for engaging with users, for which we mostly refer to Bres (2005). The latter comprise, among others, directives in imperatives and the question-answer (Q/A) pattern, inclusive-*we*, and recourse to the 2nd person to address the user.

Following Cacchiani (2018a, 2018b, 2020), we shall also consider adherence to certain usability principles in content design (Nielsen 2001, 2015 and work by associates at NN/g – Nielsen Norman group) as a measure of the intent of popularization. These principles serve as guidelines to make (ideally) meaningful content clear, fast and easy to read. In usability theory, utility content is accessed fast, usable – or easily processed and understood – and is useful for the user (Nielsen 2001, 2015). One measure of usability is readability, which we can assess using the WebFX's Readability Test Tool (see footnote 2).

In line with Nielsen (2015), we contend that:

- usable texts are expected to aim for a 12th grade reading level when addressing readers with college degrees,
- an 8th grade reading level is recommended for general users, and
- specialized domain terminology is required when content is designed for specialized users.

Certainly, long-winded clauses and long words work towards comparatively lower readability scores and higher school grades – that is, less usable content for older children. With children in KS3, we expect lower readability levels.

The following usability recommendations, we propose, can be considered for our purposes:

- For comprehension, related content can come together, within chunks, paragraphs, or bullet and numbered lists (Moran 2016).
- Also, user-centric headings can support scanning and attract the user's attention, serving as relevant stimuli. While Nielsen (2001) argues for meaningful (i.e., topic-giving and useful) headings, we may want to add, clever and fancy headings might help with children.
- Texts start with meaningful words (Nielsen 2015) for scannability, while abbreviations, initialisms, and acronyms are spelt out in the first instance (Nielsen 2001). When describing new concepts, we would like to point out, common ground can be created with the child-user by connecting to their experience and interests, via recourse to meaningful exemplifications, also scenarios, or by using concretizing associative tropes (Calsamiglia – van Dijk 2004).
- With reference to interaction and engagement, FAQs and the question/answer (Q/A) pattern deliver good value to website and users (Cacchiani 2018a). Well-managed/targeted FAQs and questions show that the organization/principal (Goffman 1981) is listening to and addressing people's concerns (Farrell 2014). Within the economy of this paper, this is taken to overlap with research on dialogic devices that can create and boost engagement with the user (Bres 2005), including directives and imperatives.

To complete our theoretical apparatus, we have to turn to visuals (layout, static images) in multimodal texts. They can be used as ostensive stimuli with communicative and informative intentions (Forceville 2020) – hence, to engage the users and meet their knowledge-related needs. Tackling

this point calls for recourse to work on “reading” images and their representational (i.e., content-oriented), interactive or interactional (i.e., audience-oriented) and compositional metafunctions, including image modality (Kress – van Leeuwen 2006). Similarly, we must consider text-image status and relations. Following Bateman’s (2014) critical appraisal of current research on the issue, therefore, we shall primarily refer to Martinec – Salway (2005), who distinguish between:

- images with close relation to the written text, and
- images with little or no relation, which may serve as decorative elements, for aesthetic enjoyment and pleasure, and as control, for drawing in and engaging users, guiding and motivating them.

This type of analysis will enable us to identify strategies on the CBBC pages that make them usable and relevant to children in KS3 and assess whether popularization is at play on the *Bitesize* and *Newsround* pages about *copyright*.³

4. ODL9: COPYRIGHT

This section draws heavily on work carried out in Cacchiani (2018b, 2020). Although ODL9 has moved from paper to online, we cannot highlight any major changes in the main content area of the online article for COPYRIGHT (ODL9), that is, in its meaning description. As a semantico-encyclopaedic dictionary article, COPYRIGHT epitomizes the standard objective-expository text as defined by Werlich (1983 [1976]) in his text grammar of English.

According to the *Preface*, ODL9 addresses cognitively-oriented user needs and situations. That is, it communicates encyclopaedic knowledge of cultural and subject-specific nature (Tarp 2008) to novices (law students), lay-users and semi-experts (practitioners in other disciplines) for purposes

³ Another challenge for this chapter would be to assess whether the BBC *Copyright Aware* pages address older children, youth or adults. The homepage (*Welcome to Copyright Aware*; BBC-CA: <https://www.bbc.co.uk/copyrightaware>) appears to be designed for and attract the attention of older children based on content, visuals (drawings) and layout. Yet, preliminary investigation into the issue suggests that once we move away from homepage to subdirectories, written content, audioscripts, accompanying videos (in the form of pastiches), as well as landing pages for hyperlinks, address an adult audience (Cacchiani forthcoming.).

of inclusion in the community of practice (Wenger 1998; Wenger-Trayner – Wenger-Trayner 2015). Example (1) provides the dictionary article for COPYRIGHT (ODL9).

- (1) **Copyright** n. The exclusive right to reproduce or authorize others to reproduce artistic, literary, or musical works. It is conferred by the Copyright, Designs and Patent Act 1988, which also extends to sound broadcasting, cinematograph films, and television broadcasts (including cable television). Copyright lasts for the author's lifetime plus 70 years from the end of the year in which he died; it can be assigned or transmitted on death. EU directive 93/98 requires all EU states to ensure that the duration of copyright is the life of the author plus 70 years. Copyright protection for sound recordings lasts for 50 years from the date of their publication; for broadcasts it is 50 years from the end of the year in which the broadcast took place. Directive 91/250 requires all EU member states to protect computer *software by copyright law. The principal remedies for breach of copyright (known as **piracy**) are an action for *damages and *account of profits or an *injunction. It is a criminal offence knowingly to make or deal in articles that infringe a copyright. *See also* BERNE CONVENTION. (ODL9)

The COPYRIGHT article in ODL9 has a readability level of about 12 – which is in line with specialized topics (Nielsen 2015) – and, on average, 20.11 words per sentence, with 1.57 syllables per words. It should be easily understood by 17 to 18 year olds. As an extant text remediated for online, it retains the features of concise modular, non-elementary articles originally written for paper (Wiegand 1977, 1992, 2015). These comprise non-natural condensation with copula deletion (e.g., between lemma/definiendum and definition), third person style and objectification, complex clauses.

The initial definition, or integrate core (Wiegand 1977, 1992, 2015), specifies function and application of the superordinate term, *right* (1a). As the article unfolds, it provides semantico-encyclopaedic references to national legislation and procedural information regarding the interpretation and application of the law, with a technical explanation. Further detail comes from the shift from national to supranational legislation. By doing so, technical examples merge with external legal references to community law (1b) and cross-references to synopses in the outside matter (1c).

- (1a) The exclusive right to reproduce or authorize others to reproduce artistic, literary or musical work. (ODL9)
- (1b) It is conferred by the Copyright, Designs and Patent Act 1988, which also extends to sound broadcasting, cinematograph films, and television broadcasts (including cable television). Copyright lasts... EU directive 93/98 requires... Directive 91/250 requires all EU member states to protect computer *software by copyright law. (ODL9)
- (1c) *See also BERNE CONVENTION.* (ODL9)

The pedagogic intent is apparent: to explain and to provide access to the relevant literature for further study. The relations between ‘copyright’ and other technical terms within copyright law and intellectual property law are brought to the fore in separate complex clauses that form other meaning descriptions. Some represent associative naming with relational expressions (1d). Others are intratextually dialogic analytical definitions with internal cross-referencing (1e: ‘*damages’; ‘*account of profits’; ‘*injunction’). Also, they might come in combination with metalinguistic naming (1e, a case of internal referencing: ‘known as **piracy**’), and/or with additions in the form of relative clauses (1b, with circumstantial information).

- (1d) It is a criminal offence knowingly to make or deal in articles that infringe a copyright. (ODL9)
- (1e) The principal remedies for breach of copyright (known as **piracy**) are an action for *damages and *account of profits or an *injunction. (ODL9)

While popularization strategies such as concretization and exemplification via hypothetical scenarios (Calsamiglia – van Dijk 2004) are not part of the picture, interlocutive dialogic devices (Bres 2005) like ‘See’ (1c) are readily replaced by typographical conventions for cross-referencing to other matter within the dictionary, in the interest of lexicographical condensation (e.g., the star key, or bold, as in 1e).

Overall, the COPYRIGHT article in ODL9 is an objective expository text that transfers knowledge to current peripheral though prospective active members of the community of practice, for learning and future inclusion. (See Cacchiani 2020, Section 3.1, for more detail; all examples from there.)

5. CBBC-BSa/b/c: *Copyright and intellectual property (Bitesize)*

As suggested above, a Google search of 'copyright' in the context of 'BBC', returns the following sister directories, with diluted content about *Copyright and intellectual property*:

- *Copyright Overview* (CBBC-BSa: <https://www.bbc.co.uk/bitesize/guides/zchcwmn/revision/1>),
- *Intellectual property* (CBBC-BSb: <https://www.bbc.co.uk/bitesize/guides/zchcwmn/revision/2>),
- *Creative Commons Licences* (CBBC-BSc: <https://www.bbc.co.uk/bitesize/guides/zchcwmn/revision/3>),

all aimed at helping pupils in KS3 with their homework, revision and learning.

Layout design is consistent with the *Bitesize* format and colour palette (black and white for salient content; purple and orange for other parts, light grey for less salient parts). All pages provide a simple, straightforward user experience:

- On the left, a single column layout automatically invites visitors to scroll down, with numbered buttons at the centre-top and centre-bottom for jump links to the sister directories.
- The page is not text-heavy, and content is fixed and broken out by headers, sub-headers (in bold) and white spacing for introductory modules, lemmas and subsequent meaning descriptions; font is black and white and bullet points are orange.
- Content is framed by the *Bitesize* horizontal banner, header and a fixed menu at the top, a relatively less salient sidebar to the right – with keywords and jump links for *More guides* and *Links* – and a central horizontal border followed by two rectangles for the footer, with links to all KS3 *Subjects* and to BBC.

The average reading ease for separate chunks ranges from 80 of 100 (for 2a, which should be easily understood by 12 to 13 years olds) to 52.4 of 100 (for 2d, which should be easily understood by 16 to 17 years olds). Most passages, however, cluster around 14 to 15 years of age, with average reading ease of about 64.5 to 52.5 of 100 (e.g., 2b and 2c respectively).

(2a) Search engine images

Images returned by search engines do not belong to the search engine and are not free to use. The search engine has included them from a number of websites. All of the major search engines provide a link to the website that the original image is from. If you want to use an image you have found using a search engine, always check who it belongs to. (CBBC-BSa)

(2b) Copyright

An original piece of work is covered by copyright. It could be a piece of music, a play, a novel, photos or a piece of software. Copyright can be enforced by law. It is against the law to copy and distribute copyrighted material without the copyright owner's permission. (CBBC-BSa)

(2c) Intellectual property

There are other ways to stop your work from being copied and distributed without your permission.

- Trademark – A sign or logo that identifies a brand or company
- Patent – A patent protects a new idea or invention
- Design – A product's visual appearance [visual; 2c1; Figure 2]

All companies register their name and address with Companies House. Visit the **Intellectual Property Office** website to learn more. (CBBC-BSb)

(2d) Copyright facts

- Copyright is automatic and there is no need to register for it.
- The symbol © indicates copyright but a piece of work is still covered without it.
- Copyright does not last forever and will expire after a certain period of time.
- It is illegal to share copyrighted material on the internet without the copyright owner's permission.
- If you create a piece of work for your employer, the copyright usually belongs to them. (CBBC-BSa)

Given that readability ease diminishes with word and sentence length, it is no surprise that (2d) turns out to be more demanding than other passages: bullet points 1 to 3 introduce coordinate sentences, while 5 is an if-conditional. Additionally, the passage comprises specialist terms ('copyright', n; 'copyright', v), as well as complex and polysyllabic words (e.g., 'internet', 'illegal', 'permission').

Striving for clarity, precision and conciseness can diminish readability ease, as in the descriptions in the Table *Creative Commons licences* (2eii/ Figure 1), which expand on the preceding content and elaborate on the matching symbols (2ei). Hence, whereas (2ei) has an average reading ease of 65.2 of 100 and should be easily understood by 14 to 15 years olds, the descriptions in (2eii/Figure 1) have an average reading ease of 52.4 and should be easily understood by 16 to 17 years olds.

(2ei) **Creative Commons Licences**

Creative Commons licences refine copyright. They allow the copyright owner to say exactly what other people can and can't do with or to their work.

They help copyright owners share their work while keeping the copyright. For example, a Creative Commons licence might say that other people can copy and distribute the copyright owner's work, if they give them credit.

There are a number of Creative Commons licences. The four licences in the table below are commonly used. (CBBC-BSc)

(2eii)

Creative Commons licences





Licence	Symbol	Description
Attribution		It can be copied, modified, distributed, displayed and performed but the copyright owner must be given credit.
Non-commercial		It can be copied, modified, distributed and displayed but no profit can be made from it.
No Derivative Works		It can be copied, distributed, displayed and performed but cannot be modified.
Share-alike		It can be modified and distributed but must be covered by an identical license.

Figure 1. Table *Creative Commons licences*, CBBC-BSc. Copyright © 2022 BBC (<https://www.bbc.co.uk/bitesize/guides/zchcwmn/revision/3>, 1 Sept 2021)

All examples are meant for revision and learning, to complement online and in-class activities, explanations and tasks about specialist notions around the principle of *copyright*. Excellent readers can probably go through them easily, especially when already familiar with the content.

There are a number of features that work towards usability, including presenting content on clean layout and tidy pages, chunking of information by topic, and inclusion of bullet lists for highlights (2d). At the same time, keeping links to a minimum (2c: *Intellectual Property Office*; 2f: *ICT*) appears to reflect an interest in only providing basic content, in line with the specific user needs.

All headings are topic-giving stimuli, which come with the promise of relevant information. Exceptionally, meaning descriptions that comment on category or function may recur to non-natural condensation via copula deletion – e.g., between lemma/definiendum and definition in (2ci). Another exception is recourse to text-image compositions for content co-creation, as in *Design* (2c: bullet point 3 and image). Here, a static colour illustration with low visual modality depicts well-known objects (desktop and keyboard, drawing pen and tablet) and user-centric activities in a familiar setting (designing at one's own desk), which can create proximity (sensu Hyland 2010), and with which the young visitor can associate (Barnbrook 2012, adapted).

(2ci)

- Trademark – A sign or logo that identifies a brand or company
- Patent – A patent protects a new idea or invention
- Design – A product's visual appearance

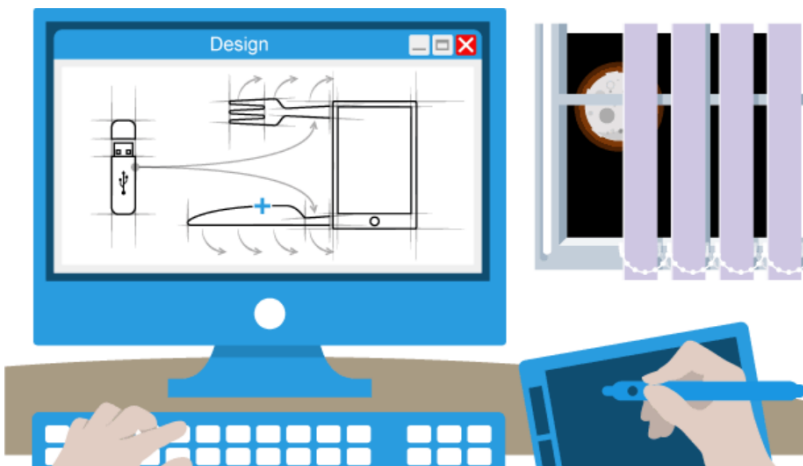


Figure 2. Text-image compositions for content co-creation, CBBC-BSb. Copyright © 2022 BBC (<https://www.bbc.co.uk/bitesize/guides/zchcwmn/revision/2>, 1 Sept 2021)

Notice that the image paints a hypothetical scenario, in the same way as verbal examples may serve as exemplification (2eia, from 2ei):

- (2eia) For example, a Creative Commons licence might say that other people can copy and distribute the copyright owner's work, if they give them credit. (CBBC-cr1BSc)

An additional consideration regards the type of exposition at play. The examples illustrate third-person style and objectification. And yet, this comes with *if*-conditionals, recourse to the second-person style and use of interlocutive dialogic devices (Bres 2005) – all intended to engage with the user and create proximity (2di, from 2d):

- (2di) If you create a piece of work for your employer, the copyright usually belongs to them. (CBBC-BSa)

Importantly, this is to be seen as a less didactic style than that of standard school instruction, and a highlight that comes close to informal 'when'-'if'-full sentence definitions. The same non-didactic style characterizes the user-centric recommendation in (2ai, from 2a), about using search engine images downloaded from the internet:

- (2ai) If you want to use an image you have found using a search engine, always check who it belongs to. (CBBC-BSa)

In this context, inclusive 'we' (2f: 'our lives') in the introductory lines to *Copyright overview* and *Copyright and intellectual property* is to be understood as a communication stimulus in a passage that encourages the user to engage with the text via recourse to user-centredness and user-orientation:

(2f) **Copyright overview / Copyright and intellectual property**

With so much of our lives shared online, it's important to understand the basics of copyright law and know about data protection and the Creative Commons license.

Part of ICT | Risks and implications of ICT (CBBC-BSa/CBBC-BSc)

To wrap up, here is how far we have come: the *copyright* pages on *Bitesize* are a clear instance of educational content designed with didactic materials in mind and intended for older children in KS3 and the early youth. There is nothing clever in the content; layout, visuals and colour do not decorate, draw in, engage, or motivate the user. Rather, usability features such as

clear design, neat layout, meaningful headings, and user-centric content (Nielsen 2001) combine to provide basic specialist information.

6. CBBC-NR: *EU copyright law. Your memes and GIFS are safe* (Newsround)

At this point, we have arrived at our third case study, an article on *EU copyright law. Your memes and GIFS are safe* (CBBC-NR: <https://www.bbc.co.uk/newsround/47721090>), from the *Newsround* online magazine – aimed at children aged 6-15.

Following the header with the BBC logo, fixed menu, and the *Newsround* horizontal banner at the top, the article provides verbal and visual content interacting in one central column, black font against light grey background, and white left and right margins. Verbal content alternates with visuals and sets of links to other articles across the directory. The average reading ease is about 71.8 of 100, making the text easily understood by 11 to 12 year olds – hence, early KS3. Additionally, the article shows a preference for short sentences and monosyllabic words, and recourse to the intended user's primary culture and vocabulary. This appears to take into account usability concerns and reflections on the reading skills of the intended user.

Let us consider examples (3ai) to (3bii). Altogether, the article relies heavily on the interplay of interlocutive devices (Bres 2005) that promote proximity (Hyland 2010) and user-association (Barnbrook 2012, adapted). Elements of pleasure and surprise and communicative and informative stimuli that arouse motivational states such as curiosity are present, so as to reinforce individual interest. And "[w]hen interest is high, focusing attention and cognitive activity feel relatively effortless" (Seel 2012: SITUATIONAL INTEREST). (For the role of visuals, see discussion on 3di/Figure 3 and 3dii/Figure 4, which complement our observations on 3ai and 3aai, respectively; 3diii/Figure 5; 3div/Figure 6, in connection with 3ci, and 3dv/Figure 7 for 3cii).

More to the point, in the topic-giving heading, recourse to the second-person possessive adjective *your* immediately creates a connection with the user (3ai). With first- and second-person pronouns and adjectives, imperatives and exclamation marks for emphasis, this is also a feature of the introduction to the article, or "hook" (3aai, 3aiii), which mimes a colloquial interaction (3aiii: 'What even are...?'; 'Well, buckle in...'; '!') between expert (3aiii: 'I', in

'I hear you ask') and lay-user (3aiii: 'you', in 'I hear you ask'; 'I', in 'Can I still share memes?i):

(3ai) **EU copyright law. *Your* memes and GIFS are safe.** [visual; 3di/Figure 3]
(CBBC-NR)

(3aii) **The future of *your* favourite memes and gifs have been at risk!**
(CBBC-NR)

(3aiii) "Why is this happening?", "What even are copyright laws?", "Can I still share memes?!" *I hear you ask.*

Well, *buckle in* for *Newsround's* explainer telling *you* all you need to know! (CBBC-NR)

The question/answer (Q/A) pattern, which characterizes jump links to *Newsround* pages (3bi), as well as subheadings and passages in the article (3aiii; 3bii), is fully in line with usability concerns and engagement strategies identified in popularization research (e.g., based on Hyland 2010):

(3bi) Is that meme really an ad? (CBBC-NR)

(3bii) **What is copyright law?** [visual, 3diii/Figure 4]

- [a] Copyright is the legal right that *you* get when *you* make something creative.
- [b] For example, if *you* create a piece of music *you* will own the copyright in that music.
- [c] It allows an artist to protect how their original work is used.
- [d] Copyright allows *you* to stop other people copying the works that *you* have created.
- [e] Owning the copyright of something (e.g. a song, photograph, drawing) gives the owner the right by law to control how a piece of work is used. (CBBC-NR)

As far as (3bii) is concerned, what cannot go unnoticed is informal definition styles such as *when-/if-* full sentence definitions [a], definition via exemplification in an *if*-clause in [b], and recourse to the infinitive [d]. This, however, alternates with recourse to the third person in 'It allows an artist to + inf.' [c] and 'Owning the copyright... gives an owner...' [e].

When it comes to more technical definitions and laws, informal definition styles give way to the third-person style (3ci):

(3ci) **What is Article 13?** [visual, 3div/Figure 6]

- [a] Article 13 is an element of the new EU copyright law. It says that services such as *YouTube* could be held responsible if their users upload copyright-protected movies and music.
- [b] Tech companies already remove music and videos which are copyrighted, but under the new laws they will be more responsible for any copyrighted content.
- [c] Article 13 does not include cloud storage services, non-profit online encyclopaedias, and parody – *which includes memes*.
- [d] Many in the entertainment industry support Article 13, as it will make websites responsible if they fail to license material or take it down. (CBBC-NR)

Communicative and informative stimuli that arouse user interest are included throughout, not only providing user-centric examples (3ci: ‘services such as YouTube’ [a]; ‘and parody – which includes memes’ [d]), but also turning to users’ experiences (3cii),

(3cii) **Will article 13 affect video game streamers?** [visual; 3dv/Figure 7] (CBBC-NR)

In this context, visuals are key. Verbal and visual interact in (3di), an ironic meme, which encourages users (‘I’) to address changes in EU copyright law light-heartedly: ‘I find this amoozing’ – with recourse to wordplay in the non-word and blend ‘amoozing’ < ‘amusing’ /əˈmjuː.zɪŋ/ + ‘moose’ /muːs/. Q/A pattern and first person can be found in meme (3diii/Figure 5), related to the subheading *What is the new law?: An adventure?* If yes, then better ‘alpaca my bags’, with two alpacas in the background. As can be seen, ‘alpaca’ /ælˈpæk.ə/ (i.e., exhortative for ‘all pack’), is another instance of wordplay, which is typical of children’s literature.

Elsewhere, high-modality photographs repeat by ostension content from the text while depicting objects, people and/or experiences that are part of the users’ daily lives. For instance, Ed Sheeran (3dii/Figure 4), a singer and songwriter popular among the youth, repeatedly accused of borrowing copyrighted materials for his songs; the YouTube logo on a mobile screen (3div/Figure 6); computer screens and a young male game streamer in (3dv/Figure 7). They serve as communicative stimuli that help the user engage with the text via proximity and identification with the represented participants and the scenarios evoked by the images.

(3di) EU Copyright law. Your memes and GIFs are safe



Figure 3. CBBC-NR, Copyright © 2022 BBC (<https://www.bbc.co.uk/newsround/47721090>, 28 Mar 2019)

(3dii) What is copyright law?



Figure 4. CBBC-NR, Copyright © 2022 BBC (<https://www.bbc.co.uk/newsround/47721090>, 28 Mar 2019)

(3diii) What is the new law?



Figure 5. CBBC-NR, Copyright © 2022 BBC (<https://www.bbc.co.uk/newsround/47721090>, 28 Mar 2019)

(3div) What is Article 13?



Figure 6. CBBC-NR, Copyright © 2022 BBC (<https://www.bbc.co.uk/newsround/47721090>, 28 Mar 2019)

(3dv) Will article 13 affect video game streamers?



Figure 7. CBBC-NR, Copyright © 2022 BBC (<https://www.bbc.co.uk/newsround/47721090>, 28 Mar 2019)

In short, visuals here do not add to the content, but serve functions such as drawing in, engaging and motivating users (Martinec – Salway 2005).

7. Conclusions

This chapter pursued the goal of identifying popularization strategies in online content about *copyright* expressly targeted at older children, on the *Bitesize* platform and in the *Newsround* magazine, both part of the British Children's BBC online platform (CBBC). Although the analysis was strictly qualitative, we hope to have minimally demonstrated that the popularization strategies evidenced in Calsamiglia and van Dijk (2004) do not appear to play a key role in knowledge mediation. Quite the contrary, comparison with the

A Dictionary of Law's COPYRIGHT article – an encyclopaedic expository passage also intended for adults and inclusion within the community of practice – appears to suggest a preference for the standard *definiendum* – *definiens* structure (though without non-natural condensation), while associative tropes are entirely absent.

More to the point, we have seen that, in line with their overall pedagogic purpose, the *Bitesize* pages are primarily expository texts. They provide definitions and key facts about ‘copyright’, ‘intellectual property’ and ‘creative commons licences’ against a neat and clean layout, with static images playing a minor role, and written texts addressing excellent readers, also beyond KS3. This suggests that they serve as learning and revision materials (not exclusively for self-study) and are primarily used to summarize and highlight key points using specialist terminology. Knowledge is mediated in a brief, concise and precise manner on highly usable pages.

Instead, while still comprising expository passages for explanatory purposes, the Newround page is clearly designed to engage with the user and play on their curiosities and interests. User-centric and user-oriented stimuli intended to encourage, realize and fulfil the communicative intention are present throughout, in the form of verbal interlocutive devices (Q/A patterns, first- and second-person style, exclamation marks, colloquialisms), as well as of images that arouse interest and curiosity. These might come as clever language play within memes, as well as in the form of ostensive stimuli that point to proximity and invite association with user-centred objects and familiar VIPs, or that invite identification with the represented participant(s) and actions.

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“Hello, my name is Coronavirus”: Popularizing COVID-19 for children and teenagers

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ABSTRACT

The aim of this paper is to examine the popularization strategies adopted in texts destined for children and teenagers which deal with COVID-19. It is well documented that the age and the cognitive profile of the target reader have a strong bearing on the structure and nature of a text (Bruti this volume) and that popularization strategies are adjusted in different ways (Turnbull 2015). As Kolucki and Lemish (2011) emphasize, there is a need for communication with children in a way that is age-appropriate and suitable to their needs and interests. Following this research strand, in this paper we analyze the popularization strategies associated with the explanation of coronavirus in relation to the age of the addressee. To this purpose we focus on English booklets and websites dealing with COVID-19 which address two different age groups, children and teenagers. Attention is paid to examples that highlight popularization strategies on the basis of their verbal and visual elements. The basic methodological framework of this study is discourse analysis, with reliance on notions taken from multimodality (Bateman 2014; Kress – van Leeuwen 2020). This provides instruments suitable for identifying cases where the visual mode interacts with the verbal mode to support popularization strategies.

Keywords: popularization strategies, children, teenagers, COVID-19, booklets, websites, multimodality.

¹ The research for this study was conducted by both authors. Sections 1, 2.1, and 3.1 were written by Giuliana Diani. Sections 2.2, 3.2, and 4 were written by Olga Denti. Section 2.3 was written by both authors.

1. Introduction

The Coronavirus Disease 2019 (COVID-19) pandemic has created strange and difficult living conditions for people around the world. As Mitchell observes (2020: 1023), children find it harder than adults to adapt their behaviour and accommodate the various restrictions that are imposed on everyday life due to COVID-19. However, Marina Joubert (2020) points out that, given the right information, children can be powerful agents of change in their families and communities. Similarly, Ghia et al. (2020) stress the importance of clear, accessible, and reliable key information for children so that they can better understand their role in an ever-changing environment, engage fully in the fight against the COVID-19 pandemic, and be empowered with knowledge to prevent unnecessary anxiety and an unsafe careless attitude toward danger. Their claim also reinforces Kolucki and Lemish's (2011: 3-4) view stated in their UNICEF guide for communicating with children when they emphasize the need to communicate with children in a way that is age-appropriate and suitable to their needs and interests. Kolucki and Lemish identify four rules and guidelines for written communication with them. Principle 1 entails appropriate and child-friendly communication in terms of language, characters, stories, music and humour, positive interaction and critical thinking, as well as a careful and smart usage of "special effects". Principle 2 requires a complete, integrated approach to the child, showing parents examples of positive relationships with their children and "safe havens". According to Principle 3, "communication for children should be positive", grounded on strengths such as self-confidence, competence, reference to positive models and to children as active citizens implementing social justice. Principle 4, on the other hand, addresses the needs of all children around the world, their dignity, inclusiveness, diversity, the rejection of stereotypes, and the protection and support of local cultures and traditions. They also highlight children's universal right "to be heard and to be taken seriously; to free speech and to information; to maintain privacy; to develop cultural identity; and to be proud of one's heritage and beliefs. [...] (to) support their holistic development or problem-solving skills" (Kolucki – Lemish 2011: 3-4).

Over the last two years, some researchers have devoted their attention to digital resources to explain COVID-19 to children. Azak et al. (2022), for example, examined the videos on YouTube as a source of information for children regarding COVID-19 in terms of content, quality and reliability.

Keys (2021) analyzed the strategies used to inform children about COVID-19 in an exclusive hour-long TV special called #KidsTogether, launched by Nickelodeon, a US leader in children's entertainment. Other research has focused on the contribution of educational resources to popularizing health knowledge for young people. Van der Sluis et al. (2011), for example, investigated visual exploration of health information for children, by using a cross-media search interface in which textual data is searched through visual images. Turnbull (2015) looked at medical informative discourse on the Internet, by paying attention to the communication strategies used for different age groups: children and teenagers. Diani (2020) explored the multimodal resources for popularizing health knowledge on websites for children.

This paper contributes to this research direction by exploring the interaction of language and images in print and in digital texts dealing with COVID-19 and targeting young people. To this purpose we focus on English booklets and websites which address two different age groups, children and teenagers. Attention is paid to examples that highlight popularization strategies on the basis of their verbal and visual elements. As the booklets and the websites under investigation address different age groups, the theme of COVID-19 is treated in different ways, both in terms of content and language. More specifically, the study addresses the following research questions:

1. Which popularization strategies are used in booklets and websites in relation to the age of the addressee?
2. How do the verbal and the visual interact (i.e., what is told in words and/or in images) in order to support popularization?

The next section provides a short description of the materials used for the study as well as the methodology adopted. Section 3 presents the results of the analysis. The paper concludes with a summary of the findings (Section 4).

2. Corpus and methodology

The present study is based on the analysis of three booklets and three websites addressing children and teenagers. Table 1 illustrates the corpora and their main features.

Table 1. The Corpora

Source	Main features	Target age of audience	Size/N. of articles	Type of texts
<i>Hello, my name is Coronavirus</i> (2020) downloaded from the <i>Home Learning Hub</i> web page of the <i>Safer Schools</i> website developed in the UK https://oursaferchools.co.uk/home-learning-hub/	Picture book	3 to 5-year-olds	15 double-page spreads	Narrative
<i>Coronavirus and Covid. A book for children about the pandemic</i> (Second edition 2021) by Elizabeth Jenner, Kate Wilson and Nia Roberts. British publisher Nosy Crow https://nosycrow.com/wp-content/uploads/2020/04/Coronavirus-A-Book-for-Children.pdf	eleven thematic sections whose titles are in the form of <i>wh-</i> and <i>how-</i> questions	7 to 11-year-olds	32 pages	Descriptive Expository
<i>COVID-19. What is it? How can we stay safe and work together to beat it?</i> (2020) downloaded from the Scotland Glow Blogs website: https://blogs.glowscotland.org.uk/sa/public/allowaysandeyc/uploads/sites/10359/2020/06/05195354/What-is-Covid-191.pdf	an introduction followed by eight thematic sections whose titles are in the form of <i>wh-</i> and <i>how-</i> questions; a final section entitled “Hands up”	12 to 17-year-olds	15 pages	Descriptive Expository

NEWS FOR KIDS.net https://newsforkids.net (January 12, 2020-February 2022)	<p>Specific section on Covid-19:</p> <ul style="list-style-type: none"> • Overview of COVID-19; • Coverage of COVID-19; • Newest COVID-19 Updates; • Detailed info by country; • Coronavirus Words 	<p>Different age ranges are considered:</p> <p>8 & up 10 & up 12 & up Young Adult</p>	<p>Total 93 pages + 195 4-line long information cards</p> <p>List of 16 words + search puzzle on the list</p>	<p>Descriptive Narrative Instructive Expository Argumentative</p> <p>They range from news articles <i>tout court</i> to pure expository or instructive sections/ paragraphs</p>
CBC KIDS NEWS https://www.cbc.ca/kidsnews/ (February 13, 2020-February 2022)	<p>A section of CBC.CA HOT TOPICS: COVID-19</p>	<p>Grade 10 to 12 (15 to 17-year-olds)</p>	<p>366 articles of which 96 with videos</p>	<p>Descriptive Narrative Instructive Expository Argumentative</p> <p>Being mainly news articles, all types alternate</p>
KIDSNEWS https://www.kidsnews.com.au (February 2, 2020-February 2022)	<ul style="list-style-type: none"> • "Healthy Harold's tips for staying healthy and happy during Covid"; • COVID-19 in the search button 	<p>Grade 3 to 8 (8 to 14-year-olds)</p> <p>Healthy Harold section may address younger children</p>	<p>1 article with <i>Healthy Harold</i></p> <p>210 articles</p>	<p>Descriptive Narrative Instructive Expository Argumentative</p> <p><i>Healthy Harold's</i> style is more similar to the booklets' one</p>

2.1 The English booklets

The booklets chosen for the present study are: *Hello, my name is Coronavirus*; *Coronavirus. A book for children*; and *COVID-19. What is it? How can we stay safe and work together to beat it?* (see Table 1).

Hello, my name is Coronavirus (2020) is a picture book in the form of a story narrated by a human-like virus. It contains fifteen double page spreads with colourful illustrations. It was downloaded from the *Home Learning Hub*, a web page of the *Safer Schools* website developed in the UK. The *Home Learning Hub* provides classroom-based resources for primary and secondary-school children. The picture book was taken from the primary-school resources (age 5-11) devoted to COVID-19. As stated in the web page, these resources were developed during lockdown to help children learn more about the Coronavirus.

Coronavirus. A book for children was first written in July 2020, with input from consultant Professor Graham Medley of the London School of Hygiene & Tropical Medicine, and advice from three head teachers and a child psychologist. The book illustrator is Axel Scheffler, who has illustrated popular books for children in the UK, such as *The Gruffalo*. A second, revised and updated version was published in April 2021, entitled *Coronavirus and Covid. A book for children about the pandemic*. The present study is based on this edition: it is divided into eleven thematic sections whose titles are in the form of *wh*-questions. Each question is answered over two or three pages and is supported by masterfully created illustrations depicting general situations which young readers can identify with. Each section can also be read independently from the other sections. The young reader may choose what to focus on, helped by the pictures and the title-question of the section.

COVID-19. What is it? How can we stay safe and work together to beat it? is a booklet in the form of a PowerPoint presentation, downloaded from the Scotland Glow Blogs website. It is divided into eight sections, an introduction and a final section entitled “Hands up”, for a total of 15 slides/pages. Each section has a title in the form of a question with the answer following on the same page or over several pages. The booklet uses a long informational text on each page, and specific information is contained in either boxes or circles. In the case of the circles, an image relates to and reinforces the message superimposed. Yellow is used as the colour background for titles. Hans, a personalized character pictured through the image of a hand on each page, becomes orange when expressing a negative effect of COVID. Some visual elements describe general situations which teenagers can identify with (i.e., a young boy coughing).

2.2 The websites

The websites chosen for the present study are: *CBC Kids News*; *KidsNews*; and *NewsForKids.net* (see Table 1).

CBC Kids News is a subsection of the English-language online newspaper of the Canadian Broadcasting Corporation (CBC.ca). It addresses Canadian children and teenagers: "We aim to cover the topics that kids care about. We aren't your parents' news. We aren't a teacher site. We are real news, for real kids. Created for and with... kids.", "Kids in Canada" (<https://www.cbc.ca/kidsnews/about#article-start>). The COVID-19 section was selected in the *HOT TOPICS* drop-down menu. The most striking aspect of this website is the relationship of social closeness and peer sharing between the addresser and the addressee, built both visually and verbally around five teenagers (Abigail, Elijah, Saara, Arjum and Alexia), thus enhancing the relevance and reliability of the information for their readers (Sperber – Wilson 2002; Wilson 2003; Piotti 2006).

KidsNews employs various kinds of representations to address younger readers and their teachers: "Kids News is a free, news-based literacy tool for classrooms. (...)". The content is adapted to child language and cleared of inappropriate information and images. One of the most important aspects of this website is the reference to *Reading Levels*: a traffic-light colour system (green, orange and red) indicates the difficulty of the article and helps children choose the right news; it is based on vocabulary level (simple, medium, complex), the story content comprehensibility, and the need for an audio, video, glossary or "teacher scaffolding" (https://www.KidsNews.com.au/about-us#kids_news_contact). For younger children, communication is mediated through *Healthy Harold*, a giraffe cartoon that gives "health and safety advice". The pages on COVID-19 were selected by seeking COVID-19 through the search button.

NewsForKids.net has the most formal appearance of the three websites. In the centre of the page, the logo of the website shows the globe with the land in green against a background of white oceans. This is a visual metaphor suggesting the website's global breadth, verbally confirmed by the presence of a World category in the main menu (Africa, Asia, Australasia, Europe, North America, South America). Underneath, the slogan "Real News, Told Simply.TM" expresses the website mission. The articles can be selected as "all articles, Young Adult, 12 & up, 10 & up, 8 & up". The sections on COVID-19 address the entire world audience, as well as all age groups. This website is the only one with a specific section on *Coronavirus*, present in the left column in all pages, and divided into four sections: *Overview of COVID-19*, *Coverage*

of COVID-19, *Newest COVID-19 Updates*, and *Coronavirus Words*. The stories are chosen on the basis of their particular interest and appropriateness for children.

2.3 Methodology

The basic methodological framework of this study is discourse analysis. To identify popularization strategies, we refer to existing studies on the discursive practices which, in literature on popularization, are identified as being used to facilitate a layman's access to specialized scientific knowledge. More specifically, we used Calsamiglia and van Dijk's (2004: 372-384) classification of the following five forms of explanation. The first is *denomination* or *designation*, which consists in introducing new terms and indicating their specialized denominations. Closely linked to denomination is *definition*, which involves the explanation of unknown terms by means of a brief description of general and specific properties of the referent. Another procedure is *reformulation* or *paraphrase*, marked by appositions, parentheses, dashes, quotes and metalinguistic expressions (e.g., "are called"). A fourth procedure is *generalization*, which draws general conclusions from specific examples or cases. The last category is *exemplification* which provides specific examples of general phenomena.

The analysis also focuses on the use of some engagement markers, in particular *you* and questions, as resources that are used by writers to explicitly address the readers and engage them in the dialogue (Hyland 2005).

All the discursive practices described above work on the lexical and syntactic levels. There are other practices which, on the contrary, work on a cognitive one. They are classified under the label "analogy" or "association" (Calsamiglia – van Dijk 2004: 376), and include linguistic similes and metaphors. In Lakoff and Johnson's (1980: 5) words, "the essence of metaphor is understanding and experiencing one kind of thing in terms of another". The 'other' element is usually cognitively familiar to the reader, being part of his/her background knowledge. A simile, on the other hand, is a type of metaphor which is easily identifiable as it is accompanied by specific indicators such as *like*, *as*, *similar to* or *the same as*.

Considering that the booklets and the websites under investigation contain illustrations, photos and videos, particular attention was paid to the verbal-visual interplay. As regards the analysis of the visual mode, the framework we adopted is based on the grammar of visual design proposed by Kress and van Leeuwen (2020), which concerns the functional semiotic accounts of the meaning-making resources of photos and illustrations.

These were analyzed in terms of the meanings constructed in them, based on Halliday's (1970: 143) three metafunctions of language: ideational, interpersonal, textual. According to their approach, in a multimodal text, ideational or representational meaning, as they call it, refers to "the way images represent the relations between the people, places and things they depict, and the complex set of relations that can exist between images and their viewers" (Kress – van Leeuwen 2020: 179). Interpersonal meaning refers to the verbal and visual choices representing a particular social relation between the producer, the viewer and the object represented (Kress – van Leeuwen 2020). Compositional or textual meaning refers to the way the visual elements "are integrated into a meaningful whole" (Kress – van Leeuwen 2020: 179). The dimension of ideational meaning addresses the notion of visual metaphor that contributes to text-image relations. The notion of visual metaphor adopted here derives from Forceville (1996), who claims that a metaphor consists of a "target" (a topic) and of a "source" to which the target is metaphorically compared. A visual metaphor, as he calls it, is conveyed when both target and source are cued in the visual mode.

To further investigate the relation between text and images, we refer to Barthes (1977), Nöth (1995), Schriver (1997), Marsh and White (2003); van Leeuwen (2006, 2008), Bateman (2014), and Francesconi (2018). In particular, Barthes defines the *anchorage* function, when the text fixes the polysemous meaning of the image, controlling and amplifying it, and the *illustrative* function of the image, providing illustration to the text, reducing its meaning. When the relationship between text and image is equal, they combine and complement each other through the *relay* function (Barthes 1977: 41). Of Nöth's (1995: 454) five image-text relations (*illustration*, *pictorial exemplification*, *labelling*, *mutual determination* and *contradiction*), the first three predominantly characterize the websites. While in *illustration*, the picture has a secondary semiotic role with reference to the text, in *pictorial exemplification* the visual elements add information and offer an example of the verbal component, explaining its meaning. By means of *labelling*, a text identifies an image: e.g., the caption or name under an unknown face provides the person with an identity. The titles or captions of well-known people, places or objects normally hold an anchorage function (see also Bateman 2014: 43-44). Another approach applied to the analysis of the corpora was Schriver's (1997: 343) *rhetorical clusters* that help identify the layout structures and their meaning. For graphic analysis, we rely on the notion of *close relationship* (Marsh – White 2003), where the image function is to reiterate, organize, relate, condense, and explain by exemplifying and describing the text. Francesconi's (2018: 65) approach to videos was also

applied to analyze the websites. Videos involve moving images, colour saturation, brightness and illumination, contrast, hue, depth, details, representation, as well as sound perspective, time, rhythm, interaction of voices, melody, voice quality, timbre and modality.

The analysis of the images and of the layout also entailed the choice of colour. Following Cyr, Head and Larios (2010) and Gaines and Curry (2011), colours influence children's perceptions, emotions and psychological responses. They arouse appeal, trust and satisfaction; they influence aesthetics, feelings, harmony, appropriateness, and function in any culture throughout the world. In general, bright colours stimulate children's attention. Green relaxes and influences speech skills; orange has a refreshing and stimulating effect on children's brains; pink is positive and calming. Brown, black and grey are related to negative emotions.

3. Data analysis

3.1 The English booklets

This section analyzes the three booklets, focusing on selected examples that highlight popularization strategies on the basis of the verbal and visual elements characterizing them.

3.1.1 Popularization strategies

Starting with the verbal features, *Coronavirus. A book for children* and *COVID-19* show similarities when introducing children and teenagers to the concept of Coronavirus and COVID-19. These two terms are introduced through their denomination and followed by a definition, as illustrated in the following examples.²

- (1) What is Coronavirus?
Coronavirus is a kind of virus. Viruses are tiny germs that are so small that you can't see them. (Coronavirus. A book for children)
- (2) What is COVID-19?
COVID-19 is the name of a disease which is causing a lot of problems around the world. (COVID-19)

² In all examples italics are added for emphasis.

On the other hand, the picture book *Hello, my name is Coronavirus* does not provide a definition of Coronavirus. A colourful humanized smiling virus greets children directly, "Hello, my name is Coronavirus" to appeal to the very young. The book translates the Coronavirus into a story, revolving around the virus itself through its personalization.

Another level of similarity between *Coronavirus. A book for children* and *COVID-19* is a common pattern on which both booklets are built: the question/answer format. Children and teenagers are introduced to the topics of the book through *wh*- and *how*-questions used in each title section, with the answer following on the same page or over several pages. Out of eleven title sections in *Coronavirus. A book for children*, nine are in the form of a *wh*-question:

- What is the coronavirus?
- What happens if you catch Covid?
- So why are people worried about catching the coronavirus?
- Now we have a vaccine, what happens next?
- Why are we spending more time at home?
- What's it like to be at home more of the time?
- What can I do to help?
- What else can I do?
- What's going to happen next

Two title sections use *how*-questions:

- How do you catch the coronavirus?
- How can doctors, nurses and scientists help people with Covid?

On the other hand, in the eight title sections of *COVID-19* the tendency is to use *how*-questions to explain how the virus works:

- How does the virus get into the human body?
- How does the virus affect people?
- How can we stay safe and work together to beat COVID-19?
- How will we beat COVID-19?
- How can we help?
- How can we all help?

Only two titles are in the form of *wh*-questions:

- What is coronavirus?
- What have we learnt about COVID-19?

A possible explanation for the prevalence of *what*-questions in *Coronavirus. A book for children* is that they are the most appropriate to the target age

group the book addresses (7-11). Children learn starting with more concrete questions about their immediate environment, and *what* is the easiest question to be mastered, followed by questions such as *why*, *how* which are harder to formulate and understand. For the same reason the *COVID-19* booklet resorts to *how*-questions, typical of teenagers. By using these types of questions, the writers also try to draw the young readers' attention to the issue and arouse their interest and curiosity.

In four title sections of *Coronavirus. A book for children* there are also questions directly addressing young readers through the use of second-person *you*:

- How do you catch the coronavirus?
- What happens if you catch the coronavirus?

or involving them individually through the pronoun *I*, implying their desire to help:

- What can I do to help?
- What else can I do?

There are also questions using inclusive *we*; this form helps the young reader to identify with the speaker and creates a rhetorical effect of closeness and involvement. This is a recurrent strategy in *COVID-19*, observable in five out of eight title sections:

What have we learnt about COVID-19?

- How can we stay safe and work together to beat COVID-19?
- How will we beat COVID-19?
- How can we help?
- How can we all help?

One instance is also found in *Coronavirus. A book for children*: "Why are we spending more time at home?".

What the three booklets under investigation have in common is a direct appeal to the young reader through the pronoun *you*. This is a strategy aimed at engaging the reader in the text and drawing him/her into the discourse (Hyland 2005; Giannoni 2008). Here are some examples:

- (3) Coronavirus germs live in people's throats and mouths. When someone who has coronavirus coughs or sneezes or breathes out, the germs come out of their nose and mouth in tiny drops of water. Though *you* can't see the germs, *you* can sometimes see these tiny drops. In cold weather, they make a cloud of steam! So if someone else accidentally breathes in the air with coronavirus germs in it, they

would probably get the illness. The closer *you* are to someone the easier it is for *you* to breathe in these tiny drops. (*Coronavirus. A book for children*)

- (4) Even if *you* used a microscope, *you* wouldn't be able to see me! (*Hello, my name is Coronavirus*)

Interestingly, *you* is mostly used to give children and teenagers a sense of awareness of what they can do to help make everyone safer, as the following examples illustrate:

- (5) *You* are already helping a lot by following the government's rules. But *you* can also help by taking extra care to make sure *you* don't catch or pass on coronavirus to anybody else. [...] So if *you* wash your hands really carefully and for long enough, *you* won't have any coronavirus germs on your hands. [...] If *you* have to cough or sneeze, do it into the inside corner of your elbow, not on to your hand. Then *you* can't give coronavirus to other people that way. (*Coronavirus. A book for children*)
- (6) To help make everyone safer, make sure that *you*... 1. Wash your hands with soap and water often and for at least 20 seconds. 2. Cover your mouth and nose with a tissue or your sleeve when *you* sneeze or cough. (*Hello, my name is Coronavirus*)
- (7) If *you* must go out, stay more than two metres away from people who *you* do not live with. [...] Don't use public transport unless it is essential that *you* do. Do not get together with people who do not live with *you* in public spaces such as parks or on the street. Do not meet up with friends or family who *you* do not live with. Use the phone to contact people who help *you* stay safe and well, such as doctors. (*COVID-19*)

However, *you* is also employed to caution the child about what he or she can do if staying at home from school, as shown below:

- (8) If *you* are not at school all the time right now, do your school work. It will help to keep your mind busy, so *you* won't be bored. And then, when *you* do go to school, *you* will have learned a lot! (*Coronavirus. A book for children*)

Let us now move on to consider the way the verbal and the visual interact in order to support popularization.

3.1.2 Verbal-visual interplay

As regards the verbal-visual interplay, the three booklets show differences in the way descriptions and images are associated with COVID-19. In *Coronavirus. A book for children* emphasis is on the invisibility of the virus, and there is a lack of virus images, thus highlighting it as invisible to the human eye, as the following extract shows:

- (9) If the person with the coronavirus on their hands uses a door, the invisible germs can stay on the handle for hours. When someone else opens the door, they get the germs on their hands too. (*Coronavirus. A book for children*)

The description is combined with an image of a young boy asking himself “Hmm, I wonder if there are germs on this door handle”, emphasizing the invisibility of the virus. As Stenglin and Djonov (2010) observe, fictional characters, typically children, speak and think, guiding the child-user in learning. The fact that in the image a child boy asks himself the question makes knowledge transmission more immediate.

Alternatively, the book visually represents COVID-19 as an illness by depicting typical familiar situations, like people sneezing, or suggested actions for protection against it (i.e., a boy covering his mouth with a tissue when sneezing; a girl and a boy washing their hands). These are examples of how an image supports the popularization strategy: by linking the concept of illness with an everyday situation, the image enables children to perceive it as part of their reality. While showing children the correct behaviour, the book does not deny uncertainties and negative consequences. This is well exemplified in the section entitled “What is it like to be at home all the time?”, where illustrations help to convey such negative aspects, i.e., children get bored or angry, or, where even doctors say they ‘hope’ that the medicine works.

Unlike *Coronavirus. A book for children* where the virus is not represented visually, in *COVID-19* and *Hello, my name is Coronavirus*, the virus is depicted in different ways appropriate to their different target age groups, teenagers and very young children respectively. In *COVID-19*, the popular image of the coronavirus’ spiky ball is used as a background picture on each page. In *Hello, my name is Coronavirus*, instead, the virus is humanized by means of a smiley face who tells its story. The image on the front cover of the book depicts the virus as a friendly small creature with a human-like facial expression, saying “Hello my name is Coronavirus”. The smallness vs. invisibility of the virus

is described verbally through the phrase "Even if you used a microscope, you wouldn't be able to see me!!" and the words "There are lots and lots of copies of me – Tehe... you can't see me!" within bubbles, both uttered by the virus. This description is accompanied by a big, stylized picture of a microscope. The smallness of the virus is also reflected by the font size: "**I'M REALLY, really small!**" (original emphasis): the first three words "I'm really" are in a very large bold font while "really small" becomes tiny to reinforce the concept of smallness. This is also emphasized by underlining and an exclamation mark. In this example the verbal and the visual interact to make knowledge transmission more immediate for the young reader.

The picture book also introduces the young reader to the concept of virus circulation that is explained as "living all over the world". The words uttered by the virus "Viruses like me are all over the world" are exemplified in the visual component by viruses with human-like facial expressions floating in the universe above the globe. The sentence thus combines with the image to instantiate a visual metaphor: the meaning of "living all over the world" in the verbal mode is reflected in the visual modality in a metaphorical way through the use of the globe. The illustration exemplifies an interesting use of an image-supported popularization strategy: the visual metaphor contributes to exemplifying the spread of COVID-19 around the world, and to facilitating the correct interpretation of the image for the young reader.

The virus' storytelling then moves on to depict virus transmission as a form of travelling. It says "I really like travelling". Here again, another visual metaphor can be identified. The illustration reflects the virus spreading, resulting in the visual component with the image of the virus flying on a plane in a blue sky, wearing sunglasses and appearing happy. This friendly image avoids frightening children. The story proceeds with the description of the spread of the virus, which is realized verbally through the words uttered by the virus "I jump from person to person through... coughs, sneezes and touch". These words are supported by an image of a little girl coughing, sneezing and spreading viruses to a little boy. In the following double spread page, the effects of COVID-19 are described verbally, as shown in (10), and are visually represented by an image of a sad-faced boy with a thermometer in his mouth saying through a bubble "I don't feel so well".

- (10) Unfortunately, when I come to visit, **I might bring a...** high temperature and a stubborn cough" (original emphasis). (*Hello, my name is Coronavirus*)

The child's discomfort is reinforced by the image of a crying face emoticon and that of the virus itself crying, saying "None of these things are very nice and can make **SOME people very sick!**" (original emphasis). The use of bold to emphasize the importance of the message is worth noting. Although the illustration and the text may bring out children's anxiety, in the following double spread page, the words uttered by the virus "But, I don't hang around for long and almost everyone gets better" intend to reassure the young reader. However, this cannot be fully understood without the picture. Here again, another visual metaphor can be identified. The illustration reflects happiness in the visual component through an image of a smiling child celebrating with streamers and confetti and raising his arms up in the air.

Interestingly, separated from the story, the picture book is accompanied by a six-page section that encourages the active participation of the young reader to stay safe and cautions him/her about what he or she can do. This is realized through a list of recommendations supported by colourful images of children:

- (11) 1. Wash your hands with soap and water often and for at least 20 seconds; 2. Cover your mouth and nose with a tissue or your sleeve when you sneeze or cough; 3. Try to avoid touching your eyes, mouth and face; 4. For now, don't touch other people. No handshakes, hugs or high 5s. (*Hello, my name is Coronavirus*)

When listing advice, the book still refers to the virus in a personalized way, as exemplified by the following extract:

- (12) If I come to visit your home, you'll be asked to **stay at home for a while** with your family so that you **don't pass me onto others**. You can use this time at home to: keep up with schoolwork; play with your toys and games; keep in touch with your family and friends on video calls. (original emphasis) (*Hello, my name is Coronavirus*)

Although the sentence "stay at home for a while" may instil anxiety in children, the illustration (a smiling boy) and a list of positive things to do ("play with your toys and games; keep in touch with your family and friends on video calls") contribute to an experience packed with positivity. Similarly, the last page of the book offers the young reader the reassuring message that "If you follow this advice, I'll visit less people". This is exemplified visually by a big virus emoticon in tears saying "Bye!" (in pink capital letters, in a very large bold font with exclamation mark) to a smiling child with streamers and

confetti in the background. All this derives from the importance of the visual elements for very young children who cannot yet read.

A final positive message is also delivered in *Coronavirus. A book for children* as it ends by reassuring the young reader that "One day, this strange time will be over". This is exemplified metaphorically through an image of children running out of a house and throwing their hands in the air as a sign of joy while one child is saying "Now we can hug each other!".

Moving on to consider the booklet *COVID-19*, the term "COVID-19" in the title – rendered in white and in a capitalized large bold font – is followed by a subtitle that zooms in on the main topic of the book: "What is it? How can we stay safe and work together to beat it?". The title is accompanied by a picture: a big yellow humanized hand with a smiley face and the planet Earth in an outer space background. This represents an interesting relationship between words and images. The visual representation of planet Earth gives the idea that the COVID-19 disease has struck on a worldwide scale. Like *Hello, my name is Coronavirus*, the book initiates teenagers into COVID-19 through a personalized character, Hans, saying: "Hello, my name is Hans. I would love to shake your hand, give you a high five or a fist bump but right now we can't do that. Have a read of this handy guide I have put together to help you understand why life is different for us all at the moment". Hans is hand – a wordplay – depicted throughout the book as a big yellow humanized hand.

Unlike the other two booklets, this text is in the form of a PowerPoint presentation. Each page/slide consists of one or two paragraphs and a framed box with specific information, accompanied by the yellow humanized hand image that changes colour to orange and facial expressions when expressing the negative effects of COVID-19. Similarly, it devotes some pages to describing how to stay safe. Advice is given in the imperative form and written in circles with pictures in the background reinforcing the situation being described. It is worth noting the type of advice and language that is appropriate to the target age group the book addresses (teenagers), as the following extract shows:

- (13) Stay at home; Only leave your home to buy food, get medicine and to exercise once a day; If you must go out, stay more than two metres away from people who you do not live with. (COVID-19)

The book concludes with a section titled "Hands up" offering a typical instruction as if in the classroom, requiring a plural response:

- (14) Who is ready to work together to beat COVID-19?! Remember, if you have any worries or questions about COVID-19, talking to an adult you trust is a great place to start. (COVID-19)

Some final words on the language and typography used in the booklets: the language is mainly informal in *Coronavirus. A book for children* and *Hello, my name is Coronavirus*, as testified by the use of contracted forms (“I’m sure you’ve heard”; “you can’t”; “scientists don’t know”), discourse markers such as “so” in initial position (“So let me introduce myself with some facts!”; “So you can also catch coronavirus by touching things that someone with the virus has already touched”) or “well”, used in answers as if they were turns in a conversation (“Well, the answer is millions and millions”), and exclamation marks. On the contrary, *COVID-19* employs language associated with a more formal style, i.e., full forms rather than contracted forms (“Children do not appear to get very ill”; “Do not share things”). The explanatory sections of the book are written in the style of a school textbook, being more informational than colourful.

As regards typography, the booklets use capital letters and bold font consistently. This makes the text not only visible but also meaningful (Gutjahr – Benton 2001), having an evident multimodal interpersonal meaning. As van Leeuwen (2006: 154) points out, “typography can be seen as a semiotic mode – systematic, multimodal and able to realize not just textual, but also ideational and interpersonal meaning”. This view is well exemplified in the picture book *Hello, my name is Coronavirus* by the use of the typeface and even size that triggers and illustrates emotional reactions to the character within the narrative.

3.2 The websites

3.2.1 Popularization strategies

This section analyzes popularization strategies and the interpersonal metafunction in the websites. The material on COVID-19 is mainly conveyed as news articles, which fulfil the functions of informing, narrating and persuading. However, they address children, and thus must be adapted, reformulated and recontextualized to their knowledge, also by using non-verbal strategies that ease the process of reading and learning. Following Diani and Sezzi (2020: 274), “As defined by Djonov (2008: 217), websites expressly designed for children are ‘edutainment or infotainment texts as they aim to both educate or inform and entertain their overt audience – children’”.

The texts have a news-like structure (van Leeuwen 2008: 350): a *lead* – i.e., a short summary of the issue, sometimes in the form of images and captions; an *orientation* – i.e., the place, the time, the people involved and the starting event; a *complication* – i.e., the intertwined events; an *evaluation* – i.e., the use of illocutionary expressions which underline the relevance and interest of the story; a *resolution* – i.e., the story's outcome; a *coda* – i.e., possible future developments. This structure helps provide children with a clear organization of information, which relies on images and texts, very close to each other in the layout, equally complementing the meaning.

Looking closely at the verbal features of the texts on the websites, the first popularization strategy found is the denomination of the virus, more frequently accompanied by its definition, either in the text, in pop-up windows or with a hyperlink. This enables the young readers to immediately understand the meaning of the word and of the whole paragraph. In *CBC Kids News*, for example, the virus is introduced through a sentence accompanied by a colourful box identifying the acronym COVID-19 (CO from Corona, VI from virus, D from disease and 19 from 2019):

- (15) Because there are different types of coronavirus, on Feb. 11, the World Health Organization (WHO) announced the official name of the respiratory disease caused by the coronavirus would be COVID-19. (<https://www.cbc.ca/KidsNews/post/ive-just-been-evacuated-from-wuhan-teen-from-china-on-why-hes-in-canada/>)

The same strategies are found in the other two websites. In *NewsForKids.net*,

- (16) COVID-19 is the name given to a new coronavirus disease that began in Wuhan, China in December, 2019. Though the illness is similar to a cold for most people, in some cases it can cause death. [...] "COVI" stands for "coronavirus", "D" is for "disease", and the "19" represents the year the virus appeared. Since COVID-19 first appeared, the disease has spread all through China and to many other countries around the world. [...] Coronaviruses are *viruses* that have a spiky ring around them like a crown when viewed with a powerful microscope. (<https://NewsForKids.net/fastfacts/coronavirus/>, original emphasis)

This denomination/definition uses a simile to make the concept more intelligible for children, by matching it with a more familiar and better known one. The negative aspects of death and of the global spread are highlighted several times here, to explain its gravity. The word *viruses* is highlighted in

yellow and has a pop-up window with its definition: “Viruses are tiny germs that can cause diseases”, which emphasizes their minuteness.

KidsNews introduces the COVID-19 topic emphasizing it with a title, repeated in the first sentence of the article, followed by its designation and some further explanations:

- (17) The World Health Organization has officially named the coronavirus COVID-19.
- (18) The “co” stands for “corona”, “vi” for “virus” and “d” for “disease”, while “19” was for the year, as the outbreak was first identified on December 31.
- (19) [...] the name had been chosen to avoid references to a specific geographical location, animal species or group of people in line with international recommendations for naming aimed at preventing stigmatization. (<https://www.KidsNews.com.au/health/working-to-protect-australians-during-global-coronavirus-outbreak/news-story/902750caelf5048c2b7cf3b69698ace>)

The whole article, as well as all other articles in this website, is dotted with asterisks referring to a glossary, to enable children to familiarize with the new words found. The definitions are expressed by short and clear elliptical sentences. Another extremely valuable section of this article is the use of drawings of the human body and contrasting colours (grey, red and black for words) to explain the symptoms, whose names are linked through lines to the organ involved. “Reduce your risk” introduces a section characterized by icons symbolizing the instructive clauses next to them:

- (20) Clean hands with soap and water or alcohol-based hand rub.

The icon shows two hands rubbing together and some drops. This section is thus more instructive than descriptive, with a positive and reassuring tone for the children.

The presence of imperatives is another feature of the websites under investigation, either to give instructions, as in (21), or as an exhortative verb, directly involving the young reader, as shown in (22):

- (21) To keep diseases like COVID-19 and the flu from spreading:
 - Stay home if you’re sick
 - Wear a mask when you go out (etc.). (<https://NewsForKids.net/fastfacts/coronavirus/>)

- (22) Imagine having just a few hours to pack up your things and run away to a place you've never been. (<https://www.cbc.ca/KidsNews/post/ive-just-been-evacuated-from-wuhan-teen-from-china-on-why-hes-in-canada/>)

Sometimes quotations are employed, for example from interviews, with the addition of words in brackets when necessary to complete the sentence meaning. This makes the text more personal and intimate with the reader, explaining concepts such as the virus, isolation, quarantine, etc., in a more engaging way:

- (23) "I have to admit, I've been a little bit scared of [the coronavirus]," Wyatt said. "I've been scared that I might catch the disease. (<https://www.KidsNews.com.au/health/working-to-protect-australians-during-global-coronavirus-outbreak/news-story/902750caae1f5048c2b7cf3b69698ace>)
- (24) In December, Mr. Johnson said in Parliament that "...there was no party and that no Covid rules were broken". (<https://NewsForKids.net/articles/2022/01/14/news-roundup-pressure-on-johnson-georgia-wins-small-fries/>)

In (22), the quotation from the WHO chief confers authority to what is being said, while (24) reports Johnson's statement in Parliament, unveiling his lies on breaking the coronavirus rules while going to a party.

Similar to the booklets, the question/answer format, often in an elliptical form, as in (25), is a widely used pattern, especially in *CBC Kids News* and in *KidsNews*, less frequently in *NewsForKids.net*.

- (25) Want to know more about what's true and what isn't true when it comes to the coronavirus? Check out this video. (<https://www.cbc.ca/KidsNews/post/ive-just-been-evacuated-from-wuhan-teen-from-china-on-why-hes-in-canada/>)

Example (26), on the other hand, shows how useful the *how-* or *wh-*interrogative forms may be in building colloquialism and in catching children's attention, as mentioned in Section 3.1.1. Here, both the headline and the paragraph titles are arranged in the form of questions:

- (26) How does the coronavirus vaccine work? (...) WHAT IS A VACCINE?
(...) HOW DO VACCINES WORK? (...) HOW DOES THE PFIZER

VACCINE WORK? (...) WHY DOES IT HAVE TO BE KEPT COLD? (...) WILL IT PROTECT AGAINST NEW VARIANTS? (<https://www.KidsNews.com.au/explainers/how-does-the-coronavirus-vaccine-work/news-story/941870ebcb9063956589c8647d931493>)

In *KidsNews*, the text is simplified by: *Fast facts lists*, which make it less heavy and more easily readable; contracted forms that make the language less formal and closer to everyday conversation; the additional sections *Suggestion of extra reading*, and *Quick quizzes*, with open questions to check understanding and the possibility to *Listen to this Story*. This is extremely useful for children affected by dyslexia or other learning difficulties, since it makes the information more accessible. Moreover, this site has a special section with the fictional character *Healthy Harold*, a giraffe, addressing 8-12-year-olds, i.e., the age group that Valkenburg and Cantor (2001) define as middle childhood. This age group is able to differentiate between an imaginary and a real domain, and to understand various topics and degrees of difficulty (Cappelli 2016). Younger children could access this information if accompanied by their parents, who can read it with them. Here, the verbal strategies are slightly different compared to those already analyzed for teenagers. Images display either *Healthy Harold* wearing a mask, riding his scooter, or children with a trusted adult, to deal with emotions and doubts. Sometimes stories about Harold are told. The lexis is simpler, more informal, contracted forms are frequent, denomination and definitions are less structured, as shown in (27):

- (27) Covid is a word we've been hearing a lot about over the past year. It's meant big changes for many people – kids included!

Covid-19 is virus, which could make a person sick, a bit like when you get a really nasty cold. It gets in people's saliva, snot and breath. It spreads easily when a person sneezes, coughs or breathes too close to other people. (<https://www.KidsNews.com.au/ask-healthy-harold/healthy-harolds-tips-for-staying-healthy-and-happy-during-covid/news-story/8d7fead9435329bf63d68cde05d2e5f>)

Once COVID-19 has been identified, recommendations are given through the pronouns *I* or inclusive *we*, or by reporting something that Harold's dad said or that Harold discovered, while the imperative verb form is avoided. This results in a less directive, more personal relationship, as exemplified in (28):

- (28) But there are many things we can do to keep ourselves strong and well. Like getting a good night's sleep and washing our hands. (<https://www.KidsNews.com.au/ask-healthy-harold/healthy-harolds-tips-for-staying-healthy-and-happy-during-covid/news-story/8d7fead9435329bf63d68cdbc05d2e5f>)

The question/answer format is essential, both to explain issues that are COVID-related in a direct way, and to help children, with their worries and "big emotions", to feel "healthy and happy". The language is in a conversational register, enriched with interjections and exclamations: "Wow, great question!". In fact, it is a conversation with turn taking between the children who ask questions, and the giraffe Harold, who provides answers.

3.2.2 Verbal/visual interplay

In *CBC Kids News* the way the verbal and visual elements coexist on the page and are organized in the layout (Bateman 2014) – their fonts, sizes, length, position and colours – is extremely effective. The word "coronavirus" is used for the first time in blue, functioning as a hyperlink. It leads to a page containing subsequent slides with information on the coronavirus: its origin, its definition, its symptoms, its developments and so on. In the first slide the use of a map is extremely helpful to identify China and Wuhan, accompanied by the sentence "A new coronavirus outbreak is in the news. It was first identified in the central Chinese city of Wuhan". The following slide displays the microscope-enlarged image of the coronavirus to show what it looks like, which "creates the illusion of it being closer and therefore more tangible" and real (Diani – Sezzi 2020: 674). The caption claims:

- (29) This is a picture of a coronavirus. It's called that because the virus looks like a corona (crown or halo) under an electron microscope. (<https://www.cbc.ca/KidsNews/post/heres-everything-you-need-to-know-about-the-coronavirus>)

The visual connection involving amplification through size, relevance and repetition (Gaede 1981) enhances the denomination/definition effectiveness. The deictics "this" and "that", followed by the verbs "to be" and "to be called", are frequently used to introduce an explanation or the second part of a definition. Here "that" is used as a pronoun for "coronavirus". "Called" is a metalinguistic expression often found also in the forms "call" and "so-called", signalling an authorial comment of the periphrasis in order to

reduce its semantic approximation. Other words with the same function found in the texts are “known as”, “mean”, “like”, “a sort of”, “a little” (e.g., “which means it delivers a tiny piece of the coronavirus’ genetic code”; “It means stay at home and don’t go out”), or similes such as “like a crown”, “like a common cold”, “like the flu”, “like a ghost town”. The slide that follows explains the symptoms through four drawings of four head-and-shoulder children with different facial expressions, instantiating “fever, cough, shortness of breath and breathing difficulties”. They cross-refer with the word/s underneath, which describe the symptom, building cohesion and coherence and increasing intelligibility:

- (30) Symptoms of this strain include fever, coughing and difficulty breathing. The infection can also cause pneumonia or even death. (<https://www.cbc.ca/KidsNews/post/heres-everything-you-need-to-know-about-the-coronavirus>)

Maps are frequently present in *NewsForKids.net* to locate the spread of the virus and the stories told, less so in *KidsNews*, where the photographs of cities and people have the same function. When people are depicted, their identification and interpretation are fixed by the title and the caption, which have a labelling function (Nöth 1995: 454). In most cases the image is representative of the topic: for example, the pervasive image of the virus through a microscope has an illustrative function (Barthes 1977; what Nöth 1995: 454 calls ‘pictorial exemplification’), and represents the concept of the virus’ invisibility and smallness, as in the booklets (Section 3.1.2). When text and image mutually determine each other’s meaning, with constant cross-reference, they function as a repetition in the child’s mind, facilitating memorization.

An essential feature of *CBC Kids News* is using videos to answer questions or give explanations. Through their features, videos create meaning (Francesconi 2018) and attract teenagers, helping them understand the topics and the issues involved, as well as instructions to deal with them. In the website, questions are normally conducted by one of the children, who interviews an expert, e.g., a doctor, who confers authority and relevance to the information provided. The video basically develops through turn-taking: the boy makes a statement or asks a question, and the doctor answers, substantiating her assertions. Gestures, questions, voice intonation and noises help convey the message very clearly. The relationship between the doctor and the interviewer on the one hand, and

between both them and their audience on the other, becomes more direct and personal. The pronoun *you* and inclusive *we* are frequent. The questions or main points are often written to emphasize the topic being introduced; expressions are informal and understandable to the audience; paraphrases, definitions, simple explanations or similes are employed: "this is kind of like having a cold, maybe a little more serious than that, but most people (...)", "a small portion of people (...) get a pneumonia, or an infection in their lungs (...)". The doctor's objective is to explain issues regarding the coronavirus, especially to debunk myths and misinformation, but also to give solutions and recommendations, for an easier life and a positive future.

Another video shows the bubble "*Pandemic?*": the whole interrogative structure is omitted to focus on the topic. The girl starts by stating "You probably have some questions you want answered about the coronavirus". Here is one: "What does it *mean* that the coronavirus outbreak is now a pandemic? (...) *Pandemic doesn't mean panic*". And a *Stay calm* bubble pops up. "*Doesn't mean* that we are all *gonna* get sick", etc. This video aims to provide young children with some comfort and reassurance, by appealing to their emotions. It contains all the features of popularization discourse: question/answer format; *you* and *we* for a direct relationship; the use of "mean" to give explanations; the use of the imperative form, contracted forms and informal expressions.

NewsForKids.net uses graphs, green boxes and pop-ups with extra definitions to draw teenagers' attention to the most important issues. Graphs give an immediate picture, a concentration of information, show the relations between variables, and induce perspective. They depict dynamic phenomena and represent a sort of intermodal translation (Marsh – White 2003). However, readers often need to cross-refer with the preceding or following text, otherwise the graphs may be indecipherable.

As regards the use of colour, in *CBC Kids News* colours alternate, making the pages attractive for all children: blue and purple convey calm, while red, yellow and orange stand for excitement. Similarly, *KidsNews* is extremely colourful. The predominant colours are white (for the background), black (for the text), blue, yellow, violet and green, associated with simple and clear verbal and visual structures. Green evokes harmony, stability, safety, and, in western countries, health and nature; blue and white, conservativeness and simplicity; yellow, calm, happiness, sunshine and honesty; violet enhances non-verbal strategies (Cyr et al. 2010). In *NewsForKids.net*, the dominant colours are black, green and white, conveying simplicity, clarity and relaxation.

4. Concluding remarks

In the present study we have tried to identify similarities and differences in the popularization strategies used in the booklets and websites investigated.

They have shown similar strategies in relation to the age of the addressees and their cognitive skills, the “ability to concentrate and to self-regulate, attention span, interests and relational skills”, which require communication to adapt (Cappelli 2016: 76). They broadly use denomination and definition to explain new and difficult words; *how*- and *wh*-question/answer patterns; similes and metaphors, which draw on the features of domains that are more familiar to the young reader. The pronouns *you* and inclusive *we* are used to involve young readers individually and as a group, and give them responsibility for the actions and the measures to take in order to be safer and avoid contagion. The imperative mood is common and appropriate when communicating with teenagers, mainly through lists of do’s and don’ts. The younger age group is addressed through conversational and informal patterns, characterized by the humanization of the virus or a fictional character, which uses the first-person singular pronoun *I*, exclamations and interjections. For teenagers, the style is more consonant with that of a school textbook, for younger children that of a story narrated by a close friend or parent.

The difference between the booklets and the websites slightly increases in the verbal/visual interplay. They both use images and texts in a complementary way, what Royce (2007) calls a model of intermodal complementarity which creates intersemiotic cohesion between text and image, and all semiotic modes contribute to the making of meaning. In some instances, this complementarity may be dominated by the text, in others by the image. Visual strategies pervade the websites, but are essential also in the booklets in creating a close relationship between the writer and the reader, places and things/concepts. The numerous visual metaphors are a feature of these techniques. They also contribute to building the concepts of the virus’s invisibility and smallness. The younger the children, the more frequent the recourse to a humanized image of the virus or a fictional character. Photographs and videos of teenagers either display them mediating between the source and the information supplied or the people and places involved in the news. Videos have proved to be the most engaging knowledge dissemination tool, probably due to their similarity to real life situations, with turn-taking question/answer patterns extremely effective in conveying the message, appealing to emotions, and clarifying doubts. They often resemble a discussion between a parent and

a child, a teacher and a pupil, an expert to non-expert relationship with the power to enable children to feel safer and well taken care of. The relationship between text and image in the data analyzed is essential in reaching children and teenagers with the appropriate message.

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Popularizing the Covid-19 pandemic to young children online: A case study

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ABSTRACT

This study applies the notion of popularization to assess how the Covid-19 pandemic is explained to young children. The analysis is carried out on two corpora: texts providing advice to parents on how to talk to their children about Covid-19, and texts aimed directly at children. The research is informed by studies on specialized knowledge dissemination, medical and scientific popularization and health literacy, contributing to the growing body of research on popularization to children. All corpora contain texts in English, with smaller subcorpora of Italian and Russian texts to provide contrastive remarks, where applicable. The findings focus on definitions of key concepts and on their metaphorical framing, including reliance on the pre-existing knowledge of children realized through similes. The quality of popularized materials for children (and their caregivers) is problematized on account of several misconceptions introduced in definitions. Finally, it is argued that personification is the most frequent and distinctive strategy of popularization to children, as opposed to texts targeting their parents relying on a wider range of popularizing strategies, and could be added as a separate category to the existing theoretical framework.

Keywords: popularization, children, Covid-19 discourse, personification, knowledge dissemination.

1. Introduction

The discourse of Covid-19 has firmly entered our vocabularies, and it has become normal to hear elements of the so-called ‘coronataalk’ in everyday conversations, on screen, in the streets and virtually everywhere. The pandemic has left a profound impact on the wellbeing of children (de Figueiredo et al. 2021), also on account of their exposure to

indiscriminating and unparcelled information, frequently leading to fear and misconceptions. UNICEF invites parents and caregivers to “explain the truth in a child-friendly way” (Hunt 2020), but what is considered to be ‘child-friendly’?

The ‘friendliness’ or accessibility of knowledge may be achieved through the mechanism of popularization (Calsamiglia – van Dijk 2004; Garzone 2020), which is most frequently conceptualized as knowledge transformation and recontextualization along the ‘specialized-lay’ continuum (Calsamiglia – van Dijk 2004: 370) addressing the non-specialist (and implicitly adult) audience (Gotti 2014: 16). Whereas there are multiple studies on medical/healthcare popularization for adults (Calsamiglia – van Dijk 2004; Hyland 2010; Gotti 2014; Anesa – Fage-Butler 2015; Garzone 2020; Nikitina 2020), literature on medical/healthcare popularization for children is limited. There are some studies targeting popularization to children in the legal domain (Diani 2015, 2018; Diani – Sezzi 2019; Engberg – Lutterman 2014; Sorrentino 2014), in the tourism and environmental issues (Cappelli 2016; Bruti – Manca 2019; Cappelli – Masi 2019) and in the scientific domain (Cesiri 2019), with most works on the dissemination of scientific knowledge approaching the issue from the pedagogic standpoint (Heisey – Kucan 2010; Hoffman et al. 2015).

This study intends to contribute to the growing body of research on (medical) popularization to children, by assessing how coronavirus and Covid-19 are explained in free publications online. Section 2 outlines the theoretical-methodological framework of popularization, overviewing the literature on medical popularization for adults (2.1), on popularization for children (2.2) and outlining the classical popularization strategies (2.3). Section 3 describes the study design and materials. The findings are presented and analyzed in Section 4. Finally, Section 5 provides discussion and concluding remarks.

2. Popularization

2.1 Medical popularization to adults

Medical popularization is closely linked to the idea of health literacy (Turnbull 2015; Garzone et al. 2019). One of the most authoritative definitions of health literacy developed by Ratzan and Parker (2000) for a National Institutes of Health (NIH) publication states that health literacy is “the degree to which individuals can obtain, process, and understand basic health information

and services needed to make appropriate health decisions". As emerges from this definition, there is a slight difference between health communication and medical/healthcare popularization which concerns their purposes (Turnbull 2015: 248), as the former emphasizes the decision-making empowerment of the receivers. Even though young children typically do not take decisions on their health, the decision-making element is important for covert addressees of any child-related publications, i.e., their parents and caregivers. Popularization to children is connected to health communication to parents as the main caregivers of pre-school and primary school children. Online health communication to parents as caregivers through the lens of discursive practices of knowledge dissemination and popularization is a relatively underresearched area (Cavalieri – Diani 2019: 93) and a rather hot one as Google Trends¹ demonstrate: "coronavirus for children" was one of the most researched topics in the period of major outbreaks between 15 and 21 March 2020 and between 7 and 15 March 2021.

2.2 Popularization to children

Popularization to children is conceptualized in this study as a set of discursive practices that enhance children's understanding of specialized scientific knowledge involving "'mediation' between experts and non-experts having a different stage of cognitive development" (Diani – Sezzi 2019: 203).

Similarly to traditional 'adult' popularization, it involves knowledge mediation and recontextualization (Diani – Sezzi 2019: 215), where specialized and difficult to access scientific knowledge is managed, reformulated and put in a different context catering for different participants. In contrast to popularization to adults, medical popularization to children, on account of their limited experience, cannot rely extensively on their previous knowledge (Cesiri 2019: 225) or solid cognitive "infrastructure" (Cappelli 2016: 71) to process complex notions of medicine and health. As a consequence, popularizing science and biomedicine to children, especially controversial topics, is a kind of a discursive predicament: on the one hand the public is intolerant to open discussion of many adult topics (Massarani 2008), and, on the other hand, popularizing authors face the risk of oversimplification, and even trivialization (De Marchi 2007).

¹ <https://trends.google.com/trends/explore?date=2021-01-01%202021-12-31&q=coronavirus%20for%20children>, accessed February 2022.

Young children's – standing here for pre-school or elementary school children's – richest domain of knowledge is that of humans (Inagaki – Hatano 1987: 1019) and they may tend to transfer human-related schemata, or knowledge structures, to non-human subjects (animals) or even inanimate objects, such as robots (Beran et al. 2011). Given the knowledge gap between scientists and young children as well as a potentially limited lexicon of the latter, they tend to perceive new knowledge metaphorically, most frequently through animism and personification (Inagaki – Hatano 1987). The concept of animism developed and studied by Piaget (Piaget 1929; Thomas 2005) for over 50 years represents the attribution of human qualities and behaviour to inanimate objects, whereas personification, or person analogy, is the general tendency to ascribe human attributes, either physical, emotional or behavioural, to non-humans. Beran et al. (2011: 540) demonstrate how the notion of animism, although widely criticized on account of its rigid description of age stages where it manifests itself, can be successfully reapplied as a theoretical paradigm to current research on children's understanding of such ubiquitous industrial phenomena as robots. Given the omnipresence of communication on another inanimate object – the novel coronavirus – it seems appropriate to revisit and apply the notion of animism to the theoretical framework of popularization.

2.3 Popularization strategies

Linguistic and discursive analysis of popularizing discourse is traditionally based on the categories developed by Calsamiglia and van Dijk in 2004. Their pivotal model is widely employed in most studies on popularization (e.g., Diani – Sezzi 2019) and is accounted for in manuals on specialized communication addressed through the lens of popularization and Discourse Analysis (Garzone 2020), which is the main methodological framework for this study. Calsamiglia and van Dijk (2004: 372) identify five popularization strategies that provide 'explanation' for specialized concepts, also known as popularization techniques "on the surface of discourse" (Garzone 2020: 162-165): denomination, definition, reformulation, generalization and exemplification.

Denomination, or designation, introduces new terms with specific meanings, such as the name of the disease – Covid-19 – or "antibodies" in (1), which can be preceded by such markers as "called", "known as", "meaning", "so-called", and "in other words".

- (1) These special ‘handcuffs’ *are called* antibodies.²

Definition explains unknown words, and is quite similar to description, i.e., explanation of unknown things. Definition is a complex strategy which can be realized linguistically in multiple ways. In this research I draw on the overview of definitions by Nikitina (forthcoming) that is inspired by the definitional categories elaborated by the International Organization for Standardization (ISO 1087: 2019): (a) *intensional* definitions, also known as *analytical* or *genus et differentia*, where *genus* stands for a macro-class of the defined object such as “substance” in (2) and *differentia* names its distinguishing features (underlined in (2)); (b) *extensional* definitions, which enumerate objects that fall under the definition of the concept defined, often in a partitive relationship as in (3) (note also denomination), and (c) *definitions by implication*, which describe a term in an operational way by its usage, function or application in a particular context, and hence are frequently introduced by action verbs, such as “triggers” and “produces” in (4).

- (2) Vaccine: A *substance* – almost always a liquid – that contains a part of the virus, or the virus itself, but is no longer capable of causing the disease.
- (3) Human cells *contain* DNA, while several organisms have a slightly different genome, called RNA.
- (4) Vaccine [...] *triggers* an immune response and *produces* antibodies.

Reformulation, or paraphrase, changes the surface structure of a given fragment to make it more accessible to the receiving public, frequently marked by metalinguistic expressions preceding or following a term such as “that is”, “that is to say”, “i.e.”, “in other words”. Reformulation may also be graphically marked, e.g., by putting the paraphrase in brackets as in (5).

- (5) A protein (*small molecule produced by cells*), which has a shape and size that is complementary to a part of a virus.

² All examples in this subsection are taken from the corpus, specifically from *A curious guide for courageous kids – the vaccine*, published in 2021 by the Italian network of children’s museums. Emphasis has been added in all examples throughout this article.

Generalization refers to the general category, such as “the cow disease” to refer to cowpox or “the human disease” to refer to small pox in (6).

- (6) But *the cow disease*, which was called cowpox, was milder than the one found in humans, known as smallpox. [...] milkmaids who became infected with cowpox didn’t become sick with *the human disease*, which was more severe and more contagious.

Mentioning any communicable disease to explain Covid-19 would already constitute an instance of generalization. It is thus difficult to separate in a clear-cut way generalization from an intensional definition, where the *genus* would always pertain to the macro-class of the concept defined. It is thus implied that whenever this research identifies intensional definitions, they contain elements of generalization, which are not discussed separately.

Exemplification (7) illustrates a general problem in a specific way. It can be marked by such expressions as “for instance”, “for example”, “an example is”.

- (7) We come into contact with lots of germs, bacteria, and viruses every day, but our immune system usually defends us from these invaders.
For example, certain cells try to ‘eat’ viruses.

When exemplification is not marked linguistically and occurs next to a specialized concept, it may be difficult to separate from a definition by implicature. Whenever symptoms of Covid-19 are illustrated, these utterances are treated as definitions by implicature even though it can be argued that they also exemplify how the disease manifests itself.

In addition to the surface level strategies there are the so-called cognitive (Calsamiglia – van Dijk 2004: 376) or pragmatic-level strategies (Garzone 2020: 166) introduced as ‘analogy’ or ‘association’ strategies. This category includes similes – marked by linguistic indicators expressing comparison such as “like”, “such as”, “similar to”, etc. (see example (20) in 4.1) – and metaphors (see 4.2) that conceptualize “one kind of thing in terms of another” (Lakoff – Johnson 1980: 5) without any linguistic markers. The use of metaphors has been defined as “the most conspicuous aspect of COVID-19 communication” (Garzone 2021: 161), referring to communication and popularization to adults.

With the Covid-19 pandemic, children were bombarded by specialized denominations, such as “coronavirus”, “Covid-19”, “vaccine”, “sanitary measures”, “isolation”, etc., coming from virtually everywhere without any

structured definitions, leading to logical *wh*-questions. In this study I will focus specifically on definitions of novel concepts and on their discursive and cognitive realizations.

3. Materials and study design

To popularize something means to render it accessible to the general public, hence the easy retrievability of information was the guiding principle behind data collection. Most modern parents search online for preliminary parenting advice, and multiple lockdowns during the pandemic could only exacerbate this tendency. All materials of this study were collected using online search engines in an attempt to replicate information seeking practices which were possibly used by parents during the pandemic. The search expressions employed were “coronavirus for children”, “Covid-19 for children”, “talk about/explain coronavirus/Covid-19 to children”.

The materials for this study comprise two small corpora (see Table 1): 1) advice to parents on how to talk to children about the coronavirus and the Covid-19 pandemic (and vaccines); 2) freely downloadable books and brochures for children explaining the same issues. Although “Covid-19 vaccine” was not a separate search parameter, several publications on Covid-19 vaccines appeared in the search engine and were included in the corpus both in Advice-to-Parents subcorpus (UNICEF 2021; National Geographic 2020, see Appendix 1) and Materials-for-Children (see Appendix 2).

Table 1. Corpus composition

Corpus	Advice to parents			Materials for children		
Subcorpus	English	Italian	Russian	English	Italian	Russian
Texts	5	3	3	14	9	3
Tokens	4,079	2,826	1,856	16,204	13,111	5,227

Each corpus is subdivided into three linguistic subcorpora containing texts in English, Italian and Russian. The corpora contain texts from institutional websites, such as UNICEF (ENG; RUS), Italian Federation of Paediatricians (ITA) and Children’s Commissioner (ENG (UK)), Centers for Disease Control and Prevention (“CDC”, ENG (US)), governmental websites, as well as texts from webpages of hospitals (Randal Children’s Hospital (RUS); St. Jude’s

Hospital (ENG; RUS); Policlinico di Milano (ITA)), private clinics (Mayo Clinic (ENG)) and child-related websites (KidsHealth (ENG); PBS Kids (ENG); University of Childhood (RUS); Un pediatra per amico ("UPPA", ITA). As the initial search yielded multiple results of general advice to parents on how to behave with children from a psychological standpoint (e.g., keep calm, check that your child is not stigmatized, etc.), only the resources containing sections dedicated to child-appropriate language and/or answers to FAQ by children were included in the Advice-to-Parents Corpus.

The Materials-for-Children Corpus (see Appendix 2) contains free brochures for children and free books that were originally downloaded from the above indicated resources as .pdf files and then transformed into .docx and .txt files using optical recognition software.

A simple online search allowed me to include only three free books for children in the Russian subcorpus, and all these books were translations, making the Russian subcorpus partially parallel to the English one. There were several other Russian-produced books for children for payment, but since they lacked the criterion of free accessibility they had to be excluded from the analysis. Knowledge transformations in the translation process are notorious. There are also multiple studies that approach popularizing discourse from the translational perspective (Wright 2011; Raffo 2016) including popularization for children (Sezzi 2017). Hence, I decided to keep the Russian subcorpus (and also gathered some Italian/English translations, see Appendix 1) in order to assess whether there are any changes in the popularization strategies employed across the three language versions.

Given the small size of my corpora, the analysis was carried out qualitatively by means of scrupulous examination without the use of any software.

4. Findings and analysis

4.1 Advice-to-Parents

Every text aimed at caregivers introduced at least one 'child-friendly' definition (see examples (8)-(11)), recommending the wording to use in a simulated dialogue or to answer a child's question. On average there were 3.6 definitions per English text and 3.7 definitions per Italian and Russian text, indicating a consonant reliance on definitions across different languages.

- (8) COVID-19 is the short name for “*coronavirus disease 2019*.” It is a new virus. Scientists and doctors are still learning about it. (CDC)
- (9) COVID-19 is caused by a germ (virus) that can make the body sick. People who have COVID-19 may have a *cough, fever and trouble taking deep breaths*. (MayoClinic)
- (10) *Questa malattia, come tutte le influenze e i raffreddori, si diffonde quando tante persone stanno tutte insieme in luoghi chiusi, e parlando, tossendo o starnutendo mandano in giro goccioline di saliva che potrebbero contenere il virus* (UPPA).
- (*‘This disease, like all flus and colds, spreads when many people stay together indoors, and by talking, coughing or sneezing send around little droplets of saliva that may contain the virus.’*)³
- (11) Koronavirus – *eto takoj virus, kotoryj mozet ukhudšit’ tove samočuvstvoie*. (St. Jude’s Hospital)

(*‘Coronavirus is such a virus that can make you feel unwell.’*)

The texts employ mixed definitional styles, with elements of intensional definitions as in (8) and (11) explaining that coronavirus is indeed a type of a virus that makes people sick, and definitions by implicature, as in (9) and (10), focussing on the consequences and symptoms of contracting Covid-19. No extensional definitions were found, as neither Covid-19 nor coronavirus could be explained by listing their components. The mixed nature of definitional styles may be tentatively explained by a presumed knowledge gap between the popularizing adults and the target audience of children: a child may not know what a virus is, and/or a parent/caregiver may find it challenging to explain it later, hence a classical *genus et differentia* model may not prove to be popularizing at all. At the same time, most young children are familiar with the typical symptoms of a cold or a flu, as they pertain to their personal life experiences. In fact, frequently these definitions are accompanied by what Garzone (2020: 165) labels “explication proper”, building on the pre-existing knowledge of children concerning communicable diseases in general, and flu or cold in particular. Linguistically, these are

³ Literal translations from Italian and Russian made by this author are indicated in brackets below the examples and, for space limitations, are provided only for cases when no official English version exists. Whenever a published translation exists, it is numbered and lettered, e.g., a published translation of example (X) is introduced as (Xa).

most typically realized through similes as in (10) – “like all flus and colds”, anchoring new information to pre-existing information. In (12) a simile is used, too, and the popularizer expressly refers to a child’s knowledge of communicable diseases to frame Covid-19 as a similar condition, employing also the interpersonal metadiscourse marker “you know” to engage the young readership. Likewise, in (13) explication proper is used to explain vaccines. First, a statement is made about taking medicine to get better which is presumed to be part of the child’s pre-existing knowledge base. Next, new information about vaccines is offered through a simile with medicines and a definition by implicature “medicines we take to avoid getting sick in the first place” (underlined in (13)).

- (12) You know what *it’s like to have a cold or the flu* – how sometimes you get a cough or have a fever? This is kind of like that. (PBS)
- (13) Ci sono delle medicine che *prendiamo quando stiamo male* e che ci aiutano a sentirci meglio. [...] I vaccini, *invece, sono come medicines che prendiamo per evitare, in primis, di ammalarci*. (National Geographic) (“There are *medicines we take when we are sick* that help us feel better. [...] Vaccines, *on the other hand, are like medicines we take to avoid getting sick in the first place*.”)

Most scholarly works on popularization observe that it is challenging to distinguish definitions from denominations because “they are so strictly intertwined” especially in cases where there are no linguistic markers (Garzone 2020: 163). Very frequently, these strategies have also been known to co-occur (Cavaliere – Diani 2019: 97). Interestingly, classical denominations, marked by “this means” or “also called” such as in (14) and in (15), are not common in the corpora in general. They occur predominantly in definitions and descriptions of two publications by the Italian network of children museums, already quoted in Section 2.3, which could be idiosyncratic.

- (14) *Zaraznyj – eto značit, čto virus pereprygivaet s odnogo čeloveka na drugogo, kogda ljudi kašljajut, čikhajut i trogajut drug druga.* (RCH/KidsHealth.org)
 (‘*Contagious – this means* that the virus jumps from one person to another when people cough, sneeze and touch each other.’)
- (15) Ma talvolta queste cellule immunitarie che fanno da soldati hanno bisogno di un maestro. I vaccini, infatti, insegnano al nostro sistema

immunitario come difenderci da nemici pericolosi – *chiamati anche patogeni* – e mantenere il nostro corpo in salute. (National Geographic)
 ('But sometimes these immune cells that act as soldiers need a teacher. Vaccines, in fact, teach our immune system how to defend ourselves from dangerous enemies – *also called pathogens* – and keep our body healthy.')

The distribution of difficult scientific concepts, such as “lymphocytes”, “T-cells”, “herd immunity”, “immune system”, etc. was skewed, as these occurred only in the text by National Geographic (ITA) on how to explain to children vaccines and their functions. The other texts – in stark contrast to literature on adult popularization strategies – frequently lacked denomination. For instance, concepts such as “healthy practices” or “social distancing” were rephrased, explained and exemplified, but not denominated, as in simulated dialogues in (16) and (17) respectively. It is felt that the choice of whether to designate new concepts with specialized terms or to paraphrase them was left to the discretion of parents/caregivers.

- (16) *Est' vešči, kotorye pomogut nam ne zabolet', naprimer, esli my budem myt' ruki.* (Universitet detstva)
 ('There are things that will help us not to get sick, for example, if we wash our hands.')
- (17) Germs like to travel from person to person. Have you ever noticed how kids in your class sometimes get sick at the same time? *If lots of people stay home for a while, it will be hard for the Coronavirus germs to travel to new people* – and that's good news for doctors and nurses who are helping people who get sick. (PBS)

Along with the similes mentioned above, the popularizing strategy of analogy was frequently realized through metaphors. Examples (14) and (17) above show, respectively, how the virus is animated and personified as it “jumps from one person to another” or “like(s) to travel from person to person”. In general, the Advice-to-Parents corpus rarely personified the virus on its own. Personification was used predominantly for cells and antibodies to conceptualize the immune system through the metaphor of a defence system (see examples (18)-(19)).

- (18) Il nostro corpo sa *difendersi*, [...] al suo interno ci sono *tantissimi soldatini* in grado di *combattere contro i germi*... anche contro i germi ancora più *cattivi* di quelli che stanno girando in questo momento. (UPPA)

(‘Our body knows how to defend itself, [...] inside there are *many tiny soldiers* able to *fight against germs*... even against germs that are even *worse* than those that are flying around at the moment.’)

- (19) Il nostro sistema immunitario è *il sistema di difesa* del nostro corpo, e le cellule immunitarie sono i *soldati posti a fare da guardia*. I *soldati combattono vari invasori*, come ad esempio virus e batteri, che vogliono *impossessarsi* del nostro sistema immunitario e farlo *prigioniero*, che è poi il motivo per cui ci ammaliamo (National Geographic)
 (‘Our immune system is our body’s *defence system*, and immune cells are the *soldiers placed to stand guard*. *Soldiers fight various invaders*, such as viruses and bacteria, who want to *take over* our immune system and make it *prisoner*, which is why we get sick.’)

Within the BODY AS A DEFENCE SYSTEM metaphor, the virus is personified as an “enemy”/“invader” who can imprison our body. Our immune system (see also an intensional definition and a designation in (19)), is then personified through the metaphor of soldiers who “fight”, “stand guard” and “defend” our bodies. This metaphor is particularly prolific in the Italian subcorpus. The idea of protection is advanced also through a simile with a shield (20) in one of the most authoritative sources – UNICEF; however, no other personifications follow.

- (20) A vaccine is *like a shield that protects you* from an illness. (UNICEF)

Interestingly, the defence metaphor runs in parallel with framing vaccines as teachers/trainers, again relying on an idea of learning familiar to children (21; 22).

- (21) Vaccines teach your body how to *fight off* illnesses. They do that by putting a tiny piece of the germ that causes the illness you need *protection from* (or something that looks like the germ) inside your body, so your body can learn what it needs to do to *fight it off*. (UNICEF)
- (22) Questo fornisce al nostro *sistema di difesa* un nemico facile contro cui *combattere* e allenarsi, per far sì che quando poi una forma pericolosa di germe tenta di infettare il corpo, i *soldati* siano già pronti e addestrati a *combatterlo*. (National Geographic)
 (‘This provides our *defence system* with an *easy enemy* to *fight* and train against, so that when a dangerous form of germ attempts to infect the body, the *soldiers* are ready and trained to *fight* it.’)

4.2 Materials for children

The texts for children addressed the issue either as a story (50% of texts in English; 78% in Italian and 66% in Russian) or under the question-answer form (36% of texts in English), or combined the story elements with the FAQs (14% of texts in English; 22% in Italian and 33% in Russian). The texts addressing the topic as answers to children's questions relied on the strategy of definition (23-27) and included precise denominations.

- (23) *Coronavirus is an illness* that affects people's breathing and lungs. It can be spread from person to person by coughing or by touching surfaces or areas of skin that have been contaminated by the virus. (Children's Commissioner)

- (24) *Virus: A microscopic organism*, even smaller than bacteria, which cannot live on its own, but enters cells and takes advantage of their ability to live and multiply, often causing very harmful diseases (A curious guide for courageous kids – the vaccine)

- (25) *COVID-19 is a kind of virus*. It can survive inside people. (What is Covid-19?)

- (26) *Coronavirus is a kind of illness*. It's also called COVID-19. Some other illnesses are colds, flu and ear infections. I've heard of those! (Clear answers for kids)

- (27) People also talk about COVID-19. *This is the name* of the illness caused by coronavirus. (Trinka's and Sam's Questions)

The definitions in these texts were predominantly of the intensional, or analytical, type, where the concept – coronavirus, virus in general, or Covid-19 – was first denominated and then explained by reference to a generic concept and its delimiting features. Remarkably, many texts defined the concept incorrectly, either on account of oversimplification – confirming the risk already identified in the literature (De Marchi 2007) – or general confusion. As examples (23), (25) and (26) show, coronavirus is frequently explained not by the *genus* "virus" but as an "illness", while Covid-19 is mistakenly conceptualized as a virus and not the disease caused by the virus. Even though it is partially mitigated by the expression "a kind of", frequently occurring also in adult popularization, such imprecision deserves attention.

- (28) *Covid* is an illness caused by a virus called a coronavirus. [...] But when this completely new coronavirus gets inside a human body, it causes an illness called COVID-19. When people talk about “catching Covid”, they are talking about this *illness*. (Coronavirus and Covid: A Book for children about the pandemic – 2021 edition)
- (28a) But when this completely new coronavirus germ gets inside a human body, it causes an *illness called COVID-19*. When people talk about “catching the coronavirus”, they are talking about this *illness*. (Coronavirus: a book for children – 2020 edition)
- (28b) Ma se questo germe completamente nuovo del coronavirus entra nel corpo di un umano, provoca *una malattia chiamata COVID-19*. Quando la gente parla di “*prendersi il coronavirus*”, intende questa *malattia*. (Coronavirus: un libro per bambini)
- (28c) No esli *vrednyj* koronavirus popadet v organizm človeka, on možet vyzvat' COVID-19.
(‘But if a *harmful* coronavirus enters the human body, it can cause COVID-19.’)
(Detskaja enciklopedija: koronavirus)

The phraseology associated with it exacerbates the confusion: it is not uncommon to hear that you “catch the coronavirus” (see 28a and 28b), just as you may catch a different disease. The expression equals the virus and the disease. In fact, the book in question published in 2020 (28a) was re-published in 2021 (27) replacing the phrase “catching the coronavirus” with “catching Covid” to avoid such misconceptions, showing an increased awareness of possible confusion; yet in the Italian translation based on the 2020 edition (28b) the problem remained. It is noteworthy that the Russian version (28c), despite being based on the 2020 edition, does not introduce this misconception in the text, omitting the phrase and opting for a neutral denomination “it can cause COVID-19”. It also added a characterizing premodifier “harmful”, which could also be rendered as “evil” or “wicked”, drawing a more personal picture of the virus. This shows how translation choices can lead to representation deviations and, thus, modify or adapt the popularization strategy involved.

While definitions were present also in stories for children, the most emblematic strategy revolved around metaphors, or better one type of metaphor: personification. All stories for children not only depicted

coronavirus as an animated and living being, but extensively personified it. The virus at times narrated the story from its own perspective (29-30) using first-person pronouns. Other stories had an external narrator, but the virus was always animated (31-32) and depicted as having a nasty character or being a little monster. These definitions were intensional (29) or implicative (31; 32) and contained explicit denominations marked by “my name is”, “to call”, “called”, facilitating children’s comprehension of new terms (note the blurred line between the virus and the disease in (29, 31)).

- (29) Hello. *My name is Covid-19, my friends like to call me Corona. I am a very small germ, so small you need a BIG microscope to see me.*
(A Message from Corona)

- (30) *I am a VIRUS, cousin with the Flu and the Common Cold. My name is Coronavirus. I like to travel and jump from hand to hand to say “hi”.*
(Covibook)

- (31) Have you heard of *the virus called COVID-19*? It’s nasty and vicious. It’s sneaky and mean! It can make you feel yucky and feverish, too. But to keep yourself well, there’s a lot you can do! (What you can do about Covid-19)

- (32) C’era una volta *un piccolo mostriciattolo di nome: Coronavirus*. È nato qualche mese fa in un paese lontano dalla nostra casa, è minuscolo e vive nello sputacchio delle persone. (Storia di un coronavirus)
(‘Once upon a time there was *a little monster named: Coronavirus*. He was born a few months ago in a country far from our home, he is *tiny* and *lives* in the spit of people.’)

Interestingly, the Russian translation of “Coronavirus: a book for children” (the 2020 edition) added multiple personifying elements to the text, illustrated in (33) as opposed to the source text in (33a) and the Italian translation in (33b). Coronavirus is defined as a “young” virus using the adjective typically reserved for animated beings; moreover, it becomes the agent (“coronavirus enters”) as opposed to being the object ([you] “get the coronavirus”). Similar transformations and recontextualizations are found throughout the book in Russian, where the virus is attributed human behavioural traits such as “making home for itself”/“settling” in our bodies instead of “using your body to make more germs”, which was the

source expression. This shows that personification was a strategy carefully selected to popularize, and somewhat dramatize, the topic, added by the translator(s)/editor(s). Although this inquiry is not a translation study, the transformations identified invite further research on parallel corpora.

- (33) Koronavirus – *molodoj virus*, učenje ešče ne izučili ego do konca. [...] *Koronavirus legko pronikaet v naš organizm, esli my trogaem lico grjaznymi rukami: češem nos ili trem glaza, podnosim ruki ko rtu i t.d.* [...] ('Coronavirus is a *young* virus, scientists have not yet fully studied it. [...] *Coronavirus easily enters* our body if we touch our face with dirty hands: we scratch our nose or eyes, bring our hands to our mouth, etc.')

- (33a) Because this coronavirus is *new*, scientists don't know everything about it yet. [...] It's easy to get the coronavirus germs from inside your body on your hands when you touch your nose or your mouth.

- (33b) Visto che questo coronavirus è nuovo, gli scienziati non lo conoscono ancora del tutto. [...] Quando ti tocchi il naso o la bocca, è facile far passare i germi del coronavirus da dentro il tuo corpo sulle tue mani.

Not only is the virus animated, it is also personified through the activation of a number of schemata typically associated with humans in general and young humans in particular: having a family (30) and friends (29; 34), enjoying travel (30; 34), having feelings and thoughts (34), including having fun (35), and even deserving bad marks (36).

- (34) I used to *live* in a bat with *my brothers and sisters*. Fancy that! *My bat and I lived* in a little town in a faraway land. One day *I was bored and wanted to go exploring*. I had heard of lots of exciting places across the seas and really *wanted to travel the world*.

[...] I decided to leave my bat and get into a human. *I set off on a journey with my brothers and sisters to see the world*, we were so excited! (A Message from Corona)

- (35) Per evitare che *lui si diverta troppo saltando di persona in persona*, gli scienziati e i medici stanno studiando giorno e notte un modo per sconfiggerlo. Dicono che non bisogna aver così paura di lui, ma essere cauti. Bastano piccoli gesti da parte di tutti per non farlo diffondere. Si chiama prevenzione. (Guida galattica al coronavirus)

- (35a) To prevent *the virus from having too much fun jumping from one person to the next*, day and night, scientists and doctors are studying how to defeat it. They say that we shouldn't be too afraid, we should be cautious. But there is something you can do to keep it from spreading. It's called prevention. (A curious guide for courageous kids)
- (36) [...] *l'unico che si merita un brutto voto qui è il coronavirus... ed è da lui che dobbiamo imparare a tenerci alla larga*. (Maestra, come si fa?)
(*'the only one who deserves a bad grade here is the coronavirus... and it is from him that we must learn to stay away.'*)

Single-standing personification of the virus was lacking in the Advice-to-Parents corpus, which makes it a rather distinctive trait of popularizing materials specifically aimed at children and not their caregivers. The notion of "unreasonable personification" may be relevant here. Inagaki and Hatano in their 1987 research, when animism was in vogue for research on child psychology, conducted a number of linguistic experiments asking children aged 5-6 questions about animate and inanimate subjects and compared their answers to the answers of university students. Whenever both children and adults attributed human-like traits to certain subjects, Inagaki and Hatano defined it "reasonable personification". However, when no adult defined a given object in human-like terms, they talked about "unreasonable" and hence not an adultlike personification (Inagaki – Hatano 1987: 1015). The reasonableness of personification seems to draw a clear line between the materials for parents and for children. It would be quite bizarre if texts containing advice to parents alluded to feelings of the coronavirus, even inside a simulated explanation. Yet, the interesting question – one left for further ethnographic research – concerns whether such personified portrayals of the virus are advantageous or misleading for young children.

There are also convergent tendencies across the corpora. First, similarly to the Advice-to-Parents corpus, the immune system is personified (37) as a team of superheroes with superpowers who fight the invaders.

- (37) [...] a special super power we're all born with: our immune system. *A real team of superheroes made up of cells with extraordinary abilities, able to recognize outside invaders and defend us from them*, while memorizing the strategy they use to do so. (A curious guide for courageous kids – the vaccine)

Second, metaphors of defence and training are frequently introduced to explain the vaccine, extending the personified vision of our immune system.

- (38) The immune system takes several days to build specific antibodies, and this could be dangerous if the virus is really *aggressive*. In this case, our immune system needs *special training*, just like when we learn a new exercise or to read and write! Today we know that we can *train our immune system* through vaccines that produce antibodies and *defeat viruses*, without making us sick. (A curious guide for courageous kids – the vaccine)

It appears thus that personification of an inanimate, unseen and generally intangible object, such as a virus, a cell or an antibody, is the predominant popularizing strategy in materials for children, at times even amplified in translation. However, while in these publications every inanimate object is personified, in the Advice-to-Parents texts only selective personification is carried out, with respect to the “good players”, i.e., the antibodies, cells and the immune system in general.

5. Discussion and concluding remarks

This research has identified two noteworthy aspects concerning popularization of the Covid-19 pandemic to children. The first concerns definitions that most frequently are of a mixed type, combining elements of intensional and implicative definitions to address potential knowledge gaps concerning the genus “virus” and, perhaps, children’s limited vocabulary. The definitions included specific reference to children’s pre-existing knowledge realized through similes. A significant number of definitions introduced misconceptions equalling the virus with the illness and potentially adding to children’s disorientation. No such misconceptions were retrieved from texts whose (co-)authors or consultants had healthcare-related expertise. It would be naïve to expect free online publications for children to be always scientifically sound, yet this research shows that popularization to children in free online materials – available to any parent with access to the Internet and looking for pre-packed answers – should be further problematized.

The second aspect concerns the theoretical apparatus of popularization for children. In their milestone work on popularization to adults, Calsamiglia and van Dijk (2004: 382) noticed a few instances of “the personification of the micro life of genes in terms of the macro world of human society”. Yet – to the best of my knowledge – personification of inanimate objects was never

separated as a self-standing category in the literature on popularization in general and popularization to children in particular, even though Cesiri (2019) talked about the anthropomorphized representation of animated beings – dinosaurs. Whereas analogies and associations in ‘adult’ popularization may be quite varied as adults gain broad knowledge in different domains over the course of their lives, this research indicates that popularization for children relies almost exclusively on one type of analogy: the person analogy, or personification. Personification is used either in a ‘reasonable’ adultlike way in texts providing advice to parents, or in an ‘unreasonable’ childlike way in publications for children. On account of the intrinsically animistic and personifying nature of young children, it seems appropriate to add personification as a separate category to the framework of popularizing strategies for children. This proposal would benefit from further research including interviews with children aimed at assessing how they organize and linguistically realize knowledge about viruses.

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APPENDIX 1

Advice-to-Parents corpus, all links last accessed on 1 August 2021

Title	Author/Publisher/Website	language	tokens
Coronavirus (COVID-19): How to Talk to Your Child	KidsHealth.org https://kidshealth.org/en/parents/coronavirus-how-talk-child.html	ENG	747
How to talk to your kids about COVID-19	MayoClinic https://www.mayoclinic.org/diseases-conditions/coronavirus/in-depth/kids-covid-19/art-20482508	ENG	649
How to Talk to Your Kids About Coronavirus	Debora Farmer Kris/PBS https://www.pbs.org/parents/thrive/how-to-talk-to-your-kids-about-coronavirus	ENG	1,004
Talking with children about Coronavirus Disease 2019: Messages for parents, school staff, and others working with children	CDC https://scdmh.net/wp-content/uploads/2020/03/Talkingwithchildren-aboutCoronavirus.pdf	ENG	911
How to talk to your children about COVID-19 vaccines	UNICEF https://www.unicef.org/coronavirus/how-to-talk-to-children-covid-vaccines	ENG	768
Parlare di Coronavirus con i bambini [Talking about Coronavirus with children]	Silvana Quadrino, psicologa e psicoterapeuta, Sergio Conti Nibali, pediatra e direttore di UPPA magazine https://www.uppa.it/parlare-di-coronavirus-con-i-bambini/	ITA	858
Come spiegare ai bambini cosa sono i vaccini e come funzionano [How to explain to children what vaccines are and how they work]	Nicholas St. Fleur, National Geographic https://www.nationalgeographic.it/scienza/2020/12/parlare-ai-bambini-dei-vaccini	ITA	1,089

Il Coronavirus spiegato a bambini e adolescenti [Coronavirus explained to children and teenagers]	Fondazione IRCCS Ca' Granda Ospedale Maggiore Policlinico, https://www.policlinico.mi.it/coronavirus-spiegato-a-bambini-e-adolescenti	ITA	879
Kak govorit' s rebenkom o COVID-19 [How to talk to a child about COVID-19]	Randall Children's Hospital, https://www.legacyhealth.org/-/media/Files/PDF/Health-Professionals/Pedinet/RCH-Talking-with-Your-Kids-about-COVID_RU.pdf	RUS	300
Kak rasskazat' rebenku o koronaviruse i COVID-19 [How to tell a child about coronavirus and COVID-19]	St. Jude's Children's Research Hospital https://together.stjude.org/ru-ru/lechenie-podderzhka/razgovor-o-koronaviruse-covid-19.html	RUS	992
Kak govorit' s malen'kim rebenkom o koronaviruse [How to talk to a small child about coronavirus]	Universitet detstva https://prosv.ru/pages/kak-govorit-s-malenkim-rebyonkom-o-koronaviruse.html	RUS	564

APPENDIX 2

Materials-for-Children corpus, all materials last accessed on 1 August 2021

Title	Author/Publisher/Website	language	tokens
Children's guide to coronavirus	UK Children's Commissioner	ENG	1,526
Clear Answers for All Kids	Arlen Grad Gaines and Meredith Englander Polsky (downloaded from https://www.childrenandyouthgriefnetwork.com/)	ENG	1,781

Coronavirus and Covid: A Book for children about the pandemic	Elizabeth Jenner, Kate Wilson & Nia Roberts Consultant: Professor Graham Medley. Professor of Infectious Disease Modelling, London School of Hygiene & Tropical Medicine (https://nosycrow.com/)	ENG	3,009
		ITA (transl)*	2,257
		RUS (transl)*	2,499
Covibook	Manuela Molina https://www.mindheart.co/	ENG	300
		ITA (transl)	261
		RUS (transl)	286
Covid-19 Children's Book	NSW Government (https://www.schn.health.nsw.gov.au/files/attachments/covid-19-childrens-book.pdf)	ENG	271
What you can do about Covid-19. Coloring book with rhyming story	Scott Emmons (https://www.scottemmonscreative.com/work/tex-mex-t-rex-yp2c9-bc22g-cxdtj-7t733)	ENG	449
A Message from Corona	Charity Tedder (endorsed by Professor Richard Tedder, Visiting Professor of Medical Virology, Imperial College London) (https://www.gofundme.com/f/a-message-from-corona)	ENG	590
My Hero is You, Storybook for Children on COVID-19	Inter-Agency Standing Committee (UNICEF) (https://interagencystandingcommittee.org/iasc-reference-group-mental-health-and-psychosocial-support-emergency-settings/my-hero-you-storybook-children-covid-19)	ENG	2,739
		ITA (transl)	2,802
		RUS (transl)	2,442
Rock Monsters	www.rockmonsterfriends.com	ENG	588
The Big Thing	by Angela Meng and Alexander Friedman, Asymmetry LLC (https://jheconomics.com/wp-content/uploads/2020/05/The-Big-Thing-ENGLISH.pdf)	ENG	1,102
		ITA (transl)	1,105

Fighting the Virus: Trinká's and Sam's Questions	by Chandra Michiko Ghosh Ippen and Melissa Brymer, Piploproductions, University of California (https://www.nctsn.org/resources/fighting-the-big-virus-trinka-and-sam-questions)	ENG	1,569
What is Covid-19?	Alexis Roumanis graduated from Simon Fraser University's Master in Publishing program in 2009, Canada (https://www.sd72.bc.ca/departments/librarylearningcommons_2/Documents/What%20Is%20COVID-19%20-%20Level%201%20-%20Free%20eBook.pdf)	ENG	1,177
Guida Galattica al corona virus/A curious guide for courageous kids	Rete nazionale musei dei bambini Dr.ssa Daniela Longo, PhD in medicina clinica e sperimentale; Dr.ssa Erika Nerini, PhD in scienze e tecnologie dei prodotti della salute (https://www.muba.it/files/uploads/2020/03/10/guida-galattica-al-corona-virus-a-curious-guide-for-courageous-kids.pdf)	ITA	513
		ENG (transl)	499
Guida Galattica al vaccino per bambini e bambine curiosi/A curious guide for courageous kids – the vaccine	Rete nazionale musei dei bambini Dr.ssa Daniela Longo, PhD in medicina clinica e sperimentale; Dr.ssa Erika Nerini, PhD in scienze e tecnologie dei prodotti della salute (https://www.mdbri.it/guida-galattica-al-corona-virus/)	ITA	938
		ENG (transl)	882
I consigli di Mio, Mia e Meo: Coronavirus	Federazione Italiana Medici Pediatri http://www.miomiaemeo.it/coronavirus/	ITA	304
Storia di un coronavirus: Maestra, come si fa?	Francesca Dall'Ara, dell'Unità di Neuropsichiatria dell'Infanzia e dell'Adolescenza (UONPIA) della Fondazione IRCCS Ca' Granda Ospedale Maggiore Policlinico di Milano (https://www.policlinico.mi.it/coronavirus-spiegato-a-bambini-e-adolescenti)	ITA	3,663

Storia di un coronavirus	Francesca Dall'Ara, dell'Unità di Neuropsichiatria dell'Infanzia e dell'Adolescenza (UONPIA) della Fondazione IRCCS Ca' Granda Ospedale Maggiore Policlinico di Milano (https://www.policlinico.mi.it/coronavirus-spiegato-a-bambini-e-adolescenti9)	ITA	1,417
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* Translations are based on the 2020 edition of the book.

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Disseminating knowledge through TED Talks for children

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ABSTRACT

The present contribution focuses on a corpus of TED Talks given by children and/or taken from different TED playlists designed to share ideas with middle and high school students. To what extent are TED talks for children different from other TED talks? Furthermore, do they share similar strategies with other informative literature for children? A qualitative analysis of the verbal code and visuals in the data has indeed confirmed expectations for strategies of popularization via general kid-oriented recontextualization, and more specifically via exemplification, reformulation and analogy, as well as strategies of multimodal engagement through humour. A quantitative analysis and comparison with a corpus of generic TED talks (i.e., not specifically involving children as either speakers or part of the intended audience) has also helped validate and expand on the findings above. Indeed, a clearer understanding of popularizing practices at work in this successful platform may be of help in fostering the development of much valued multimodal literacy skills in the contemporary digital educational scenario addressing the needs of the younger generations.

Keywords: TED Talks, popularization, informative literature for children, engagement, multimodality.

1. Why TED Talks for children?

This contribution stems from my interest in the multimodal analysis of TED Talks (Masi 2016, 2019, 2020a, 2020b) and in the literature for children, from the perspective of translation (see, e.g., Epstein 2012; Lathey 2016), especially information books (Mallet 2004), which I view as a form of knowledge

dissemination or, more precisely, popularization for a young lay audience (Cappelli – Masi 2019; Masi 2021).

TED¹ videos are a popularizing genre via short and effective talks rich in multimodal input; they allow for either live, synchronous, or asynchronous, web-mediated access. Over time, the genre has become a highly influential digital platform used in diverse educational settings (cf. e.g., Takaesu 2013; Carney 2014; Dummett et al. 2016), and it also comprises playlists by and for ‘kids’ (i.e., younger children in the middle-grade stage and older ones or teenagers). Given the great accessibility and popularity of the talks, it is reasonable to expect extensive use of such materials (and correlated impact on a young audience) either at school or at home, with or without other family members. Hence the need to shed light on some of their distinguishing features. My goal, then, is to explore the multimodal rhetorical practices at work here, which make TED an inspiring popularization tool for a young audience. In other words, I will try to identify (1) whether and the extent to which TED Talks for kids are different from other TED Talks, and (2) whether they share similar strategies with other informative literature for children. In so doing, it will be possible to unravel meaning-making practices we should be aware of to develop our understanding of how knowledge is popularized for the younger generations in an increasingly international and multimodal communicative landscape.

1.1 The framework

The framework for the analysis is the literature on scientific popularization in general, and on informative literature for children and TED Talks in particular, as more specific types of popularizing genres. Scientific popularization involves a basic asymmetry in communication between experts and non-experts, which hinges upon the reformulation and recontextualization of knowledge for a lay audience (see Gotti 1996, 2013; Myers 2003; Calsamiglia – van Dijk 2004). Indeed, popularization strategies are conceived of as forms of explanation which support the integration of old knowledge into a new lay version of specialized information. They cover the following (see Calsamiglia – van Dijk 2004): denomination (for the introduction of specific concepts), definition/description (to explain unknown terms and ideas), reformulation or paraphrase (through the use of parentheses, dashes, metalinguistic expressions, etc.), generalization

¹ <https://www.ted.com/>.

(based on conclusions derived from specific cases), exemplification (based on specific examples), and analogies or associations (e.g., via similes and metaphors which establish links between different conceptual domains).

As for informative literature for children, this comprises information books and other non-fiction such as extra-curricular materials (Mallet 2004); these involve an even bigger asymmetry, in so far as kids are a non-expert lay audience with a low degree of experience, cognitive skills and literacy compared to adults (Cappelli – Masi 2019). This type of literature tends to mix facts with fiction and is often grounded in edutainment, as it frequently purports to educate through an interactive style, an informal register and wordplay (especially in English). Furthermore, such materials are multimodally rich, including pictures and illustrated books, and reflect the young audience's need for new information to be securely 'anchored' to kids' backgrounds in order to enhance their sense of familiarity, identification, involvement and correlated accessibility of the information.

Several relevant studies on popularization for children exist; they have focused on different subgenres and disciplines, and have adopted different perspectives and approaches (see Diani 2015; Sezzi 2017; Bruti – Manca 2019; Cappelli – Masi 2019; Diani – Sezzi 2019; Cacchiani 2020; Diani 2020; Diani – Sezzi 2020; Masi 2021). These are summarized in the following paragraphs.

Diani (2015), for example, has explored online newspaper articles for the dissemination of legal concepts by adopting a cross-linguistic (English-Italian) perspective. Although English and Italian journalists appear to use similar strategies to popularize legal knowledge for children – with a prominent use of definitions and explanations, markers of dialogic interaction, metaphors and similes – they also display different preferences. The English data show the important role of definitions, while the Italian sample points to a preference for both definitions and paraphrases, often complemented through the use of metaphors and similes.

Sezzi (2017), instead, has focused on English information books on History and on their translations into Italian. Such books oscillate between education and entertainment, like most children's literature, and include direct forms of address to the recipient, the use of different kinds of images and media, informal language and irony. The Italian translations, in particular, tend to privilege accuracy and 'complexification' rather than simplification.

Cappelli and Masi (2019) have investigated travel guidebooks for adults and for children from contrastive and translational (English-Italian) perspectives. The study has highlighted the acknowledgment of different

accessibility requirements on the basis of the age group of the target audience and lingua-culture backgrounds. The English texts tend to be more humorous and interactive, while Italian ones tend to be more formal and less direct, also displaying a variety of translation strategies.

Diani and Sezzi (2019) have studied the discursive resources used in official websites popularizing the concept of the EU. The most frequent strategies that have emerged from their account are denomination, definition, exemplification, similes and a trend towards simplification.

Bruti and Manca (2019) have focused on the popularization of environmental issues in children's magazines as opposed to comparable adults' magazines and also from a cross-linguistic (English-Italian) perspective. Popularizing strategies in the sample of children's magazines appear to involve, entertain and educate the target reader, while language and visuals (pictures and graphic devices) support each other in the explanation of facts and concepts. Also, the data from English magazines for children tend to involve the reader with a more interactive, peer-to-peer style and the use of colloquial language, whereas the Italian sample analyzed is more similar to the adults' version.

Diani (2020) has studied verbal and visual features in websites aimed at the popularization of health knowledge. In these websites, the visual mode appears to have an explicative as well as an appealing function. In more detail, the verbal mode exploits the visual mode to render information more accessible to a young audience and to contribute to their understanding. Images appear to complete information with realistic details.

Diani and Sezzi (2020) have explored scientific websites for children, shedding light on the verbal-visual interplay. Indeed, in these texts explanations of scientific phenomena are frequently intertwined with different kinds of visual material.

Cacchiani (2020) has investigated children's dictionaries, in which first and second person pronouns, adjectives, imperatives and questions in examples work hand in hand with visuals as stimuli for curiosity and interest. Other typical features are, for instance, the inclusion of user-oriented content and an informal style in definitions.

Masi (2021) has analyzed a sample of parallel picture books on Geography in English and Italian addressed to target audiences of different ages from a multimodal perspective. Word-image relations are explored across age groups (i.e., from the point of view of intralingual mediation) and lingua-cultures (interlingual mediation). The intralingual investigation highlights that the books addressed to older children, for example, display

a more prominent role played by the verbal component and wordplay, the presence of framed images, and naturalistic and eclectic styles. The interlingual investigation confirms some of the findings in Cappelli and Masi (2019), as the Italian target texts analyzed tend to be less direct, less involving, more specific in terminology, more formal and accurate than the original texts in English. From a multimodal perspective, the reduced verbal interactivity in the translated texts brings about an alteration of the original word-image relations, i.e., the translated verbal resources establish new multimodal configurations in the target context.

Several of the features mentioned above can indeed be aligned with some typical traits of TED Talks, a popularizing genre which typically addresses both a co-present audience, and web users through the relevant website. The TED talk has in fact been defined as a hybrid genre (Caliendo 2012), sharing features with other categories. The talks are limited in duration, similar to conference presentations, but unlike the latter, they address both specialists and non-specialists, with an informal register that encourages participation and proximity (Scotto di Carlo 2014). Second person pronouns and questions are often used to engage the audience, together with epistemic lexical verbs used to express stance (Caliendo – Compagnone 2014; Compagnone 2014). Judgements and personal positions are expressed through the use of axiological adjectives (Scotto di Carlo 2015), especially promoting aesthetic appreciation and emotive reactions. Similes have also been found to be a frequent explanatory strategy used in the talks (Scotto di Carlo 2012). Furthermore, humour (Scotto di Carlo 2013; Mattiello 2017) is a pervasive feature, in contrast with other more traditional forms of popularization. Reduced technicality in content and vocabulary and the use of narration and personal anecdotes are other hallmarks of the talks (Mattiello 2017), which are also multimodally rich (typically in visuals such as slides with images, photographs, graphs and short video clips, see Theunissen 2014; Meza – Trofin 2015; Masi 2020a). Among the multimodal resources extensively used by TED speakers, or TEDsters, are gestures, which tend to perform different functions and often reinforce the understanding of abstract ideas and promote engagement with the audience (Masi 2016, 2019, 2020a, 2020b). In some instances, several repeated word-gesture patterns also appear to have the potential to enhance cohesion and even to subtly emphasize emotional and value-laden meanings, thus pushing forward the highly persuasive discourse of this genre of talks (Masi 2020b).

On the basis of shared features such as presence of humour, similes (as a form of analogy), multimodal input, and the need to promote participation/

proximity/engagement, I embarked on the analysis of a selection of TED Talks for kids with expectations for various kinds of shared popularization strategies, a high degree of engagement markers and of kid-oriented recontextualization. By 'engagement markers' I refer to devices that explicitly address the audience, either to attract their attention or include them as discourse participants (Hyland 2005: 53), but the notion is here broadened to cover all those communicative strategies especially aimed at involving the audience in a written-to-be-spoken scenario so as to elicit their affective-emotional reactions in different ways. By 'kid-oriented recontextualization' I refer to popularizing strategies that anchor new information to a young audience's background, thus emphasizing the role of young people as the actual protagonists of the talks, which in turn promotes identification and involvement.

1.2 Corpus and methodology

I considered four playlists compiled by the TED Team of editors. The talks involved pre-teens and teens as speakers and/or as intended audience. Here are the playlists:

- *Talks to watch with kids*, described on the platform as 'Fun, informative and captivating talks to inspire young minds';²
- *Kids, teens and their great big ideas*, described as 'Amazing inventions, activism and tons of genius delivered by an awesome group of kids and teens';³
- *Talks by brilliant kids and teens*, 'Talks from scientists, musicians, innovators, activists – all under the age of 20. Watch these amazing wunderkinds';⁴
- *Talks to watch with the entire family*, 'No matter the generation, these talks are perfect for bringing everyone together to learn, wonder and laugh.'⁵

Sometimes, the same talk was included in more than one playlist. Overall, the playlists under analysis contained 36 talks (each talk was counted only once). The majority revolved around Science and Technology (44%),

² https://www.ted.com/playlists/86/talks_to_watch_with_kids.

³ https://www.ted.com/playlists/528/kids_teens_and_their_great_big_ideas.

⁴ https://www.ted.com/playlists/129/ted_under_20.

⁵ https://www.ted.com/playlists/314/talks_to_watch_with_the_entire.

followed by Entertainment and Performance (31%) and Other, i.e., a more varied set of topics (25%), as shown in Figure 1.

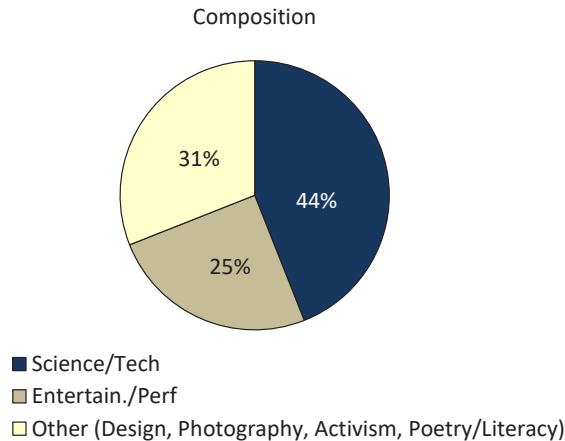


Figure 1. Kid playlists composition

I then decided to focus on 16 talks on Science and Technology from the kid playlists, delivered in English by speakers of different nationalities, and compared them with 16 other talks on Science and Technology not specifically involving children. The two sub-corpora, i.e., the Kid TED Talks Corpus – henceforth KTTC, and the Generic TED Talks Corpus – GTTC, respectively, were similar for time of release, duration, and number of words of transcripts, but were often delivered by speakers of a different age, as illustrated in Table 1.

Table 1. Description of sub-corpora

Sub-corpus	KTTC	GTTC
Number of talks	16	16
Year of release	2007-2016	2008-2019
Duration	Total: 122.29 min	Total: 122.92 min
Total words from transcripts	Around 19,000	Around 18,900
Speakers identity	5 adult speakers, 11 kids/teens (usually inventors)	All adult speakers

Table 2 lists the talks on Science and Technology covered by the two sub-corpora.

Table 2. Lists of TED talks in the two sub-corpora

KTTC		GTTC	
Speaker(s)	Title of the talk	Speaker(s) (all adults)	Title of the talk
Lauren Hodge (kid)	<i>Award-winning teenage science in action</i>	Poppy Crum	<i>Technology that knows what you're feeling</i>
Shree Bose (kid)	<i>Award-winning teenage science in action</i>	Hugh Herr	<i>The new bionics that let us run, climb and dance</i>
Naomi Shah (kid)	<i>Award-winning teenage science in action</i>	James Lyne	<i>Everyday cybercrime – and what you can do about it</i>
Richard Turere (kid)	<i>My invention that made peace with lions</i>	Renny Gleeson	<i>404, the story of a page not found</i>
Thomas Suarez (kid)	<i>A 12-year-old app developer</i>	Will Marshall	<i>Tiny satellites show us the Earth as it changes in near-real-time</i>
Taylor Wilson (kid)	<i>My radical plan for small nuclear fission reactors</i>	Rebecca Brachman	<i>A new class of drug that could prevent depression and PTSD</i>
Jack Andraka (kid)	<i>A promising test for pancreatic cancer... from a teenager</i>	Sara-Jane Dunn	<i>The next software revolution: programming biological cells</i>
Beau Lotto (adult) and Amy O'Toole (kid)	<i>Science if for everyone, kids included</i>	Romain Lacombe	<i>A personal air-quality tracker that lets you know what you're breathing</i>
William Kamkwamba (kid)	<i>How I harnessed the wind</i>	Dean Ornish	<i>Your genes are not your fate</i>
Raymond Wang (kid)	<i>How germs travel on planes – and how we can stop them</i>	Sarah Parcak	<i>Archaeology from space</i>
Ashton Cofer (kid)	<i>A plan to recycle the unrecyclable</i>	Andrew Pelling	<i>This scientist makes ears out of apples</i>
Kenneth Shinozuka (kid)	<i>My simple invention, designed to keep my grandfather safe</i>	Nina Tandon	<i>Caring for engineered tissue</i>

AnnMarie Thomas (adult)	<i>Hands-on science with squishy circuits</i>	Britt Wray	<i>How climate change affects your mental health</i>
David Gallo (adult)	<i>Underwater astonishments</i>	Brian Cox	<i>What went wrong at the LHC</i>
Raffaello D'Andrea (adult)	<i>The astounding athletic power of quadcopters</i>	Lee Cronin	<i>Print your own medicine</i>
Sophie Scott (adult)	<i>Why we laugh</i>	Kaitlin Sadtler	<i>How we could teach our bodies to heal faster</i>

The analysis of the talks was carried out manually and entailed several viewings of the recorded videos and readings of the respective transcripts. In the remainder of the article, I will present and discuss some quantitative data and examples from the qualitative analysis of:

1. a range of tangible markers of engagement, i.e., humour as signalled by laughter; direct questions to the audience as signalled by question marks; interactions with the audience as signalled by applause or other perceivable reaction (such as laughter or hand raising);
2. verbal strategies of recontextualization via specific anchoring to kids' background, especially via analogies (on the role of analogic strategies in children's books, see Sezzi 2017; Cappelli – Masi 2019, among others);
3. visuals, esp. slides.

2. Quantitative data and examples

2.1 Engagement markers

As for markers of engagement, in the KTTC they were more than double the number found in the GTTC. In more detail (Figure 2), the KTTC comprised 82 instances of humour signalled by laughter (H/L) of the audience (vs. 27 in the GTTC), 125 questions (Q) addressed to the audience (vs. 58 in the GTTC) and 49 instances of interaction (Int) signalled by the audience's reaction through applause or other reaction (vs. 14 in the GTTC).

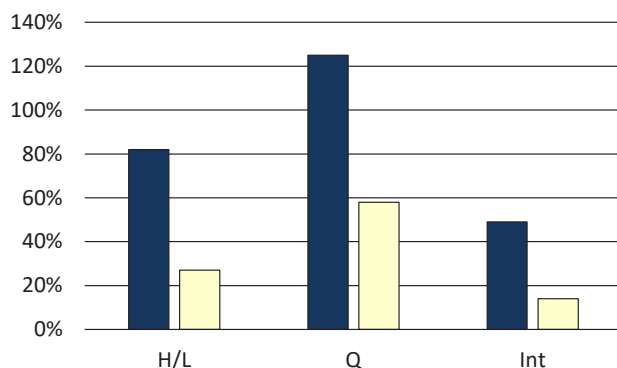


Figure 2. Quantitative comparison of engagement markers across sub-corpora (higher scores relate to the KTTC)

By way of illustration, below are three examples of H/L, Q and Q plus Int from the KTTC.

- (1) Now you might wonder how a 13 year-old girl could come up with this idea. And I was led to it through a series of events. I first learned about it through a lawsuit I read about in my doctor's office (Laughter) (Hodge, 01:06)

Humour in (1) is caused by the incongruity between the expected scenario (i.e., some special place generating an award-winning idea) and the actual unpredictable reported event (namely, a rather banal or absurd location which is part of one's routine).

- (2) What's the fastest growing threat to Americans' health? Cancer? Heart attacks? Diabetes? The answer is actually none of these; it's Alzheimer's disease (Shinozuka, 00:12)

In (2) several rhetorical questions were asked by the speaker to stimulate the audience's participation before introducing the main topic of the talk.

- (3) Can I get a show of hands – how many of you in this room have been on a plane in this past year? (Wang, 00:13)

In (3) the speaker asked for an explicit reaction from the audience, many of whom promptly raised their hands.

2.2 Kid-oriented recontextualization

Kid-oriented recontextualization was found in 15 out of the 16 talks in the KTTC, whereas it was found in only 3 out of the 16 talks of the GTTC. This

specific type of recontextualization often occurred via personal narratives evoking familiar scenarios and activities as a general background to the talk (see the elements highlighted in bold in examples 4-6).

- (4) It was just an ordinary Saturday. **My dad** was outside mowing the lawn, **my mom** was upstairs folding laundry, **my sister** was in her room **doing her homework** and **I** was in the basement **playing video games** (Cofer, 00:12, KTTC)
- (5) But then one night, **my mom** was cooking grilled chicken for dinner, and **I** noticed that the edges of the chicken, which had been marinated in lemon juice, turned white. And later in **biology class**, **I learned** that it's due to a process called denaturing (Hodge, 01:34, KTTC)
- (6) When **I was 13**, **a close family friend** who was **like an uncle to me** passed away from pancreatic cancer. When the disease hit so close to home, I knew I needed to learn more (Andraka, 00:12, KTTC)

Kid-oriented recontextualization also took the shape of examples of activities that are part of children's routine, as illustrated by example 7.

- (7) A lot of kids these days like to play games, but now they want to make them, and it's difficult, because not many kids know where to go to find out how to make a program. I mean, **for soccer, you could go to a soccer team. For violin, you could get lessons for a violin.** But what if you want to make an app? (Suarez, 00:43, KTTC)

In other cases, kid-oriented recontextualization took place as reformulations drawing on personal memories (see example 8) or exploiting metaphors for two common digital tools of contemporary teenagers (see example 9).

- (8) But I want to jump up to shallow water now and look at some creatures that are positively amazing. Cephalopods – head-foots. **As a kid I knew them as calamari, mostly** (Gallo, 01:49, KTTC)
- (9) That's next to impossible. However, undeterred due to my teenage optimism – (Laughter) (Applause) I went online **to a teenager's two best friends, Google and Wikipedia.** I got everything for my homework from those two sources (Andraka, 02:10, KTTC)

2.3 Analogies

Although the number of verbal analogies was higher in the GTTC (49) than in the KTTC (35), the majority of the latter (i.e., 63% of them) recruited

comparata that were more typically associated with familiar objects for children than the majority of *comparata* in the analogies from the GTTC. The analogies from the KTTC, then, often appear to have an illustrative function based on correspondences between different conceptual domains, one of which is more readily accessible to children. This especially shows the TED speakers' will to facilitate children's comprehension of scientific topics (even more than in talks addressing adults). The examples that follow (10-14) are different cases in point, where *comparata* (in bold) range from playdough and metaphoric superheroes to processes and natural objects, and altogether display different sub-functions, i.e., descriptive or illustrative (all of them), reformulating, see (11), and humorous, see (12).

- (10) So if I take this salt dough, again, it's **like the play-dough you probably made as kids**, and I plug it in (Thomas, 01:35, KTTC)
- (11) [carbon nanotubes] They're **kind of like the superheroes** of material science (Andraka, KTTC)
- (12) For me, it's all about looking at the Internet in an entirely new way, to realize that there's so much more to it **than just posting duck-face pictures of yourself online**. (Laughter) (Andraka, KTTC)
- (13) Making a cancer sensor out of paper is about **as simple as making chocolate chip cookies**, which I love (Andraka, KTTC)
- (14) This quad has a racket strapped onto its head with a sweet spot **roughly the size of an apple**, so not too large (D'Andrea, KTTC)

Despite the predominance of analogies recruiting children's everyday objects in the KTTC, more technical *comparata* were also found in both sub-corpora, but especially in the GTTC (see example 15 and 16).

- (15) [nuclear fusion]... this is **similar to the reaction of the proton chain that's going on inside the Sun** (Wilson, KTTC)
- (16) And then to make matters worse, living systems largely **bear no resemblance to the engineered systems that you and I program every day** (Dunn, GTTC)

Indeed, both examples (15) and (16) make use of specialized objects that are hardly accessible to children.

2.4 Visuals

The analysis of visuals (slides and videos embedded in slides) was based on the semiotic type classification proposed in Theunissen (2014) and also used in Masi (2020b). The visuals were subdivided into visual only (either videos or slides with iconic components, usually photos), scriptural-visual (slides containing photos and verbal code too), scriptural-(visual)-graphic (more hybrid slides with photos, words, diagrams or more technical graphic material and, sometimes, even photos), and only scriptural slides (containing only verbal messages). Examples of each type are offered in Figures 3-6.⁶



Figure 3. Visual type 1 – Example of only visual semiotic type



Figure 4. Visual type 2 – Example of scriptural-visual semiotic type

⁶ Using TED screenshots for research is permitted by CC BY – NC – ND 4.0 International. I would like to thank the TED Media Requests Team for their support.

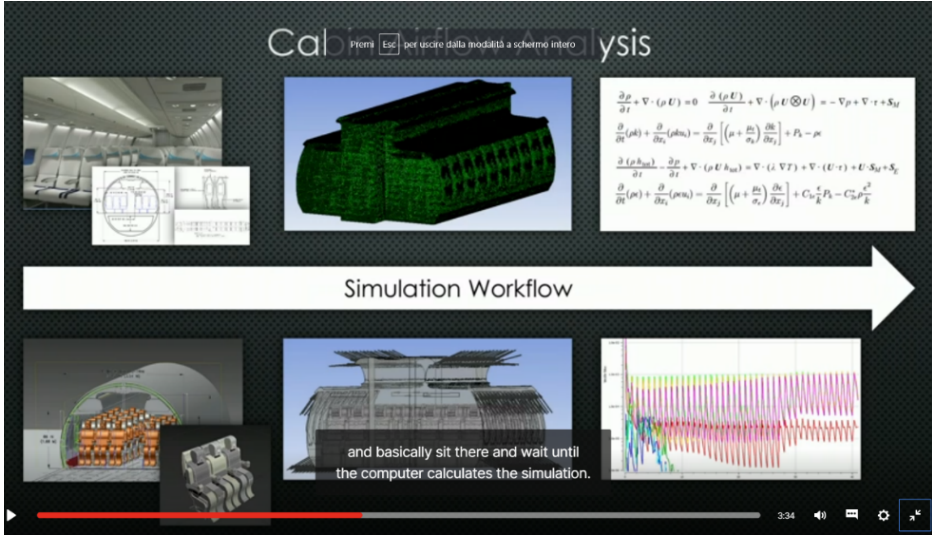
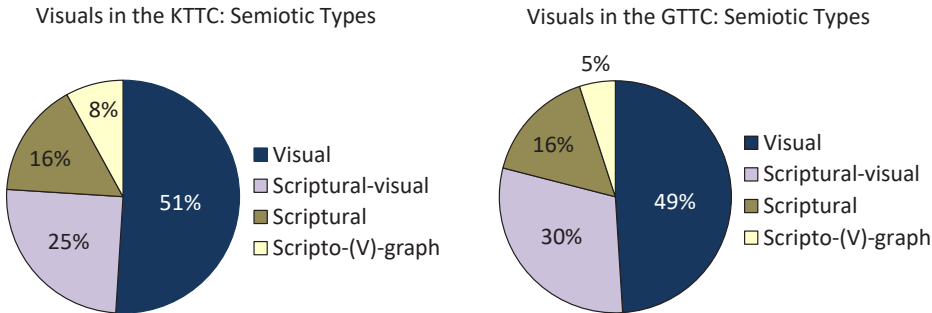


Figure 5. Visual type 3 – Example of scriptural-visual-graphic semiotic type



Figure 6. Visual type 4 – Example of only scriptural semiotic type



Figures 7. and 8. Semiotic type distribution of visuals in the two sub-corpora

As for semiotic type distribution in the two sub-corpora, the KTTC contained 192 visuals, 1 every 38 seconds, whereas the GTTC contained as many as 229, 1 every 32 seconds. Semiotic type distribution was quite similar in the two sub-corpora (Figures 7 and 8), where the most represented categories were the only visual type (around 50% in each sub-corpus), followed by the scriptural-visual type (25% in the KTTC and 30% in the GTTC, respectively), the scriptural type (around 16% in each case) and the scriptural-(visual)-graphic (under 10% in both sub-corpora):

On the one hand, a significant aspect in the data from the KTTC is that 31% of the visuals (across different semiotic types) involved kids as research protagonists, with their families, at home, with friends, etc., while no similar examples were found in the GTTC. A couple of instances are reported in Figures 9 and 10, by way of illustration.

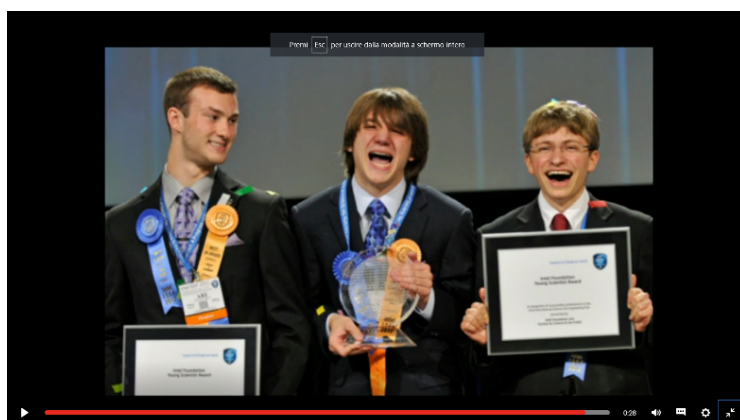


Figure 9. Visual featuring kids (1)

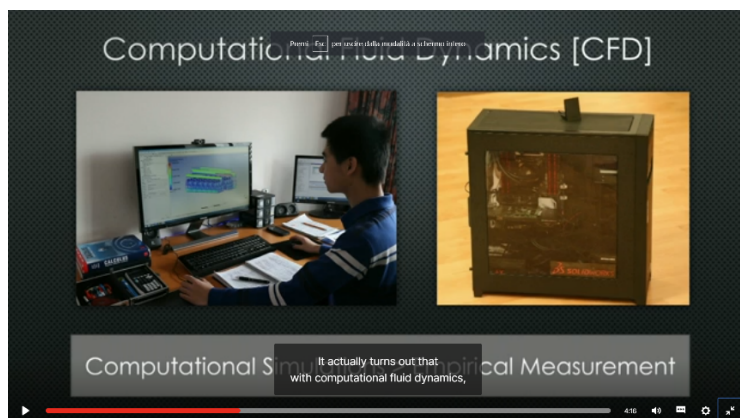


Figure 10. Visual featuring kids (2)

On the other hand, 15% of visual only and of scriptural-visual slides in the GTTC contained specialized visuals with descriptive functions (vs. 5% in the KTTC), as exemplified by Figures 11 and 12.

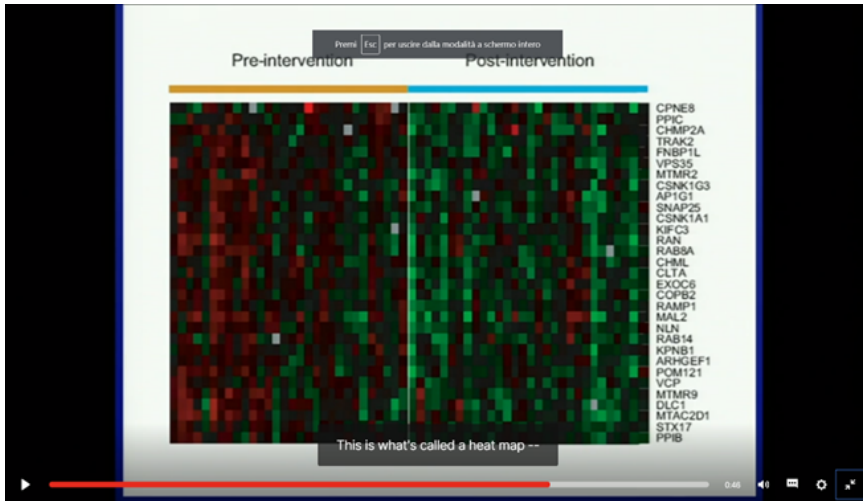


Figure 11. Specialized visual (1)



Figure 12. Specialized visual (2)

In one case (Figure 13) it was also possible to find a scriptural-visual type, still in the KTTC, of a slide which contained a video (with a frog jumping to catch flies displayed on a smartphone screen) establishing a visual analogy with what was being explained.

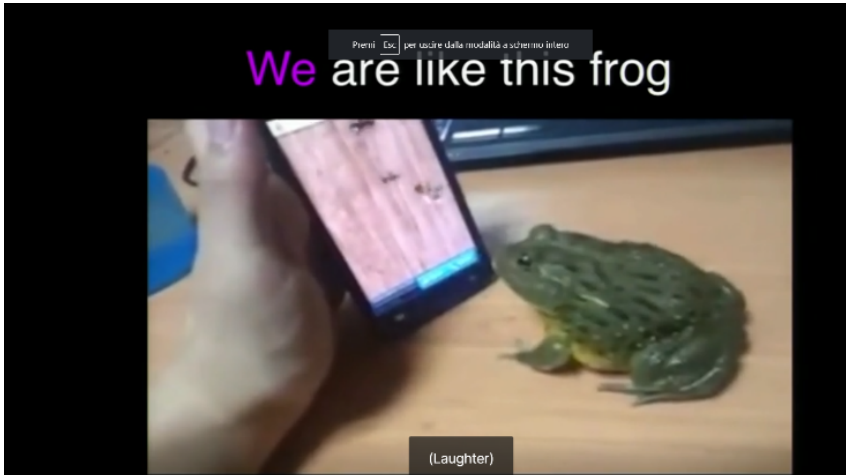


Figure 13. Slide contributing to analogy

Another important function performed by visuals in the KTTC was that of supporting humour, as in excerpts 17-20 respectively, containing the visuals in Figures 14-17.

- (17) And as I came upstairs to get something to drink, I looked out the window and realized that there was something that I was supposed to be doing, **and this is what I saw.**

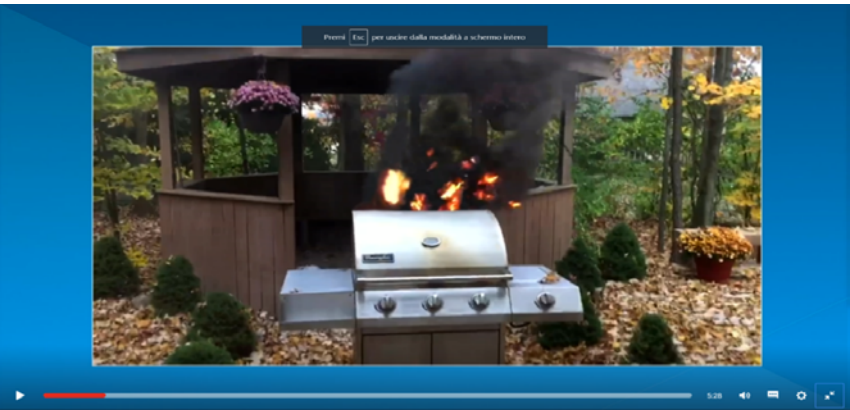


Figure 14. Visual supporting humour (1)

No, this wasn't my family's dinner on fire. This was my science project (Laughter). Flames were pouring out, smoke was in the air and it looked like our wooden deck was about to catch fire. **I immediately started yelling.**

My mom was freaking out, my dad ran around to put out the fire and of course my sister started recording a Snapchat video. (Laughter) [...] So in the future, don't be afraid if your grill goes up in flames, because you never know when **your idea might just catch fire.**

In (17) the personal narrative of the young speaker is complemented by the image on the slide. Humour here seems to arise from the contrast between the somewhat surprising identification of a domestic incident with the speaker's science project. This is further enhanced by the description of the reactions of the various members of the speaker's family, especially his sister's unexpected unhelpful behaviour, climaxing with wordplay at the end of the passage (based on the literal and figurative meanings of 'catch fire' in this context).

- (18) My first app was a unique fortune teller called "Earth Fortune" that would display different colors of Earth depending on what your fortune was. My favorite and most successful app is "**Bustin Jieber**," which is – (Laughter) **which is a Justin Bieber whack-a-mole.** (Laughter) I created it because a lot of people at school disliked Justin Bieber a little bit, so I decided to make the app.



Figure 15. Visual supporting humour (2)

In (18) the image to the right of the slide complements the speaker's verbal explanation, which contains a spoonerism.

- (19) Why are we so bad at detecting pancreatic cancer? The reason? Today's current "modern" medicine is a 60-year-old technique. **That's older than my dad.** (Laughter) (Andraka)

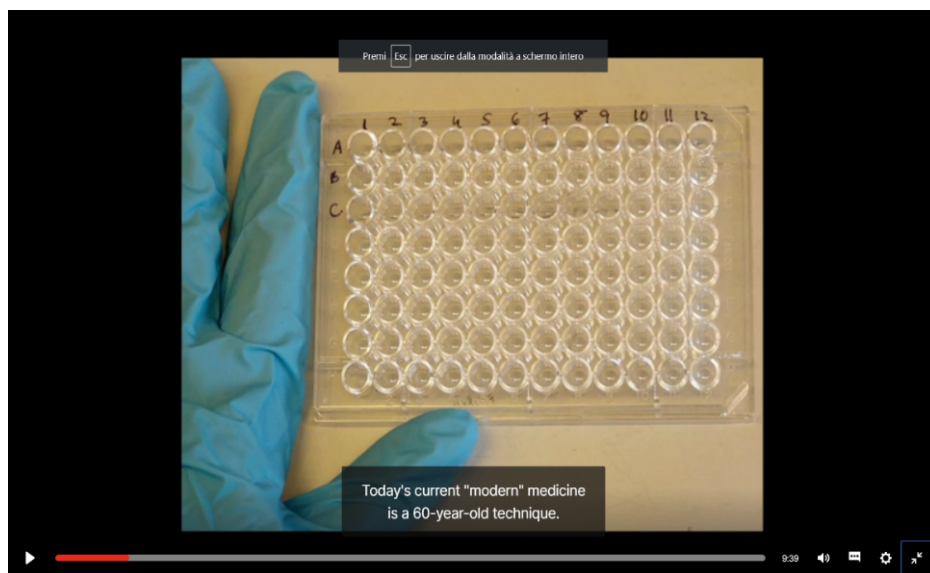


Figure 16. Visual supporting humour (3)

The visual in Figure 16 calls to mind old games (such as battleship), or the abacus, which was used by older generations at school, thus contributing to the humorous effect. In (19) the photo appears to support the idea of the obsolete or inadequate quality of laboratory tools, which is emphasized by the somewhat irreverent verbal comparison with the age of the speaker's father, expressing a sort of subversive attitude towards adults and institutions and aiming at underlining their shortcomings, which is often at play in the popularization addressed to children.

- (20) Now, my breakthrough came in a very unlikely place, possibly the most unlikely place for innovation – **my high school biology class, the absolute stifler of innovation.** (Laughter) (Applause) (Andraka)

The photo in (20) conveys the unexciting image of an empty biology lab, which adds to the subversive approach mentioned above, verbally depicted through the metaphor of an agent repressing innovation.

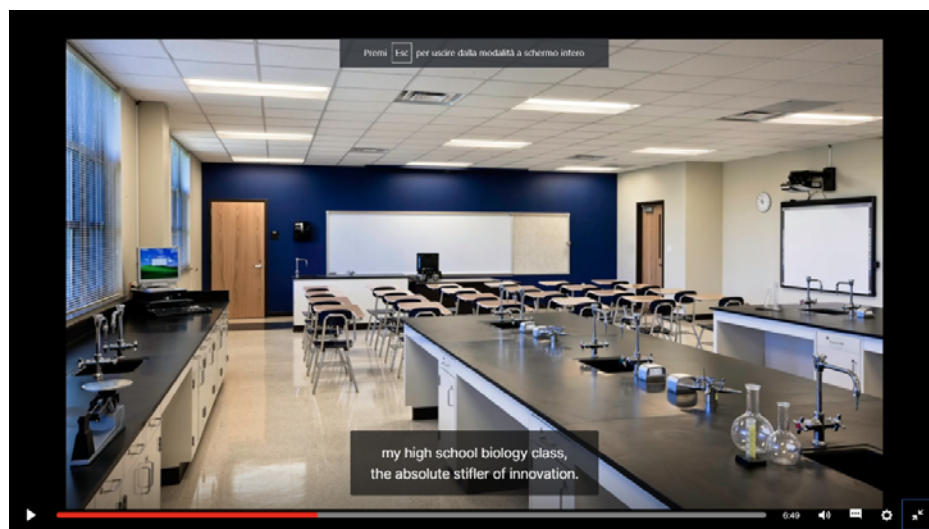


Figure 17. Visual supporting humour (4)

3. Concluding remarks

Overall, the TED Talks for children under analysis appeared to differ from other TED Talks not specifically involving kids (as either speakers or part of the intended audience). As a matter of fact, the expectations specified in Section 1.1 were largely confirmed by the quantitative and qualitative analyses of data.

On the one side, the talks in the KTTC had a hybrid composition, as some of them were more technical than others (e.g., D'Andrea's and Wilson's talks). In particular, they resulted in being more engaging than the talks in the GTTC, with a strong type of anchoring to pre-teens and teens' world of experience, similar to what happens in much informative literature for children, in which kids, acting as ratified actors (both verbally and visually), are expert protagonists of their narratives able to inspire emulation and love for Science and Technology in a young audience. To be more precise, the analysis of the verbal code in the data has indeed confirmed the presence of strategies of popularization via general kid-oriented recontextualization, and more specifically, via exemplification, reformulation and a range of analogies. Furthermore, some of the talks highlighted a complementary role of visuals, which contributes, once again, to kid-oriented recontextualization and humour.

On the other side, the talks in the GTTC contained more technical information (for instance in the *comparata* of some analogies) and specialized visuals, thus potentially being more difficult for a young audience.

Further steps in the research require more data from other kid-related playlists and TED events, e.g., covering TED-Ed's "lessons worth sharing"⁷ used by students and educators, who can create their own talks in class or in clubs following the TED style. It would also be interesting to explore in more depth the internal distinctions, based on the age criterion, within the TED Talks for the young as a genre. Further insights beyond a bimodal (verbal and visual) perspective are also needed (e.g., the contribution of gestures could/should be taken into account, see Masi 2016, 2019, 2020a, 2020b).

Both the present investigation and the expansions suggested above may contribute to a greater awareness of multimodal practices at work in digital materials based on the successful TED format. This greater awareness and such digital materials can certainly be of use in education addressed to young people, thus ultimately fostering the development of multimodal digital literacy from a young age.

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Rewriting novels for a young audience: A corpus-assisted comparison between two versions of *The Da Vinci Code* by Dan Brown

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ABSTRACT

This paper explores the differences between the young adult version and the original version of *The Da Vinci Code* by Dan Brown through the lens of corpus linguistics. The study adds to the limited number of linguistic case studies analysing intralingual literary adaptations for children and highlights ‘traditional’ adaptation strategies such as Purification, Language adaptation, Abridgment and Localization. However, the analyses also highlighted other types of adjustments not covered in the above categories and previously observed in another study on intralingual adaptations for young audiences (Bianchi 2018). This suggests the need for creating a classification of adaptation strategies specific to intralingual adaptations targeting young readers.

Keywords: corpus linguistics, POS tagging, semantic tagging, Wmatrix, adaptation, novel, teenagers.

1. Introduction

The Da Vinci Code by Dan Brown was first published in 2003. It soon became a worldwide bestseller – with 80 million copies sold as of 2009.² In 2016 a new version of the book was published by Delacorte Press, an imprint of Random House Children’s Books, a division of Penguin Random House LLC, New

¹ The first author is responsible for sections 1, 2, 3, 4.1.2, 4.2 and 5; the second author is responsible for the analyses in section 4.1.1.

² https://en.wikipedia.org/wiki/The_Da_Vinci_Code, accessed August 2021.

York. Interestingly, this new version is an adaptation for a 'young adult' audience written by Dan Brown himself, as the Copyright notice asserts. Press releases announcing the imminent launch of this version of the book defined the target audience as youngsters in their 'early teens' (Deahl 2016) or 13+ (BBC 2016).

Despite the enthusiasm of the author and publisher for this new literary endeavour, the general public and the press (e.g., Colyard 2016; Erizanu 2016; Tufayel 2016) did not seem to understand or appreciate the need for it and expressed the view that a dedicated edition was offensive to teenagers and their understanding and reading abilities. Admittedly, the author's justification of the young adult version is extremely vague, and so is his description of the differences between the two versions. These are offered in a video³ available on YouTube and can be summarized along the following lines: the author had long wanted to do a young adult version of *The Da Vinci Code*; the 2003 book contains r-rated material that he has tried to dilute; the 2003 book was very long, while the new version is shorter, which makes it more appropriate for a young audience; adults and children can read the new version together, and it will make them think and ask questions; *The Da Vinci Code* shows that art, architecture and documents are based in fact and can be studied as history; at the same time, young readers will be captivated by the adventure story. The young version aims to make young readers think and learn. On the other hand, the publishers make it a point to advertize that the young version "[i]ncludes over twenty color photos showing important locations, landmarks, and artwork, taking readers from Paris to London and beyond!"⁴

Rather than settling the matter, Dan Brown's and his publisher's explanations suggest new questions:

1. What is Dan Brown's (or his publisher's) idea of "more appropriate for readers in their early teens"?
2. Are the changes made by Dan Brown in keeping with traditional adaptation habits?
3. Are the changes made by Dan Brown in keeping with the actual needs of teenagers?

The current study addresses these questions by comparing the young adult edition to the original adult version. In doing so, it contributes to the

³ <https://www.youtube.com/watch?v=vg6zs0L6k3Y>, accessed August 2021.

⁴ <https://www.penguinrandomhouse.com/books/549656/the-da-vinci-code-the-young-adult-adaptation-by-dan-brown/>, accessed August 2021.

very few linguistic case studies analysing intralingual literary adaptations for the young. A theoretical framework for the analysis of the differences between the two texts is provided in Section 2 and draws from theoretical and empirical studies in children's literature, developmental psychology, language acquisition and reading comprehension, as well as linguistic studies on popularization. Section 3 introduces the materials and methods adopted in the current study. Section 4 illustrates the findings. Finally, Section 5 attempts to draw some conclusions.

2. Theoretical framework and literature review

Linguistic studies of the strategies used or needed to adapt literary texts to young audiences are still scarce. To the best of our knowledge, the only detailed linguistic case study comparing literary adaptations for children to the original adult text is Bianchi (2018), summarized in Section 2.1. However, as the same paper points out, theoretical and empirical studies in children's literature, developmental psychology, language acquisition and reading comprehension can be used to build a theoretical framework for interpreting analytical data. This framework is based on three axes and is schematically outlined below.

A. Habits in adaptations for children

Adaptations are generally based on what society believes to be pedagogically and morally appropriate for children (e.g., Klingberg 1986; Shavit 1986). Across time, they have always had a 'didactic intention' (Beckett 2009: 19). To the best of our knowledge, the only classification of typical adjustments is that by Klingberg (1986, in Anderson 2000). His classification, though deriving from an analysis of translations of children's books into foreign languages, can be considered to suitably describe "manipulations [...] performed in the adaptation of adult texts for children" (Anderson 2000: 276)⁵ and includes cultural context adaptation, modernization, purification (i.e., removal of inappropriate content), language adaptation, abridgement, and localization.

⁵ Anderson (2000: 276) explains that "Literature designated as 'children's' is either adapted from works originally intended for adults or written directly for an audience of children. Because it is not generally taken seriously as literature but is filtered through adults for its pedagogical possibilities, the translation norms that apply to it are quite different from those applied to adult literature; in fact, they often resemble the norms used in adapting adult works for children."

B. Needs of pre-adolescent and adolescent readers

Across a person's life, five reader roles can be identified, each one depending on the affective, social, cognitive and experiential needs of the different age groups (Appleyard 1991): the early childhood reader is a Player; the later childhood reader is a Hero or Heroine; the adolescent reader is a Thinker; at college age and beyond, the reader is an Interpreter; in adulthood s/he becomes a Pragmatic Reader. In their late childhood (including pre-adolescence), readers require adventures with characters identifiable as either villains or heroes. They should feature fairly simple sentences and short paragraphs, limited descriptions of characters and settings and ample focus on dialogue and action. Naturally, at both the structural, thematic and linguistic levels, different degrees of complexity are envisaged as the child grows and moves towards adolescence. To meet the needs of an adolescent reader, a literary work should have a narrative structure that is complex enough to hold his/her attention and characters with whom the adolescent can identify. In particular, the characters should "match their readers' newfound sense of complexity" without exceeding it (Appleyard 1991: 106). In terms of content, adolescents appreciate realism and stories that make them think (Appleyard 1991). In particular, novels should treat topics of specific interest to adolescents, such as death and sexuality (Sellinger Trites 2000; James 2009).

C. Linguistic needs of less-skilled readers

Pre-adolescents and adolescents can – perhaps – be considered less-skilled readers than adults, in so far as they are still building their reading abilities. Less-skilled readers have problems understanding specific language features which should thus be avoided. These include: embedded subordinate clauses, hidden negative clauses, and the passive voice (Reid – Donaldson 1977, in Gamble – Yates 2002); cataphoric reference, ellipsis, and conjunctive ties (Chapman 1987, in Gamble – Yates 2002); low-frequency words (e.g., Nation – Snowling 1998); and figurative language (Gamble – Yates 2002). Furthermore, less-skilled readers have difficulty in making causal inferences (Long – Oppy – Seely 1997). Finally, they benefit from the presence of section titles (e.g., Yuill – Joscelyne 1988; Cain – Oakhill 1996).

2.1 A linguistic analysis of adaptations for children

As mentioned, to the best of our knowledge, the only detailed linguistic analysis comparing literary adaptations for children to original adult texts is Bianchi (2018). Using corpus-linguistic methods, she analysed two narrative

versions of Shakespeare's *Romeo and Juliet* written in contemporary English by an experienced author specializing in bringing Shakespeare to young audiences. One of the two versions targets teenagers, while the other is for children aged 8-11. Bianchi's study showed how this particular author operationalized the concept of adaptation into a specific – and systematically used – range of structural, linguistic, and stylistic choices, some of which were applied in both adaptations and some in the teenage version only.

The techniques common to both texts are:

- a. Integrating ample stretches of dialogue into the narrative texture.
- b. Conveying the idea of action and continuous changes of scene, linguistically marked by the presence of the verb *go* (e.g., Let 's go to Capulet's party, Romeo. No-one will mind; Alright then, off we go. [END OF CHAPTER]).
- c. Explicating relations between circumstances and events, possibly to facilitate comprehension of the characters' actions and decisions.
- d. Explicating the character's emotions by conveying them through concrete descriptions of their facial expressions.
- e. Explicating the character's distress by underlining it with exclamations 'oh' or 'oh no'.
- f. Preferring overt negative structures to covert ones.
- g. Using very common verbs and nouns with a frequency that is well above average. (e.g., be; go; stop; turn; do; word; find; go; fellow).
- h. Repeating set expressions.
- i. Emphasizing the young age of the characters.

The techniques found in the teenage version only are:

- j. Using long stretches of metaphorical or lyrical descriptions.
- k. Including technical vocabulary, sometimes even requiring knowledge of medieval habits and institutions.
- l. Making frequent reference to women, love and sex.

The techniques observed in Bianchi (2018) serve specific aims. In particular, a. and b., besides maintaining some elements of the original play in the new narrative text type, place emphasis on action and make the plot more dynamic. According to Appleyard (1991; see Section 2, this paper), action and dynamism are requirements for late-childhood readers, as in that age group, characters are what they do, which involves presenting them primarily through dialogue and action, plus a few distinctive traits. Action

is also useful in holding the reader's attention, a fundamental need for readers in their late childhood. Techniques c., d. and e. could be grouped together as explication strategies. Explication strategies are intended to limit the need for the reader to make causal inferences, a difficult cognitive task for the less skilled (see this paper, Section 2, C.). Techniques f., g., and h. are all forms of linguistic simplification, in favour of less-skilled readers (see this paper, Section 2, C.). In particular, the frequent use of common words implicitly entails avoiding low-frequency words. Technique i. helps readers to identify with characters, a specific need of adolescents (see this paper, Section 2, B.). Features j. and k. do not seem to correspond to any particular needs in our framework. Finally, l. represents a form of content selection possibly aimed at meeting adolescents' specific interest in sexuality (see this paper, Section 2, B.). In fact, constant references to women, love and sex, though already powerfully present in Shakespeare's play, does not have to be a dominant feature in an adapted version (as the many purified adaptations across time testify).

3. Materials and methods

To find an answer to the Research Questions outlined in Section 1, corpus linguistics methods were applied. Using Wmatrix (Rayson 2009), a corpus analysis and comparison tool that performs part-of-speech (POS) as well as semantic tagging, *The Da Vinci Code (The Young Adult Adaptation)* (Brown 2016) was directly compared to the original version of the novel (Brown 2003); furthermore, both books were compared to the BNC Sampler Written Imaginative, the latter providing a reference corpus including prose fiction (77%), poetry (13%) and drama (10%) in British English, and the outcomes were contrasted. Comparisons were performed at the level of keywords, key POS tags, and key semantic categories. Focus was placed on items having log-likelihood (LL) higher than 6.63, a threshold corresponding to a significance value of 0.01. The items under consideration were analysed by reading their concordance lines, thus considering the words and the POS or semantic categories in context.

Before that, the two versions of *The Da Vinci Code* were compared at a general quantitative level, considering the features summarized in Table 1. The corresponding measures were obtained using Wordsmith Tools 4.0, a corpus concordancer that provides measurements that include number of sentences and mean sentence length.

Table 1. General quantitative overview of the two versions

	Adult version	Young version
Tokens	141,905	89,006
Types	11,424	7,984
Type-Token Ratio (TTR)	8.06	8.98
Standard TTR (1000)	46.12	45.06
Sentences	12,896	8,530
Mean sentence length	10.98 (s.d. 8.58)	10.42 (s.d. 8.05)

4. Findings

4.1 Young vs. adult version – a direct comparison

As Table 1 (in Section 3) shows, the young version is much shorter than the original version, with -37% tokens (words), -30.11% types, and -34% sentences. On the other hand, TTR, standard TTR and mean sentence length are similar. These raw data suggest abridgement but little stylistic difference between the two texts.

4.1.1 An analysis of keywords

The two texts were directly compared to each other at word level, which retrieved 45 positive keywords characterizing the young version and 22 positive keywords characterizing the adult version. Of these, only 12 items appear in the young version and 28 in the adult version. To make sense of the extracted keywords, it was necessary to read their concordance lines and scan each novel's word list. This led to the identification of the following types of events: 1. substitutions (words replaced by other words); 2. deletions (words or phrases removed from the text); 3. additions (words or phrases added to the text).

More specifically, in the adaptation process for young adults, the author replaced:

- a. Words derived from Latin with words derived from the Anglo-Saxon or Old English stages of the English language, thus replacing for example *erased* or *obliterated* with *wiped out*, *exited* with *went out*, *trepidation* with *unease*, *contention* with *train of thought*, *decelerated* with *slowed down*.

- b. Technical and specific expressions with more generic or clearer ones, thus passing, for example, from *secretariat* to *secretaries*, *docent* (in the meaning of lecturer in a cathedral) to *verger* (someone who acts as an attendant during ceremonies), from *cryptanalysts* to *code-breaker*, from *high-strength polypropylene lamps* to *high-power lights*, from *blurbs* and *endorsements* to *quotes*, from *Father* to *Reverend*, from *symbolologist* to *expert*, from *palate* to *taste buds*, from *my zodiac iconography* to *my knowledge of the zodiac*, from *the modernist Cubist movement* to *the early twentieth-century Cubist movement*.
- c. (Phrases including) proper names with more generic ones, thus for example replacing *Mount Vesuvius* with *volcano*, and *Gare du Nord train terminal* with *the train station*.
- d. Phrases referring to sex with more general ones, thus for example replacing the phrase *sexual abuse of children* with *terrible misdeeds*.
- e. American English words with British English words, thus passing for example from *restroom* to *toilet*, from *rotary* to *roundabout*, from *gas* to *petrol*, from *nibblies* to *nibbles*, from *movies* to *films*, from *movie theatre* to *cinema*, from *trash can* to *rubbish bin*, from *closet* to *wardrobe*, from *vest* to *waistcoat*, from *vacation* to *holiday*, from *casket* to *coffin*. (It must be noticed however that one case of counterevidence was also found – see example (2) below – where the author replaces UK with US spelling, passing from *Centre* to *Center*).

Cases from a. to c. above clearly represent attempts to simplify the language in the text. Case d) is illustrative of the purification approach. The replacement of American with British words is a case of localization. Its rationale, however, is not easy to explain, especially if we consider that not only the hero in the book but also Dan Brown himself and the publishing house of the young version are all American. A possible hypothesis could be that the publishers had a British audience in mind for the young version. This would seem to be supported by the deletion of the reference to Scotland – unnecessary for a British audience – in example (1) below; however, why should an American publishing house limit its target readers to the UK only? It goes against the logic of commerce and profit. Another possible hypothesis – alarming as it may be from the perspective of modern linguistics – is that either author or publisher (or possibly both) believes that British English is or should be the standard variety for children to learn. This however would suggest that all the efforts made by English linguistics to recognize equal status to its different varieties have not yet filtered out of academia.

Deletions seem to be motivated by a desire to shorten and simplify the text by removing expendable details, as in the following examples:

(1) *Adult version:*

Rosslyn Chapel – often called the Cathedral of Codes – stands seven miles south of Edinburgh, Scotland, on the site of an ancient Mithraic temple.

Young version:

Rosslyn Chapel stands seven miles south of Edinburgh, on the site of an ancient temple built in honor of the god Mithras.

(2) *Adult version:*

London's Opus Dei Centre is a modest brick building at 5 Orme Court, overlooking the North Walk at Kensington Gardens.

Young version:

The Opus Dei Center in London is a modest brick building at 5 Orme Court in Kensington, West London.

Finally, additions seem to fulfil a need for clarification, as in the following examples:

(3) *Adult version:*

London's Opus Dei Centre is a modest brick building at 5 Orme Court, overlooking the North Walk at Kensington Gardens.

Young version:

The Opus Dei Center in London is a modest brick building at 5 Orme Court in Kensington, West London.

(4) *Adult version:*

Langdon looked again at the digits, sensing it would take him hours to extract any symbolic meaning. If Saunière had even intended any. To Langdon, the numbers looked totally random. He was accustomed to symbolic progressions that made some semblance of sense, but everything here – the pentacle, the text, the numbers – seemed disparate at the most fundamental level.

Young version:

Langdon looked again at the digits. The numbers appeared to be totally random. When numbers were used as part of a system of symbols, they usually made some sort of sense – a progression or

pattern, for instance. But nothing here – the pentacle, the text, the numbers – seemed to have a link to each other.

Example (4) also indicates ample reformulations and substitution of metaphorical expressions with more concrete ones (*seemed disparate at the most fundamental level* vs. *seemed to have a link to each other*).

4.1.2 An analysis of key POS tags and key semantic tags

Direct comparison between the two texts at the level of key POS tags retrieved six items with statistically significant higher frequency in the young version and only two items with statistically significant higher frequency in the adult version (Table 2).⁶

Table 2. Key POS tags characterizing each version

Young version	Adult version
PPIS1: 1st person sing. subjective personal pronoun (I)	JJ: general adjective
RL: locative adverb	NN2: plural common noun
PPHS1: 3rd person sing. subjective personal pronoun (he, she)	
PPY: “you”	
VBZ: “is”	
VVD: past tense of lexical verb	

Furthermore, a direct comparison between the two texts at the level of key semantic tags retrieved two semantic fields with a statistically significant higher frequency in the young version and four fields with a statistically significant higher frequency in the adult version (Table 3).

Table 3. Key semantic tags characterizing each version

Young version	Adult version
Z8: Pronouns	S3.2: Relations: Intimacy and sex
Q2.1: Speech: Communicative	Z99: Unmatched
	Z3: Other proper names
	O1: Substances and materials generally

⁶ The table reports the tag followed by the official explanation provided in Wmatrix.

These findings suggest a relatively greater presence of dialogues in the young version, as shown by:

- Presence of pronouns 'I' (PPIS1) and 'you' (PPY) and the simple present tense, third person singular, of verb 'be' (VBZ) among the key POS tags in the young version, and presence of category Z8, i.e., pronouns, among key semantic fields. In particular, as many as 30% of the instances in category Z8 correspond to first- and second-person pronouns and possessive adjectives.
- Presence of key semantic tag Q2.1: Speech: Communicative, represented by verbs that introduce direct or indirect dialogue (e.g., *"I'm sorry, Langdon said";⁷ "As I told you, he said, [...] we have touched nothing") or refer to (ongoing) conversation (e.g., *"What is he saying?"*).*

Furthermore, the data indicate a relative prevalence of narration of events, comparatively fewer or shorter descriptions and a greater attempt to narrate through 'cinematic' images, respectively conveyed by:

- Lexical verbs in the past tense (VVD).
- A significantly lower frequency of general adjectives (JJ) and plural common nouns (NN2) in the adult version.
- The frequent use of locative adverbs (RL) (e.g., *"Outside, the city was just now winding down"; "Saying nothing, he stared dead ahead at the chrome doors"*), but also reference to (in)distinguishable dialogue in the background or quality of voice (Q2.1: Speech: Communicative; e.g., *"Voices echoed down the marble corridor"; "When we possess the keystone, the Teacher whispered, [...]"*).

Finally, these findings suggest ample reformulation. This is indicated by the presence of key POS tag PPHS1 in the young version, third person pronouns being an easy replacement for more complex noun phrases whenever anaphoric reference is possible, but above all by the total or relative absence of some semantic fields characterizing the adult version. More specifically:

- S3.2 is a positive key semantic tag for the adult version, which suggests the reduction or removal of words indicating intimacy or sex in the young version.
- Semantic fields Z3: Other proper names and Z99: Unmatched also are positive key semantic tags for the adult version. The analysis of their concordances shows that they include names of characters, places

⁷ Here and elsewhere in the text, underlining indicates the node word.

and gods, as well as words in Italian or French and some adjectives that must have been removed or replaced with something else in the young version.

- Semantic field O1: Substances and materials generally – a positive key semantic field in the adult version – contains seven items in all that show other reformulation strategies, including the elimination of metaphorical expressions (“[...], *vertical dignity that seemed more a by-product of noble ancestry than any kind of conscious [...]*”; “*He let the pain of his body fuel his supplications*”; “*The mention of Sophie’s name had been the catalyst*”), the elimination of text that slowed down the advancement of the plot (“*Sophie drank her tea and ate a scone, feeling the welcome effects of caffeine and food*”; “[*Langdon’s book*] *included several sections about Mary Magdalene that were going to raise some eyebrows. Although the material was well documented and had been covered by others, Faukman had no intention of printing [...]*”), the substitution of less familiar terms with more commonly used ones (“*grabbing a grease pen*”, *grease pen* being a less common word for *marker*), and simplification and abridgement (“*As a veteran of la Guerre d’Algérie, the curator had witnessed this horribly drawn-out death before. For fifteen minutes, he would survive as his stomach acids seeped into his chest cavity, slowly poisoning him from within*” is replaced in the young version with “*From his war experiences he knew he had fifteen minutes to live*”).

4.2 Young and adult versions compared to the BNC Sampler Written Imaginative

Comparison of the two corpora with the BNC Sampler Written Imaginative offers an indirect view of differences between the two versions.

Such comparison retrieved 19 key POS tags for the young version and 22 for the adult version; of these, 17 are common to both texts and will thus be ignored in the current analysis.⁸ The different ones are listed in Table 4 and discussed in this section. A comparison of the two versions with the BNC at the level of semantic tags returned 86 key semantic fields for the young version and 102 for the adult version. Of these, 82 are common to both texts and will thus be ignored; the remaining key semantic fields – specific for each version of the novel – are listed in Table 5.

⁸ The common tags would be useful for an analysis of Dan Brown’s style, but provide no information as for the differences between the two versions of the novel.

Table 4. Key POS tags vs. BNC Sampler Written Imaginative

Young version	Adult version
PPHS1: 3rd person sing. subjective personal pronoun (he, she)	MCMC: hyphenated number (40-50, 1770-1827)
RP: prep. adverb, particle (e.g., about, in)	RGR: comparative degree adverb (more, less)
	VBDZ: was
	VBN: been
	DA2: plural after-determiner (e.g., few, several, many)

Table 5. Key semantic tags vs. BNC Sampler Written Imaginative

Young version	Adult version
H1: Architecture, houses and buildings	A1.4-: Unlucky
N3.8+: Speed: Fast	A11.1+: Important
S1.1.4+: Deserving	A4.2+: Detailed
X9.1-: Inability/unintelligence	A6.2-: Comparing: Unusual
	I1.3+: Expensive
	N3.7++: Long, tall and wide
	N3.7+++ : Long, tall and wide
	O4.2++: Judgement of appearance: Positive
	S7.3+: Competitive
	X2.1-: Without thinking
	X3: Sensory
	X4.1: Mental object: Conceptual object
	A9: Getting and giving; possession
	S7.1: Power, organizing
	W5: Green issues
	Q4: The Media
	Q4.1: The Media: Books
	Q4.3: The Media: TV, Radio and Cinema
	S1.1.3: Participation
	S1.1.3+++ : Participating

The data are indicative of four specific strategies. These are summarized in the following paragraphs.

First of all, the data show a greater attempt to narrate through 'cinematic' images in the young version. Detailed analysis of POS tag RP and its concordance lines – which characterize the young version – highlighted that 89.7% of the prepositions in this tag were used to describe movement (56.9%), gaze (20.1%), surroundings (4.9%), places (3.0%) or sound (4.7%), thus contributing to a lively, cinematic narrative, while the remaining 10.3% of instances referred to Relationship (1.2%), Time (3.0%) and Other (e.g., phrasal verbs; 6.1%). Similarly, the presence of the semantic field N3.8+ (Speed: Fast) can be interpreted in the light of the young version's greater focus on action.

Secondly, the data testify to the shortening or omission of elements that slow down the narration. This is suggested by the POS and semantic tags that are key in the adult version but not in the young adaptation. POS tag MCMC includes hyphenated numbers: they belong to a rather long list of names and dates of the Grand Masters of the Priory, reported in the adult book but not in the young version. The remaining POS tags characterizing the adult version all point to the elimination, reformulation or shortening of descriptions in the young version in favour of events. In fact, comparative forms (RGR) and quantifiers (DA2) appeared in descriptive sentences; in 74.4% of cases, the word 'been' (VBN) was preceded by 'had', i.e., it belonged to a past perfect verb phrase, which suggests the author largely removed or shortened descriptions of facts preceding the timeline of the story, possibly because they provide only background information on characters and do not advance the story; finally, concordances of the verb 'was' (VBDZ) are all clear cases of descriptions. Similarly, key semantic tags A1.4-, A11.1+, A4.2+, A6.2-, I1.3+, N3.7++, O4.2++, S7.3+, X2.1-, X3, and S7.1 indicate a greater presence of adjectives and adverbs (i.e., descriptive elements of places, peoples and events) in the adult version. Finally, the presence of semantic tags A9 and X4.1 in the adult version corresponds to the elimination of side comments and side details that are not fundamental to the plot. This is particularly evident in key semantic tags Q4, Q4.1, Q4.3, S1.1.3 and S1.1.3+++, all referring to the role of the media in the story and on Langdon being a writer.

Thirdly, there is evidence of focus shifts. Compared to the young version, the 2003 version puts greater emphasis (in proportional terms over the entire text) on Nature as a pre-Christian object of worship, but also the need to understand the 'true nature of the Holy Grail' (key semantic tag W5). On the other hand, the young version emphasizes the idea of

worthiness (e.g., being worthy of the Grail; being worthy of unlocking the keystone; only the worthy ones will receive a reward; key semantic tag S1.1.4+). Whether the above are the result of voluntary decisions or rather the outcome of shortening and simplifying is impossible to establish. Furthermore, key semantic tag H1 suggests that in the young version the author, while generally shortening or removing descriptions of people and places, indulges in the description of buildings, the reason for this possibly being his desire to help children to discover art and architecture (also supported by the presence of colour pictures; see Section 1).

Finally, these data suggest ample reformulation in passing from the adult to the young version. This is signalled by key POS tag PPHS1 in the young version, which indicates reformulation by anaphoric reference, as observed in section 4.1.

5. Conclusions

This study has applied basic and advanced methods typical of corpus linguistics to compare and contrast two versions of *The Da Vinci Code* by Dan Brown, in an attempt to shed light on this author's view of adaptation to the needs of a young audience. By approaching the texts from different angles – keywords, key parts of speech, and key semantic domains – and by comparing them to each other but also to an external reference corpus – the BNC Sampler Written Imaginative – the analyses have managed to identify the strategies at play and also illustrate the structural, semantic, linguistic, and stylistic choices used by Dan Brown to operationalize such strategies.

Four out of the six adaptation strategies listed by Klingberg (1986; Section 2, A) seem to be at play in this young version:

- Purification, i.e., adaptation based on what society believes to be morally appropriate for children, observable in the removal or replacement of references to sexual matters (see Sections 4.1.1 and 4.1.2). This was one of the author's stated purposes in creating a new adapted version (see Section 1).
- Language adaptation, achieved through the substitution of: technical and specific expressions with more generic or clearer ones (Section 4.1.1); words derived from Latin with words derived from the Anglo-Saxon or Old English stages of the English language (Section 4.1.1); (phrases including) proper names with more generic ones (Section 4.1.1); less familiar terms with more commonly used ones (Section 4.1.2); complex noun phrases with third person pronouns whenever anaphoric

reference is possible (Sections 4.1.2 and 4.2); metaphorical expressions with more concrete ones (Section 4.1.1). Furthermore, the elimination of metaphorical expressions (Section 4.1.2) can also be considered a form of language adaptation.

- Abridgement, achieved through the deletion of expendable details, i.e., those parts of the original text which are not directly functional to the advancement of the plot, such as descriptions of people and places, side comments and details (Sections 4.1.1, 4.1.2, and 4.2).
- Localization, evidenced by the replacement of American English words with British English words. However, if this strategy is clear, its rationale is dubious, and any possible explanation remains in the realm of hypotheses (Section 4.1.1).

Other phenomena were also observed, i.e., additions for clarification purposes (Section 4.1.1), emphasis on dialogue (Section 4.1.2), the narration of events through 'cinematic' images (Sections 4.1.2 and 4.2), and focus shifts (Section 4.2). Although some focus shifts are difficult to explain, the emphasis placed on the description of buildings in the 2009 version was certainly deliberate, a way to attract the young reader's attention towards art and architecture (Section 1) and, matched to the presence of colour pictures, fulfil an instructive aim. Beckett's (2009) observation of a general pedagogical drive behind adapting literature to young readers, thus, applies also to this new millennium.

Some of the adaptations observed in *The Da Vinci Code – Young Adult Edition* are also in keeping with the needs of pre-adolescent and adolescent readers, who require a focus on dialogue and action and limited descriptions of characters and settings (Section 2, B). At the same time, the purification of sex-related references sharply contrasts with their needs and interests and indicates a rather puritan attitude to education. Furthermore, the analyses suggest that Dan Brown (or the publishers) considers teenagers to be less experienced readers, since at least a couple of the linguistic features that are difficult for less skilled readers (Section 2, C) were rather systematically addressed. In fact, low-frequency words, including words of Latin origin and technical or specialized terms, were replaced with corresponding high-frequency expressions, and figurative language was removed or replaced with more concrete expressions (Sections 4.1.1 and 4.1.2).

Finally, the structural, semantic, linguistic, and stylistic choices observed in this study show some overlapping with those discovered by Bianchi (2018) in her analysis of two *Romeo and Juliet* narrative adaptations for young audiences. In particular, the observation of emphasis on dialogue

and (cinematic) action also to be found in Dan Brown's text for teenagers confirms that this derives from the idea of adaptation and not from the type of source text. Furthermore, despite what could be called 'technical' differences in the linguistic and stylistic choices observed, the approaches adopted by the two authors largely share the same intents, which can be summarized in the following strategies: simplification (of content and/or language); explication and clarification; and content selection/shift in focus.

The results of these two case studies – i.e., Bianchi 2018 and the current study – suggest the need for a revised classification of adaptation strategies, specific for intralingual adaptations for the young. Furthermore, linguistic analysis of a wider variety of adaptations from different types of source texts could help to outline such revised classification and to identify an even wider set of technical linguistic adjustments.

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Popularizing diversity for children in videos on YouTube

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ABSTRACT

The study analyzes how information about diversity is conveyed to young people. It is a question that children, even from an early age, will most likely come face to face with either personally or indirectly, at school or in their neighbourhood. As members of society, albeit currently “junior” members, children need to understand and embrace diversity to become responsible citizens now and in the future. The analysis is based on a corpus of videos from YouTube and adopts an eclectic, qualitative approach to capture the various facets of popularization for children, in both its cognitive and communicative dimensions, also in view of the fact that communication with children needs to be age-appropriate, thus requiring different communicative strategies for different age groups (Kolucki – Lemish 2011). The study also briefly takes into consideration the multimodal elements of the videos that are used to enhance the presentation and understanding of information.

Keywords: popularization, children, diversity, videos, cognitive strategies, communicative strategies.

1. Introduction

Popularization involves the rewriting of specialized knowledge to make it comprehensible and accessible to lay persons. It not only transfers information to broaden the addressee’s general knowledge, but it may also aim to empower them, as in the case of medical or legal knowledge. Among the potential addressees we should include children who as members of society, albeit currently “junior” members, need to understand the world

about them. This principle is underlined in the UNICEF publication *Communicating with Children* (Kolucki – Lemish 2011: 3), which describes children as:

[...] the major “social capital” of every society concerned with change for a better today and for the future of its members: Their education promises the chance of improving economic and social conditions; their positive socialization for conflict resolution can help manage social clashes [...]; their health and good nutrition can promote longevity, lower social costs and lead to a better quality of life; and their psychological well-being has the promise of a more resilient and culturally rich society.

This paper explores how important ideas can be communicated to children through videos on YouTube. The videos analyzed in the study deal with diversity, a topic that has become a fundamental talking point, especially in the light of recent, often tragic, events and needs to be understood and appreciated by children in order for them to become responsible citizens now and in the future.

Research in popularization has focused mainly on the dissemination of specialized knowledge for adults (Myers 2003; Kermas – Christiansen 2013, Caliendo – Bongo 2014), but more recently attention has also been directed towards popularization for children in a range of domains, as for example history, tourism, medicine, law and economics, and also in a variety of genres, such as printed books, newspaper articles, websites (Turnbull 2015a, 2015b; Diani 2018; Bruti – Manca 2019; Cappelli – Masi 2019; Diani – Sezzi 2019; Cesiri 2020). The dissemination of knowledge to children for their empowerment could appear to fall into the area of education and schooling. However, nowadays children have access to many online resources in their free time, so opportunities for ‘learning’ are infinite and not limited to the classroom or formal educational contexts.

Diversity is a question that children will come face to face within their lives, at school or in their neighbourhood, even at an early age, either personally or indirectly. It concerns the recognition, acceptance and valuing of individuals’ differences based on their ethnicity, gender, age, religion, disabilities and sexual orientation. Beyond the immediately visible differences of skin, hair, clothes and so on, diversity also has many social, economic and political implications and ramifications that may not be so immediately evident. Acceptance of differences should lead to equality and

social inclusion. Diversity is not a specialized “technical” topic in itself, but of such fundamental importance for society today that it is worthy of being “popularized”. But how can this sensitive topic be presented to children effectively and in a comprehensible way?

Calsamiglia (2003: 140) cites six basic questions that lie at the core of popularization:

1. What needs to be said?
2. How should it be said?
3. How to explain it?
4. How to motivate?
5. Via what channels?
6. With what intention?

These questions are especially relevant when children are the target audience, because, as Kolucki and Lemish stress in the UNICEF publication *Communicating with Children* (2011), communication with children needs to be age-appropriate and suitable according to the level of conceptual difficulty, but also to the child’s stage of behavioural, social and communicative development. The last two of the questions above have already been answered as the channel is videos on YouTube and all the videos in the study aim to raise awareness about diversity and its importance for a better world. The other questions will be answered in the course of the analysis. The paper aims to gain insight into children’s videos and explore and describe how diversity, a social and, in many ways, an abstract concept is conveyed to young people. It will investigate whether or how they respond to Calsamiglia’s questions looking at both the cognitive and communicative strategies adopted to disseminate this knowledge.

2. Corpus

The small corpus is made up of 28 videos (total number of words 21,578) available on the American and social media platform YouTube which appeared in response to a google search for “diversity for kids/children YouTube” (see Table 1 for the list of videos).¹ They discuss the question of diversity, mostly from a general point of view, though five specifically

¹ There were not as many videos available at the time of selection on YouTube as might be expected. However, a few were excluded because a book was presented in more than one Readalong or because the video did not deal strictly with diversity but referred to it in a broader context.

focus on racism (N, A, Q, U, α) and one on gender (Z). No clear indication is given for the age of the target audience of the videos, but it is possible to gauge roughly the age from the approach to the topic. Most would seem to address very young and young children (aged 5-11), whilst three target slightly older children (aged 12-14) and four would appear to aim at a teenager audience.

For very young viewers, physical, social and cultural differences between people are presented and explained, whereas for slightly older children the emphasis is that we all share the same feelings, hopes and joys regardless of our differences. Videos dealing with racism aim at children of varying ages and with different perspectives. An historical view of the question is given for younger school-age children, whereas the ideas of (in) equality and social inclusion are developed in other videos. The length of the videos varies greatly, ranging from 1.35 minutes to 23.42 minutes, with an average of approximately six minutes. There is also great variety in the format of the videos, as will be discussed in the analysis below.

Table 1. Video corpus (all videos last accessed September 2021)

For very young children		Length (mins.)
A	Sesame Street explain Black Lives Matter	5.01
B	What makes us unique	6.49
C	What is diversity? Circle Time Khan Academy Kids	23.42
D	We're all amazing! Diversity and Equality.	3.08
E	It's OK to be different by Sharon Purtill	5.06
F	I am brown. Kids' books that celebrate diversity inclusions	10.39
For young children		Length (mins.)
G	Diversity and equality for kids	3.50
H	What does diversity mean?	3.56
I	What is diversity Educate Kids awesome	3.29
J	Leadership video for kids: What is diversity	1.40
K	The world's family (An Embracing Culture Story)	1.35
L	Being different is beautiful by LittleSikhs.com	2.16
M	Diversity and Inclusion: Animated stories for kids	7.44
N	Black Lives Matter Protest	9.19
O	Diversity and Social Inclusion for Kids	3.24
P	Small talk. Differences CBC Kids	2.58

Q	Let's talk about race by Julius Lester	7.28
R	A kids book about racism by Jelani Memory	3.58
S	The skin you live in Readalong by Michael Tyler	4.25
T	Whoever you are by MemFox	2.57
U	Something happened in our town	9.24
For older children		Length (mins.)
V	Diversity and Inclusion: Lessons in friendship and love	6.33
W	Kids talk about diversity	2.31
X	What is inequality and social justice?	2.00
For teens		Length (mins.)
Y	Teens talk about diversity	5.42
Z	Why media diversity matters: A Female Teenagers Perspective	20.45
α	Systemic racism explained	4.23
β	Embracing diversity	3.33

A very frequent format used in the videos is the Read Aloud composition, where a book is read, either with the author or reader visually on screen or as a voiceover but showing the pages of the book as they are being read. Eight of the videos are actually Read Alouds, perhaps because of the young age of viewers and because they are considered important for developing reading skills and vocabulary. "Children can listen on a higher language level than they can read, so reading aloud makes complex ideas more accessible and exposes children to vocabulary and language patterns that are not part of everyday speech." (Gold – Gibson 2001). Sometimes the adult reader of the book interacts directly with the audiences and these occasions have been included in the analysis.

Although the videos in the corpus are fairly heterogeneous as far as the age of the target audience and the focus of the topic are concerned, videos as a channel of communication were chosen as the subject of the study because they have acquired particular relevance in the life of young children today. A survey carried out in March 2020 in the United States (<https://www.statista.com/statistics/1150571/share-us-parents-young-child-watch-youtube-videos/>) revealed that 89 percent of parents with children aged 5 to 11 years say their child had watched a video on YouTube. Additionally, 57% of parents reported that their children aged up to two years had also watched a video on YouTube. Furthermore, according to a study conducted by U.S. children's museums in 2019, young children believe YouTube videos

are better for learning than TV shows and they also view people in YouTube videos to be more real than those on TV (<https://news.osu.edu/kids-think-youtube-is-better-for-learning-than-other-types-of-video/>).

Videos have a good potential to support learning (Salmerón et al. 2020: 3). The numerous affordances available can create a variety of opportunities for creativity and originality, in order to present information in an appealing manner. The visual helps to contextualize information and it also creates bigger memory import, and better information retention. This type of Internet video expressly aimed at children can be described as “‘edutainment’”, “a hybrid mix of education and entertainment that relies heavily on visual material, on narrative or game-like formats, and on more informal, less didactic styles of address” (Buckingham – Scanlon 2005: 46). However, there is so much available on the Internet nowadays that most interactions with digital media last brief moments and are mostly for entertainment, with the risk of videos being ‘shallowly’ processed by viewers (Salmerón et al. 2020: 9). There is, therefore, an urgent need to engage viewers, increase curiosity, make the content relevant, and to explain concepts effectively.

3. Theoretical framework

The study has followed an eclectic, qualitative approach to capture the various facets of popularization in videos for children and uses a theoretical framework that has been adopted in previous studies on knowledge dissemination by the author to identify the cognitive and communicative strategies used in the transfer of information both for adults and for young people (Turnbull 2015a, 2018). This framework draws on work in a variety of areas, including popularization, academic discourse and communication in healthcare, that provide insights into the mechanisms, strategies and devices that can be adopted in the transfer of knowledge.

The cognitive dimension involves how the information is actually transmitted and the strategies adopted to facilitate this knowledge transfer. They can be classified under the broad categories of illustration and reformulation (Ciapuscio 2003; Calsamiglia – van Dijk 2004). The first includes denomination, definition, exemplification, scenario and metaphorical language. Denomination is the introduction of new terms, whilst definition refers to the explanation of the new terms or the description of the object or phenomenon and the two are closely connected,

usually appearing together in the text. The other three, exemplification, scenario and metaphorical language, are all forms of concretization, which concerns the presentation and reworking of abstract information in a non-abstract manner. Exemplification obviously means giving specific examples of general phenomena, whilst scenarios present possible, but imaginary situations. Metaphorical language uses semantic means to establish links between two domains of experience, meaning or knowledge and includes analogies, metaphors and comparisons. The second category, reformulation, involves paraphrasing or repetition, that is, a notion is presented and then followed, or preceded, by an explanatory phrase.

The communicative dimension comprises the ways authors use language to negotiate the social relationship with their audience and refers to the rhetorical devices and strategies that can be adopted to create a positive and trusting relationship. Hyland (2010) and Giannoni (2008) looked at the “proximity” and “popularizing” features in writing in academic and professional contexts and identified, among others, personalization, questions, humour, modality, anecdotes, marked lexis and metaphors, but obviously in a context far removed from children’s videos. Bearing in mind that communication “must always adapt to the appropriateness conditions and other constraints of the media and communicative events” (Calsamiglia – van Dijk 2004: 37), the analysis will consider whether some of these strategies and/or other kinds of strategies are adopted in the videos.

The UNICEF publication *Communicating with Children* (Kolucki – Lemish 2011) mentioned above indicates some of the relevant conditions and constraints. It stresses the need for communication with children to be age-appropriate. It outlines the developmental characteristics of children and suggests different types of interactive communication strategies for age groups 0-6, 7-11 and 12-14 years. However, some basic principles underpinning these strategies are relevant to communication with children of all ages. Firstly, the communication must use child-centred stories referring to everyday experiences and for an older audience also introduce issues that may cause concern for them, such as bullying or discrimination. Furthermore, the characters portrayed must be confident and positive, show high self-esteem, especially if they are girls, children from ethnic minorities and children with disabilities, whilst adults must be seen as loving and caring to represent positive parent or adult-child relationships for all ages. The general atmosphere of the communication should be friendly, possibly with the use of humour. The contextualization of the information plays a fundamental role in

order to establish contact with the young reader, who can then identify with the information provided. Children learn best when deeply engaged in what they are doing, when they are genuinely involved and interested.

Although the focus of this study is on the linguistic elements utilized in the transfer of knowledge, the channel of communication in which the texts appear must be taken into consideration. Videos are multimodal artefacts combining semiotic resources of images, sound, captions and speech, among others, in original and varied ways. Each mode has the potential to contribute to meaning-making in relation to the other resources and the context (Bezemer – Jewitt 2010). Therefore, the selection, mixture and blending of these resources in a video play a significant role in making the communication effective and creating a positive relationship with the young viewers.

Table 2 shows some of the various kinds of resources available, classified broadly into two groups, the visual and the auditory (Pauwels 2012: 250).

Table 2. Multimodal elements

Visual		Auditory	
presenters	people – adults/peers animated characters puppets	speech	on screen voice over
images	live action animations static pictures/photos gestures facial expressions figures, tables, graphs, charts written text	music	background songs

Bearing in mind we are dealing with young people, sometimes very young children, the figure of the presenter of the information is particularly important. Peers can establish contact immediately and effectively, especially in the case of teenagers, but a friendly, smiling adult can be a reassuring as well as authoritative figure. The presence of people physically visible on screen provides information about them through gestures, facial expressions, smiles and simulates face-to-face communication. In contrast, animations open up an array of opportunities; they fulfil an affective function by attracting and capturing the attention of viewers with novelty,

as well as serving a cognitive function in that they can represent abstract or dynamic concepts more easily (Lowe 2004). They can also present a variety of situations in which to contextualize the information. The use of puppets in young children's videos would appear to be a natural choice, as they are part of children's play and can represent anyone or anything they want, a best friend, a sibling, teacher or pet (Belfiore 2021). As far as images are concerned, videos provide a wide range of affordances, where colour, layout, tables, graphs can facilitate the representation of information. Obviously written text can also appear on the screen.

Moving on to the auditory elements, even though the speaker is not visible, voiceovers can nevertheless convey information about their age, gender, social and geographical origins, as well as their attitude, mood and temperament. They can transmit emotions like enthusiasm, anger or reassurance through the tone of the voice and the speed of delivery. Background music may also create and reinforce the mood that the video wants to convey, whether it be serious or jovial. On the other hand, songs bearing the text of the message capture the attention of viewers with their melodies and can easily be memorable.

According to the cognitive theory of multimedia learning (CTML) both the auditory and visual channels are used at the same time and the learner connects the information from each channel and mentally cross-references it in working memory, thus improving learning (Mayer 2005). Multimodality is a very complex phenomenon and can give insights into the meaning-making of texts. However, the analysis here will be limited to a discussion of the format of the videos.

4. Analysis

The analysis will start with a brief discussion of the multimodal characteristics of the videos in order to contextualize the analysis of the information transfer strategies that will follow.

4.1 Multimodal

Even on the basis of the visual and auditory categories outlined in the theoretical section, it is impossible to classify in any simple way the 28 videos in the corpus. The great variety of affordances available leads to numerous combinations, as a few examples will illustrate.

The role of presenter in the videos is filled by a variety of figures in a number of settings. In (P)² an adult presenter interviews children in rural locations, in a barn, sitting on a bale of hay on a farm or under a tree in the countryside, asking them in what way they are different, and is accompanied by background music. Another video shows two adults talking about diversity in a setting that could suggest a classroom as it has children's drawings on the wall (C), whilst other videos have children actually presenting, as for example in (Y) teenagers giving their definition of diversity, but it is not clear where they are as the background is out of focus. Puppets are also used in two videos, (H) and (A), to discuss the topic.

There are a number of animations, once again taking on different approaches. Sometimes the characters themselves in the videos talk and discuss diversity, whilst others have an adult or child voiceover narrating. The images in the animations either depict a story as it unfolds or illustrate graphically the concepts and ideas that are being explained. For example, in (J) two boys in the park are talking about how diverse but, at the same time, how alike we all are.

- (1) If we were shopping at the store and wanted to buy eggs, we could either buy a dozen of white or brown eggs. If you take a white and brown egg out of the carton, even though they are different colors, when you open them up they are the same on the inside. (J)

A picture of a shopping trolley appears on the screen, followed by a box of white eggs and a box of brown eggs, and then in the next image a picture of an egg from each box cracked open, thus visually representing exactly what is being said. However, images in the videos, both the live action and animations, are usually used to depict differences between people (their height, age, hair skin, clothes) and/or the contexts in which diversity exists, such as at school, in the park or at home. Rarely are diagrams and graphs used to present factual information.

Although music is occasionally present in videos as background music, there are two in which the whole video consists in a song. One (D) is for very young, pre-school children which has just one static image with three figures representing differences, a white boy who is in a wheelchair, an Asian girl and an African girl, and the words appear on the screen as the song is being sung.

² The letters in brackets refer to the video as listed in Table 1.

- (2) My eyes are blue. My eyes are green. My eyes are brown. They're part of me. I speak English: I speak Urdu. I speak in Yoruba. (D)

Even though the message of the videos is conveyed through spoken text, it is, in fact, worth noting how some videos, apart from the Read Alouds, put either key words, quotations or definitions actually on the screen, as if to mark out or highlight the take-home message of the video. For example, whilst the words in (3) are being spoken, the viewer can see images illustrating how it is much easier for white people to get on in life with 'structural racism' written in the top left of the screen. The animation shows a black and a white figure running side by side, but the white figure moves much faster as it is helped along by a conveyer belt.

- (3) But the protests we're seeing today aren't really about that sort of thing. They're about structural racism in our society- a built-in system of bias that makes life easier for white people and more difficult for Black people and other people of color. It puts them at greater risk for poverty, unemployment, and disease. Structural racism is a factor in some disturbing trends. (N)

4.2 Cognitive strategies

In the popularization of specialized knowledge, technical terms can be problematic, and texts often adopt the strategies of denomination and definition to inform, but also to familiarize the addressee with the context. Diversity and racism are not strictly "specialized knowledge", but in view of the young age of viewers, some terms may be new or difficult, so it becomes a question of vocabulary building, as in (4) with an example of denomination:

- (4) So if you see someone being treated badly, made fun of, excluded from playing, or looked down on because of their skin color... call it racism. (R)

Definitions are used for all age groups to explain the meaning of more difficult, "technical" words, such as 'systemic racism', 'structural racism' and 'redlining' for older children, but also simple words like 'racism', 'protest' and 'stand up' for young children.

- (5) A big part of systemic racism is implicit bias. These are prejudices in society that people are not aware that they have. (α)

- (6) Elmo: Racism? What's that?

Dad: Racism is when people treat other people unfairly because of the way they look, of the color of their skin. (A)

- (7) What's a protest?

A protest is when people come together to show they are upset and disagree about something. They want to make others aware of the problem. Through protesting people are able to share their feelings and work together to make things better. (A)

The most frequently defined word is 'diversity', with definitions ranging from the very simple to more detailed and elaborate ones.

- (8) Diversity means that there are a lot of different things or people. (J)

- (9) Diversity means to allow for people of all ethnicities, races, backgrounds, abilities, genders and ages to come as one and to respect each other and to power empower one another. (W)

Almost all of the definitions of 'diversity' in the videos are given by children and teenagers, as in the examples above. They express their idea of what diversity is, and put it in relation to their life and experiences, with different emphases or perspectives on the concept. But perhaps more importantly they are given by the viewers' peers, making them more "interesting" or pertinent.

We can also find some unusual, perhaps unexpected, words defined in the videos, such as 'melanin' and 'CP'. The first appears in a song, making it even more surprising, whilst the second is a very specialized term and necessary to explain the diversity of the character.

- (10) We all have different colored skin, but why is that? It's easy to understand and here are some facts. Every different shade of color in all human skin is caused by a natural skin pigment called melanin. (G)

- (11) *Mark*: I bet you can also tell that I use a wheelchair but I'd like to call this my cruiser, yeah, I use this because I have CP.

Salima: Oh right, right, right. You've got CP, CP. Hhmm, Mark, what in the world is CP?

Mark: CP stands for cerebral palsy. And that's something I was born with and it means that the muscles in my legs and in my mouth are really stiff so I don't walk and I talk a little different too. (H)

Exemplification is used for all ages, but it was the most frequent device in the videos aimed at a younger audience. In most cases the examples are not introduced explicitly by the phrase 'for example' or 'for instance', but rather just given in a description of diversity to explain what being different actually consists in, as can be seen in the following example:

- (12) People are different or unique in many ways: Some of these differences are things we can see on the outside.
 People have different eye colors, they have different hair colors, they have different skin colors. [...] People also move, learn and communicate in different ways. Some people use a wheelchair to get around. Some people need a guide dog to be their eyes and ears. Some people talk to each other using sign language. (B)

This is because of the need to concretize the concept of diversity, relate differences of whatever kind to real, visible features. This is even more important when the differences are not visible or immediately obvious, such as those of culture:

- (13) In France friends welcome each other with kisses;
 in Zimbabwe girls curtsy just like little misses;
 to greet in Japan, just bend in a bow,
 but when you're in England a handshake is how. (K)

Exemplification is also used in such a way as to bring out individual characteristics, implying that everybody has their own distinctive set. An elderly man is telling the story of his life and declares his own peculiar qualities and preferences, which are most probably very different from those of the young viewers:

- (14) My story and yours have many elements, such as Favorite food: Mine is fish.
 Hobbies: I like to do crossword puzzles, take photographs and cook.
 Favorite color: Red. Or maybe green. But I like orange and purple, too
 I think my favorite color is all of them.
 Religion: I'm Jewish.
 Nationality: I'm from the United States.
 Favorite time of day: Night. (Q)

It is also used to draw attention to the advantages and positive consequences of diversity:

- (15) Because being different means we have so much MORE to offer each other.
 Things like... help, ideas, strength, skills, creativity, life, patience, respect, community, love, knowledge, experience, perspective, insight, diversity, wisdom, empathy and originality. (R)

When the focus is on racism, exemplification is used to highlight various aspects of the issue. From a historical perspective, those who have stood up to racism or been victims of racism are mentioned (16) to inform and perhaps to stimulate curiosity. From a more personal, individual point of view, examples of how racism manifests itself (17) and how we as individuals can try to fight it (18) are given.

- (16) We learn about brave leaders like Fannie Lou Hamer, Malcolm X, and Dr. Martin Luther King Jr. [...] It seems like forever ago, and it's tough to even imagine some of the scenes: ordinary Americans, throwing trash at the first Black Major League Baseball player...Harassing a little girl named Ruby Bridges for attending a white school...
 Attacking people simply for eating lunch at a segregated counter. (N)
- (17) And it happens all the time. Not just in BIG ways, but sometimes it shows up in small ways, ways that are almost invisible. Like a look, a comment, a question, a thought, a joke, a word or a belief. (R)
- (18) His mother added: "And you can change people's hearts by sticking up for someone who is not treated fairly."
 "Like how Malcolm sticks up for me when the kids tease me about my glasses?" Josh asked. "He tells them to step off!" (U)

The scenario strategy is not used frequently in the videos. In the following example a hypothetical situation is presented to Emma by her mother to help her understand racism:

- (19) "Suppose you had a birthday party and invited everyone in your class except the Black kids," her mother said. "How would the Black kids feel?"
 "They would be sad," Emma said. "Or mad."
 "And you would be missing out, because you never know who is going to be your best friend," said Liz. (U)

The scenario represents a situation with which Emma can identify, but the conditional tense is used to introduce the hypothetical situation that is purely imaginary, and we can suppose it is not a situation she has actually experienced herself.

There are two other examples of scenarios in the videos. In *Why media diversity matters: A female teenager's perspective*, which focuses on gender, the speaker opens her talk for teenagers by presenting a scenario:

- (20) I would like you all to imagine a hypothetical situation about a girl. When the girl is six, she dreams of becoming an astronaut... (Z)

She continues tracing year by year the difficulties, disappointments and negative experiences of the girl:

- (21) When she is ten, she has started to engage in dieting behavior, despite the fact that she is at a medically considered healthy weight. [...] And by the time she is 18 she has four friends who have been raped, two friends who have been in abusive relationships, and many more that have been sexually harassed. (Z)

At the end of the scenario she confesses:

- (22) As you can probably guess at this point, this isn't a hypothetical situation, though I certainly wish it was. Unfortunately, this is a very real reality for thousands of females across America and around the world. (Z)

Here the strategy of a scenario, a hypothetical situation, is used for a dramatic effect, to disturb the audience by revealing the harsh truth about the shocking state of young women in the US. The other scenario (α) narrates the story of two boys, one white and one black, with similar education and abilities, but whose opportunities are conditioned by the colour of their skin to illustrate systemic racism. It is interesting to note that in these last two cases the scenarios are a narration of events where the present tense is used, because the characters are imaginary, but the situations portrayed are very real-life.

Analogy and metaphors are very useful devices to help the transfer of information as it uses language to refer to something in terms of something else; it describes something from the perspective of some other thing. It has been shown that even quite young children are able to make relational links and can deal with abstract as well as concrete metaphors (Cameron 1996: 54). Indeed, a rather elegant metaphor is provided by the 8-year-old speaker

in video (V), suggesting how we all, in our own particular ways, play a fundamental part in forming a whole:

(23) I see that we're each a piece in the puzzle of humanity. (V)

Other analogies in the videos draw on comparisons with everyday objects, like flowers and fruit (24), which are interestingly in a video for pre-school age.

(24) Naomi: Friends, diversity means being different, having a lot of variety in things, something that I think about and I want you to think about and you at home to think about is a bowl of fruit. And imagine that there is a banana in there, there's strawberries, some apples, some oranges, some pears, maybe some peaches. Are they all the same or do they all sound different?

Noah: They all sound different.

Naomi: They all sounded different. That's diversity. Isn't that fun? (C)

Comparisons are made obviously to emphasize the positiveness and beauty of differences, as in the case of a rainbow or a box of crayons:

(25) In nature a rainbow is made beautiful by its different colors and just like that rainbow the world is made beautiful because it's filled with many different kinds of people. (B)

(26) Imagine the teacher gives you a crayon box and you open it up to find only one color inside. That would make it harder if you want to draw a pretty colorful picture. But if you have crayons of all kinds of different colors, the picture can be much more bright and beautiful. This applies to people too. Having people who differ in many ways, means that everyone is unique and that's a different color to the world. (O)

Another interesting and particularly appropriate analogy is with a box of eggs, as described in (1). It does not just consider differences, but also highlights the fundamental idea of everybody being the same inside.

4.3 Communicative strategies

Videos clearly encourage an interactive approach and the use, albeit virtual, of a direct dialogue with the audience, as shown by a very frequent use of 1st and 2nd person pronouns:

• 'I'	381 occurrences	1.7657%
• 'we'	281 occurrences	1.3025%
• 'you'	385 occurrences	1.7842%

This interaction also involves questions, which may have different functions. They can be used to introduce the topic:

(27) What makes us different?

People are different or unique in many ways: Some of these differences are things we can see on the outside. (B)

(28) Wouldn't it be a boring world if we all look the same?

Can you picture if everybody in school had the same color hair, the same color of eyes, same clothes and they all ate the same lunch? (O)

They are also a very effective way of attracting or keeping the audience's attention, especially if the viewers are very young. In (29) the presenter is reading the book *I am Brown* by Ashok Banker about all the different things people can be, do or like, whilst showing the illustrations in the book for each characteristic, activity or interest. After each theme/topic she asks the audience who 'they' are, what 'they' do or like, to keep their attention and to make them think how they fit in with the world.

(29) I live in... a mansion, a cottage, a house, an apartment, a hut, a bungalow, a riverboat, a cabin. Where do you live? (F)

Questions may not be addressed directly to the viewers, because they are part of a conversation taking place between the presenters or characters featured in an animation. However, they stimulate curiosity and engage with the viewer who may try to answer them.

(30) – Hey, bro. Where have you been?

– At the library finishing up my diversity for kids paper.

– Diversity for kids. What is diversity?

– Diversity means that there are a lot of different things or people. (J)

As to be expected with a young audience the language in the videos is simple and informal. There is a very frequent use of evaluative lexis suggesting very positive associations with diversity and differences. Positive words in connection with differences are 'harmony', 'beauty', 'shine bright' and 'fun' and adjectives include 'special', 'awesome', 'beautiful', 'unique', 'precious', 'amazing', 'cool' and 'healthy'.

- (31) Thankfully there are lots of different types of people in the world to keep it interesting and fun. (O)
- (32) Look, we are all different and that's what makes us special. (I)
- (33) From those friendships, I learned that diversity is a healthy thing in relationships. (M)

Other noticeable linguistic features are rhyme and repetition which are strategies which once again can be used to attract and hold attention. Apart from the rhyme, the repetition of 'we' + verb gives rhythm to the following text.

- (34) Around the world we're different, it's true,
but there are many ways I'm just like you:
we smile, we laugh, we love who we are,
we're nice to all people who live near or far. (K)

The chorus in songs obviously provides the opportunity to repeat and therefore reinforce the message of the video.

- (35) We want diversity, that's what we want to see. We all belong to this earth and we need equality, diversity. We need variety, let's fight racial inequality universally (G)
- (36) We're all amazing, all these parts of me. We're all amazing, all these parts of you.
We are different, each of us. It's what makes us precious, so love yourself.
We're all amazing. (D)

Although a friendly and cheery atmosphere is created in the videos by smiling presenters, the tone of voice and the colourful images on screen, the manner of the videos is fairly serious. In fact, there are only a few instances of humour. The following examples are taken from the video where the characters are actually puppets and exhibit high self-esteem:

- (37) Well, diversity just means how we're all different. Some differences you can see on the outside, like I bet you can tell just by looking at me, that I'm one good-looking kid.
I bet you can also tell that I use a wheelchair but I'd like to call this my cruiser, yeah, I use this because I have CP. (H)

The humour in (38) is created by the use of marked lexis, the very informal, rather old-fashioned word 'noodle caboodle' to refer to his brain:

- (38) – But sometimes they make fun of the way that I talk and they might think just because I talk a little different that I'm not very smart. You know like there's not much going on in the old noodle caboodle.
 – Oh
 – But that's not true, I'm a really smart kid. You just have to get to know me, that's all. You know, then, maybe we could be friends. (H)

However, perhaps the key communicative strategy generally adopted in the videos is personalization in the form personal stories, narratives and experiences that are told to convey the meaning of diversity. Narrative is a structure we are all familiar with from childhood onwards and has been described as "one of the world's most powerful and pervasive ways of communicating ideas" (Millar – Osborne 1998: 2013, cited in Norris et al. 2005: 536). A story creates "emotional connections in the listeners and is a powerful way to share information as well as explore ideas, concepts, and emotions" (Lyle 2017: 229).

Whilst short narratives in the texts give information about people that define their diversity, as can be seen in (37 and 38) or (14), three longer stories are of particular interest. The first is told by an eight-year-old girl standing on stage in front of a live audience telling a personal story in a Labov style (Labov 1997). She is faced with a problem when she invites a girl to play with her in the park:

- (39) Once I went to the girl, asking her if she would like to play with me, she looked at me with her eyes wide open. Suddenly, she seemed confused and stared at me like I was an alien. I stared at her back. Then she said with a foreign accent, "Why are you dressed that way? You look weird." I felt sad because she was judging me on what I was wearing. So, I said to her, "And why are you talking in a weird way?" (V)

They talk to each other, find out their backgrounds, and begin to understand why one is dressed in a particular way and the other talks in a weird way, and thus overcome their initial animosity. The resolution of the problem is "followed by an evaluation of the story:

- (40) Please, now, for everyone listening to me, I hope you got the idea: we all have to start fighting ignorance with knowledge. Stop picking on each other, overcome our differences. (V)

The second story of interest is an animation in which Jason talks about his childhood growing up in a rural neighbourhood and making best friends with a white girl, Alex, and later with Tay, a black boy. The story points out all their differences, physical, cultural, character, but also narrates their life after school and how they have remained friends through college and after. Unlike in the previous story, diversity here does not create problems, rather quite the opposite, as the speaker celebrates the advantages of diversity:

- (41) I felt like my friends and their ideas and perspectives fed and increased my ideas and perspectives. Diversity as a child made me into a healthier adult. It also made me a kinder and happier one. I feel lucky to have learned that lesson at such an early age. (M)

The last story, which is presented as a Readalong, actually narrates two parallel stories which then come together in the final part. A black man has been shot in the town where Emma who is white and Josh who is black live. Each talks to their respective family about the episode, blaming racism and unfair treatment as the cause. At school the next day a new boy from a foreign country is not chosen by the other children to join either of the football teams in the playground. Emma and Josh both invite him to join their team, putting into practice the advice they had received from their families.

- (42) "We have enough kids on our team," Daniel said. "We don't need him". But Josh was ready. "Step off," he said. "He's playing": "Yeah," said Emma. "We don't want to miss out." (U)

5. Discussion

This study has given an overview of the strategies adopted in the popularization of diversity for children. It has shown the variety of formats used in a small corpus of videos, as well as identified the specific cognitive and communicative strategies most frequently implemented. In future research it will be interesting to develop the multimodal analysis to investigate the relationship between the auditory and visual elements, the text and images.

However, at this point it is appropriate to return to Calsamiglia's (2003) four questions that remain unanswered, Firstly, what needs to be said when popularizing a topic? In the videos the information load is calibrated and distributed according to the age group. Although it is difficult to specify

a clear age for the target audience, the content of the videos gives a general indication. For the very young viewers, diversity is explained in terms of our many physical and cultural differences, but some also emphasize that we are all the same. Videos with a focus on racism target even young children, as for example in the famous Sesame Street programme (A). They start by referring to the protests about George Floyd's death, which the children may have heard about and seen on TV. Definitions are given to explain what it is about, as we saw in (6) and (7), though also with a humorous approach to lighten the atmosphere.

- (42) – Hi Big Bird! welcome to our town hall on standing up to racism.
 – Oh that's right, count me in. We all need to stand up. There we go. That's me standing up to racism. Now how do we stop it?
 – Big Bird, Big Bird, well, maybe come down where we can see you.
 – Yeah Big Bird, alright. When we say standing up, we mean actually coming together to make changes happen. (A)

In contrast, for slightly older children racism is discussed from a historical perspective, but also in terms of discrimination and social inclusion.

The questions about how the information should be expressed and clarified are answered by the analysis of the communicative and cognitive strategies adopted. All five cognitive strategies of illustration can be found in the corpus of videos, but there is a different use according to the probable target age of viewers. Concretization appears to be the key element, especially for the very young children. Exemplification is the most frequent, so that the young viewers can clearly understand and identify with the phenomenon and relevant situations. The examples come from real everyday life, what people look like and what they do, in contexts that are very familiar but which young children may never have considered in terms of diversity and what that means. However, exemplification also serves other purposes. When facts about racism are being given, examples of people who have been involved, either as leaders of protest movements or as victims of racism are presented in order to inform, but also to stimulate the curiosity of children to find out more. A number of metaphors and analogies are used for younger children, but surprisingly not in the case of older children. When the videos deal with the more specific topic of racism and Black Lives Matter, usually but not always targeting a slightly older audience, definition and denomination are used to explain phenomena and give them a name, once again in a way concretizing what may seem abstract concepts to children. However, scenarios are not used frequently and not for young children. The reason

could be that the videos want to ground the information and knowledge they are transferring in real, everyday life. Diversity is not a possibility; it is all around us and they want to raise awareness about it.

The communicative strategies should help motivate the audience by engaging their attention and aiding recall of information. The asymmetry of interlocutors inherent in popularizing discourse between expert and layperson clearly takes on a different form here. The expert is often “replaced” by a friendly and caring adult figure in the case of young children and/or peers, especially in the case of teenagers, regardless of whether the videos are live action or animations. Although adults appear as presenters more frequently than children, as might be expected, the presence of peers from young children up to teenagers in the videos is very important, as it will help children to identify with what is being said.

A friendly, at times jovial, atmosphere is created by simple, informal language that aims to engage with the viewers directly through the use of 2nd person pronouns and questions. The narration of personal stories and experiences, especially those told by or about children, makes use of a structure and form familiar to children. The stories become in their own right exemplifications of behaviour and the protagonists role models for viewers. In this way they can motivate children, make them more aware of diversity and what they, as individuals, can do. In other words, empowering them now and for the future.

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Linguistics for children: The intermodal presentation of English grammar metalanguage in materials for young learners

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ABSTRACT

Grammar has been slowly reintroduced in British schools thanks to projects such as the New National Curriculum for English, which explicitly include the “understanding of grammar” and the terminology required to discuss linguistic facts as objects of teaching. Many books that focus on grammar metalanguage instruction have appeared. A qualitative analysis of strategies adopted in an effort to produce a selection of materials for young learners (Years 1-6) shows that most publications feature a multimodal popularizing approach, akin to that of other types of scientific knowledge dissemination for children. This suggests that grammar terms are treated like specialized terminology, and that, although no true recontextualization of specialized concepts can be observed, reformulation and adaptation are pervasive in order to meet the needs, tastes and cognitive skills of the young “lay reader”. For this reason, grammar teaching resources can be seen as a special form of popularization of linguistics for kids.

Keywords: grammar metalanguage, linguistics, popularization, English, young learners.

1. Introduction

The contents, methodology and rationale for grammar instruction have been the object of much debate in all major English-speaking countries over the past century (Hudson 2016). The history of grammar books in England started almost five centuries ago, supported by the rapid changes in the language and by its global spread. The tension between prescriptivism and descriptivism and between norm and usage has animated the debate of the

past 150 years at least and has impacted the policies that have informed education in Britain, as well as in North America and Oceania.

For centuries, grammar was seen as a useful asset for learners of non-native languages (be it Latin, Greek or modern languages), or as a way to improve writing or expression in “proper English”. The categories of the classical tradition and a prescriptive approach were predominant. Linguistics as we know it today was still in an embryonal state, and the interest in studying the functioning of English *per se* was not yet widespread. In fact, the first half of the 20th century saw a lively debate between those who believed that grammar belonged in the foreign language classroom and those who thought that knowledge of how language works should start from one’s own (Hudson – Walmsley 2005). However, there was no agreement as to the reasons for teaching grammar. Although some still argued in favour of the efforts required to master knowledge of language as a useful way to develop students’ general cognitive abilities, by the middle of the century, the scepticism about the utility of grammar instruction in terms of literacy development, the prestige recognized by the academia to literary studies over linguistic studies, and the rejection of classical categories for the description of English slowly led to the exclusion of grammar from school programmes (Hudson – Walmsley 2005; Van Rijt et al. 2019).

The fortunes of grammar instruction began to change in the 1960s, when the new academic interest in the features of modern English emerging both in North America and Britain led to a “rebirth” (Hudson – Walmsley 2005). The work of pioneering scholars such as Chomsky, Fries and Hill in the United States (Fries 1951; Chomsky 1957; Hill 1958) and Quirk and Halliday (Quirk – Smith 1959; Quirk 1962; Halliday 1967; Halliday – Hasan 1976) in the UK reopened the debate on the relevance of linguistic knowledge. Academic research offered support to the teaching of grammar in schools. The functionalist approach to the study of language shifted the focus from Latin-based grammar to the importance of understanding the function of specific linguistic structures and the reasons behind the way in which texts are shaped as they are. This helped subvert the argument that knowledge of the traditional categories was in fact useless in terms of improving learners’ command of the language. The first teacher training projects started to appear, such as Halliday’s “Schools Council project at UCL” (1964-1971), which resulted in the development of much teaching material grounded in systemic functional grammar theory. However, the impact on school curricula was quite limited because of the technicality of the approach, whose terminology was perceived as obscure to most non-specialists (Hudson –

Walmsley 2005). Nevertheless, the development of modern-day English linguistics contributed to the diffusion of the idea that grammar can be a resource if it is not seen as a collection of rules and prescriptions but rather as the description of the ways in which language works. Over the following decades, policy makers fostered the debate, which led to increasingly strong recommendations that grammar teaching should be part of the curriculum. With the advent of the National Curriculum at the end of the 1980s and of the National Literacy Strategy ten years later, grammar was permanently brought back to the British education system (Hudson – Walmsley 2005), and its importance, including in terms of metalinguistic awareness, was established.

This article presents the results of a qualitative analysis of the communicative strategies used in a selection of learning resources to help young learners master the complex metalanguage of grammar. The main aim of the study was to verify whether the terminology necessary to discuss linguistic matters is treated as specialized vocabulary, and, if so, to investigate whether the same strategies observed in the popularization of specialized knowledge for young audiences in different domains (e.g., science, history, etc.) are also applied in books about grammar. Linguistic knowledge differs with respect to other scientific domains because grammar teaching can be considered as the most basic form of linguistics (i.e., the first introduction to the study of language), and therefore, there is no typical dissemination of knowledge outside the domain in which such knowledge is produced. However, it represents an instance of expert-to-non-expert asymmetric communication (Cacchiani 2018) and of knowledge transfer, “a systematic approach to capture, collect and share tacit knowledge in order for it to become explicit knowledge” (Graham et al. 2006: 15).

The case of grammar is also quite unique because, on the one hand, by the time children start learning about language, they are typically quite proficient speakers of their own language and sometimes of one or two more, but, on the other hand, their linguistic (and cognitive) skills are still developing. Teaching metalanguage to children as young as 5 years old means basically pushing them to focus on the building blocks of the complex tool they use for interacting with people around them, and to give a name to each piece of the puzzle. Many of the concepts they need to become familiar with are quite difficult to describe in simple terms, but since they can use language, they can be guided to reflect on what they can do with it: in other words, they can learn what parts of speech are by identifying their function in their linguistic productions. As children grow older, their communicative

skills become more advanced, their linguistic resources expand and so do their cognitive skills. Little by little, they are able to think in more abstract terms and understand the usage of complex structures and their semantic nuances, and therefore to describe them. The present study intends to cast some light on the ways in which teaching materials help young speakers become aware of the resources they exploit when communicating.

2. Grammar terminology for children

It is beyond the scope of this contribution to discuss in depth the history and the mixed fortunes suffered by grammar in English, American and Australian education, but a common issue has consistently emerged over the years, regardless of the dominant approach or perspective, namely, the need of a shared metalanguage to discuss language issues. Without going too far back in time, even at the beginning of the 20th century, when the features of English L1 were still a minor concern among scholars, and grammar teaching was mainly relegated to the study of classical or foreign languages, the need for shared categories and terminology was felt, to the point that a Joint Committee on Grammatical Terminology was created and published a report in 1911 (Hudson 2020).

Over the past century, linguistic research has flourished greatly, and the debate about terminological issues has become increasingly relevant, because it points to important underlying questions relative to the link between the development of linguistic conceptual knowledge and grammar education. Van Rijt et al. (2019: 623) have shown that many scholars and teachers support the idea of a “stronger bond between linguistics and education” so that the advances in the former may shift the focus of grammar education from a prescriptive or descriptive discipline to a source of linguistic insight or awareness. However, the results of academic research do not seem to influence school practice in any significant way as far as metalanguage is concerned. This is partly because of the increasing specialization of linguistic investigation, which has generated a wide range of terms and concepts, and partly because their rationale and significance are not always clear to schoolteachers (Gregory 2003; van Rijt et al. 2019). It is therefore not surprising that van Rijt et al.’s (2019) meta-analytic study has shown that most concepts and labels used in language teaching as well as in the literature on grammar education remain those of traditional grammar.

A number of studies on educators’ attitudes towards grammar instruction (Fontich 2016; Hudson 2007; Mulder 2011; Ribas et al. 2014;

van Rijt et al. 2019) have identified issues with limited terminological clarity, proliferation and inconsistency in the labelling of central concepts in the teaching materials, as well as with teachers' self-reported insufficient knowledge of the basic metalanguage of grammar. The same difficulties in recognizing and defining the basic categories of grammar, with the sole exception of nouns and verbs, were observed by Alderson and Hudson (2013). They pointed out that university students' knowledge of grammar metalanguage has not improved over the past few decades, and that in fact, "a general reduction in school-leavers' knowledge of grammatical terminology since 1986" (Alderson – Hudson 2013: 334) could be observed (although not in foreign language learners), in spite of the renewed interest in grammar of the late 20th century.

The most recent answer to the demand for a terminological common ground in Britain dates to 2013, when an Appendix¹ was added to the National Curriculum which gathers 40 basic grammar terms all young learners (i.e., primary school pupils) must understand and be able to use. In line with the debate discussed above, a brief introduction underlines that, although the native language is learnt "naturally and implicitly", explicit knowledge of grammar is fundamental, because it provides learners with "more conscious control and choice". Grammar education is therefore framed as "applied" knowledge (rather than a discipline in its own right) which should develop "within the teaching of reading, writing and speaking". The concepts are organized according to the school year in which they should be introduced but "not necessarily [...] completely understood" and should be revisited and consolidated in subsequent years if necessary. This observation and the fact that the list of terminology is accompanied by a Glossary,² which has the function of clarifying the meaning with which all terms should be understood, are suggestive of the real or perceived complexities involved in explaining and grasping grammar metalanguage. Most basic categories must be introduced in Years 1-4, while the more complex categories are introduced in Years 5 and 6. Accordingly, the National Curriculum states that pupils in Year 1 should learn the concepts of letter, capital letter, word, singular, plural, sentence, punctuation, full stop, question mark and exclamation mark. In Year 2 they should be introduced to the concepts of noun and noun phrase, statement, question, exclamation, command, compound, suffix, adjective,

¹ <https://tinyurl.com/appendixnationalcurriculum>, accessed December 2022.

² <https://tinyurl.com/metalanguageglossary>, accessed December 2022.

adverb, verb, tense (past and present), apostrophe and comma. In Year 3 the categories presented are preposition, conjunction, word family, prefix, clause, subordinate clause, direct speech, consonant, vowel, and inverted commas (or speech marks). Year 4 adds determiners, pronouns, possessive pronouns and adverbials. In Year 5 more complex concepts are added such as modal verbs, relative pronouns, relative clauses, parenthesis, bracket, dash, cohesion and ambiguity. Finally, in Year 6, at the end of Key Stage 2, pupils learn about subject, object, active and passive voice, synonyms and antonyms, ellipsis, hyphen, colon, semi-colon and bullet points.

2.1 Grammar teaching as a form of popularization

Following the publication of these guidelines, many books have appeared by major and independent publishers aiming at explaining these key concepts in grammar, punctuation, and spelling, and at preparing pupils for their end of Key Stage 2 test (Years 3-6, age 7-11).³ The main aim of this study is to discuss the strategies adopted in a selection of such materials to make grammar metalanguage easily understandable for children aged 5-11 (Years 1-6). The underlying premise is that making linguistic terminology semantically and cognitively accessible for children can be considered as a form of popularization of linguistics, i.e., specialized knowledge. The latter has been traditionally defined as the reconceptualization and recontextualization of expert discourse that meet the needs, tastes and background encyclopaedia of lay readers (Calsamiglia – Van Dijk 2004; Garzone 2006; Gotti 2013; Cappelli 2016; Cappelli – Masi 2019). However, as mentioned in section 1, grammar metalanguage cannot be truly discussed in terms of recontextualization: it should rather be seen in terms of adaptation of specialized knowledge to suit the needs of young learners. Children learning grammar concepts can only be considered as “lay readers” of linguistics because of their age and consequent lack of experience with linguistic reflection rather than because of scarce knowledge of the subject matter, as in the case of people reading about scientific discoveries in newspapers or magazines. After all, they have a well-developed heuristic knowledge of language (i.e., of the subject matter) by the time they are imparted the first metalinguistic instruction. In this sense, grammar teaching resources can be considered as tools for knowledge transfer from more experienced experts

³ Teaching resources to develop metalinguistic knowledge are also widely available online (e.g., <http://www.twinkl.co.uk>, accessed December 2022).

to momentary non-experts in the same field, that is as a way to turn “tacit knowledge” into “explicit knowledge”, which allows individuals “to access and utilize essential information, which previously was known intrinsically to only one or a small group of people” (Graham et al. 2006: 15). Despite the unique status of grammar education materials, Calsamiglia – Van Dijk’s operational definition of popularization can still provide a useful framework to describe the strategies adopted in teaching materials, as it can be seen as “a vast class of various types of communicative events or genres that involve the transformation of specialized knowledge into ‘everyday’ or ‘lay’ knowledge [...]” (Calsamiglia – Van Dijk 2004: 370).

Popularization discourse has received much attention over the past twenty years. Studies have focused on the verbal and non-verbal strategies used to allow language users to relate new representations to old representations and to make sure that new concepts become “accessible” to the reader (Calsamiglia – Van Dijk 2004; Cappelli 2016; Gotti 2013). Studying popularization for children is especially interesting, because the approach taken to introducing technical concepts must account for the fact that children might lack both useful background knowledge and some cognitive skills to process the new information (Cappelli 2016; Turnbull 2018; Bruti – Manca 2019; Cesiri 2019; Diani – Sezzi 2019).

The presentation of new concepts must necessarily take into account the cognitive profile of the different age groups for which it is intended. In psychological terms, childhood can be divided into four main phases (Valkenburg – Cantor 2001). Throughout the stages of infancy (0-2), early childhood (3-5), middle childhood (6-12) and adolescence (13-19), children vary in terms of ability to concentrate and self-regulate, attention span, interests and relational skills. Young children (0-5) cannot focus on details and quality, therefore books addressing this age group typically feature simple, colourful illustrations, and hands-on activities such as stickers or flaps. They usually include popular fictional characters, which can provide an anchor to known elements. They exploit fairy-tale-like narration (Valkenburg – Cantor 2001). During the early school years, centration (the ability to centre one’s attention only on striking features of objects) decreases, and children develop an improved ability to distinguish between fantasy and reality. Their attention span is longer, and they start to prefer social play and faster paced entertainment. They can appreciate complex plots and characters and more difficult and varied contents, including humour. They are more responsive to verbally oriented information. Books for this age group may include longer texts, anecdotes and “fun facts”, and

game-like activities with a formative aim. Through late middle childhood (9 to 12), children develop a more complex interest in real world phenomena and entertainment designed for adults. By the age of 9, they prefer more non-fictional entertainment and become attached to real-life heroes such as sports and movie stars (Valkenburg – Cantor 2001). They also develop a taste for collecting and accumulating. This accommodation of the psychological features of the target audience is in itself a way of promoting understanding of specialized contents. The next sections will discuss how such adjustments are exploited in grammar teaching materials.

3. The dataset

The qualitative analysis of the strategies used for teaching grammar, spelling and punctuation was carried out in a small corpus of materials published by popular publishing houses located in the UK and USA. To select the materials which are most commonly used or recommended for home study, a survey was sent to twenty teachers of English and *Language Arts* working in the UK across Years 1-6. Most of them claimed that no textbook is officially adopted by the institutions in which they operate, but teachers can choose to recommend specific self-study materials or exercise books that children can use at home for homework or in preparation for tests and exams. When introducing concepts, these teachers tend to rely on handouts that they create or that they find on sharing platforms such as www.twinkl.co.uk. Some, however, recommended popular resources that they have used over the years or that are held in high esteem in their professional community.

The dataset analyzed does not include teacher-generated materials or handouts found on sharing sites. Neither does it include videos published on dedicated YouTube channels, which are however quite popular among English teachers, and which would certainly make for an interesting set of data to expand the present analysis. The books which were included are classified into reference materials, teaching materials and narrative teaching materials and were the following:

1. [Reference materials] *The Great Grammar Book*, Bodley Head (1996);
2. [Reference materials] *Collins Easy Learning Grammar and Punctuation*, HarperCollins Publishers Ltd., UK (2009);
3. [Reference materials] *Oxford Primary Grammar, Punctuation and Spelling Dictionary*, Oxford University Press, UK (2012);

4. [Reference materials] *Junior Illustrated, Grammar and Punctuation*, Usborne, UK (2016);
5. [Reference materials] *Visual Guide to Grammar and Punctuation. A first reference for young writers and readers*, DK, Penguin Random House, USA (2017);
6. [Reference materials] *Everything You Need to Ace English Language Arts in One Big Fat Notebook: The Complete Middle School Study Guide*, Workman Pub Co., UK (2018);
7. [Reference materials] *First Illustrated Grammar and Punctuation*, Usborne, UK, (2019);
8. [Reference materials] *Lift-the-flap Grammar and Punctuation*, Usborne, UK (2020).
9. [Teaching materials] *Treasures' Grammar and Writing Handbook*, Grades 1-5, Macmillan/McGraw-Hill, US (2007);
10. [Teaching materials] *Collins Primary Focus, Grammar and Punctuation*, Pupil Book 2, HarperCollins Publishers Ltd., UK (2011);
11. [Teaching materials] *Nelson Grammar*, Pupil Books Year 1 to 6, Oxford University Press, UK (2014);
12. [Teaching materials] *Grammar and punctuation*, Workbooks ages 5-7, 7-8, 8-9, 9-10 and 10-11, Scholastic, UK (2015);
13. [Teaching materials] *Jumpstart! Grammar, Games and Activities for Age 6-14*, Second Edition, Routledge, UK (2016);
14. [Teaching materials] *Collins Vocabulary, Grammar and Punctuation Skills*, Pupil Books 1-6, HarperCollins Publishers Ltd., UK (2017);
15. [Teaching materials] *Skill Sharpeners Grammar and Punctuation*, Grades 1-6, Evan-Moor, USA (2019).
16. [Narrative teaching materials] *A Verb for Herb, Grammar Tales*, Scholastic, UK (2004);
17. [Narrative teaching materials] *Chicken in the City, Grammar Tales*, Scholastic, UK (2004);
18. [Narrative teaching materials] *Punctuation, the Write Stuff*, Kingfisher, UK (2018).

The resources marked as “teaching materials” mention their intended readership explicitly by indicating the Year (UK) or Grade (USA) for which they are meant. For the reference materials, determining the ideal readership is more complicated. However, on the basis of the British National Curriculum’s recommendations, we can conclude that publications (1), (8), (16), (17) and (18) are meant for the youngest audience (Years 1-3),

publications (3), (5) and (7) are designed for Years 2-6, and publications (2), (4) and (6) are thought to be for Years 5 and 6, and possibly high school. The publications were assessed in terms of the general approach they take to the teaching of grammar, and the popularization strategies used to introduce grammar concepts.

4. Approach and strategies

The books selected for the study differ quite significantly in their approach, but all share a common view of the role of grammar teaching and knowledge as contributing to individual competence and communicative skills. Recognizing parts of speech and types of syntactic constructions or being able to parse sentences (i.e., developing metalinguistic awareness skills) is not the ultimate goal of grammar learning, as in other education systems which have been influenced more by the tradition of classical studies (e.g., in Italy). Rather, these skills are functional to improving writing and speaking skills. It is therefore not surprising that punctuation is an integral part of the language arts curriculum.

This approach to grammar derives from the debate about the rationales for teaching grammar described in sections 1 and 2 and is evident in both the most traditional and the most innovative materials. Publication (13), *Jumpstart! Grammar*, is very popular in the UK and it is thoroughly grounded in this active approach to grammar. It presents a collection of game-like activities meant to develop the linguistic skills of young learners and, in parallel, their metalinguistic awareness. The introduction by Pie Corbett and Julia Strong, the authors, perfectly summarizes the approach on which the materials included in the dataset rely. They refer to their methodology as “grammar in action” or “syntactical gymnastics” (p. xii) and state that grammar teaching works best when it is “directly related to using grammar as a part of a child’s growing repertoire as a writer” (p. xii). They talk about it as a way to “develop an increasing control over language” (p. xiii) and support grammar in context as opposed to “the formal, isolated teaching of grammar” (p. xiii): knowing the label for a certain category is “pointless”: what matters is being able to use it effectively (p. xvi). “Grammar is not really ‘knowledge’”, they write, “rather it is a matter of grasping a ‘concept’. Keep such teaching simple and clear with the focus on gaining control over words, sentences and the flow of writing” (p. xiv). Even in the more traditional materials, which do not include such explicit declarations of intents, this

attitude towards grammar learning emerges in the activities proposed. Some include mistake correction exercises, “test yourself sections”, “try your hands at it” exercises and boxes with important mistakes to avoid or practical tips for improving one’s expressive skills. Such activities do not focus on recognizing the specific elements presented in the units but rather on the ability to use them correctly. Knowing what a certain part of speech is can only be useful if it allows learners to form sentences correctly.

Although the academic debate of recent decades has tried to reject a prescriptivist approach to the study of English, the books included in the dataset tend to promote a “correct” use of the language. Publication (2) is based on corpus data and Penny Hands, the author, points out that it illustrates the way in which “English grammar works in today’s world” (p. 3). Nevertheless, these observations are functional to “making confident and accurate decisions” and “the commonest errors have been noted and highlighted, with tips given to help learners avoid them” (p. 3). Dwelling on the implications of such an approach is beyond the scope of the present discussion, but it confirms van Rijt, de Swart and Coppen’s (2019) conclusions relative to the “conservative” nature of grammar teaching materials, both in terms of concepts and, it seems, of approach to language standards.

The next few sections therefore illustrate the strategies adopted in the books analyzed to help young learners “grasp” the traditional concepts that still form the basis of linguistic education nowadays. In fact, the books in the dataset take into account the cognitive features of their readers. They vary greatly in terms of the extent to which they do this, however. The ideal users of these materials are in their middle childhood, with some books being suitable for late early childhood or adolescence. A word of caution is in order. The distinction between verbal and non-verbal strategies is purely functional to the illustration of data. With very few exceptions, linguistic and visual resources contribute inextricably to meaning making and knowledge transfer in the vast majority of the materials included in the corpus, especially those addressing younger learners.

4.1 Verbal strategies

The language used in the books is that of asymmetric communication, that is, of expert-to-non-expert discourse (Cacchiani 2018). Knowledge transfer relies mainly on explanatory strategies (or illustration procedures; Gülich 2003) and reformulation (Ciapuscio 2003; Calsamiglia – Van Dijk 2004), since children need to learn to recognize parts of speech.

The verbal strategies adopted in the materials included in the dataset are the same regardless of the learners' age, but the language used matches the presupposed communicative competence of the readers. Examples (1) – (5) are ordered according to the age of the ideal reader of the book. Several strategies are used ranging from generalization (i.e., the use of general terms instead of specialized terms), to exemplification, denomination and explanation in terms of function. Various typographic effects are exploited, such as bolding, colouring or striking through words.

- (1) Sometimes, smaller words such as **I** or **it** stand in for a noun. They're called PRONOUNS and they help to avoid repetition. (Usborne *First Illustrated Grammar and Punctuation*)
- (2) Sometimes we don't want to keep repeating the same noun over and over again. Instead, we can use a **pronoun** to replace the noun. **Freddie** is a fast runner. ~~Freddie~~ **He** always wins. One day I want to beat ~~Freddie~~ **him**. (DK *Visual Guide to Grammar and Punctuation*)
- (3) Pronouns are little words, such as 'he' or 'us', that can take the place of a person, an animal or thing. (Usborne *First Illustrated Grammar and Punctuation*)
- (4) Pronouns are words like 'I', 'it', or 'they', that refer to a person, an animal or a thing without giving its name. Pronouns can also stand for something that's been mentioned or something that will be mentioned. (Usborne *Junior Illustrated, Grammar and Punctuation*)
- (5) If we do not want to repeat the same noun in a sentence or a paragraph, we can replace it with a **pronoun**. A **pronoun** is a word that is used instead of a noun phrase or a noun. (Collins *Easy Learning Grammar and Punctuation*)

Illustration and reformulation tend to cooccur as in example (6), where the definition of 'noun' is provided in terms of its function and is followed by an instance of denomination which offers an alternative label (i.e., reformulation). Examples of nouns are provided immediately under the definition.

- (6) A **noun** is a word that labels a thing or an idea. Nouns are sometimes called 'naming words'.

<i>table</i>	<i>book</i>	<i>ugliness</i>
<i>time</i>	<i>animal</i>	<i>thing</i>

(Collins *Easy Learning Grammar and Punctuation*, p. 13)

Definitions/descriptions and exemplification are by far the most common illustration procedures found in grammar teaching books. Calsamiglia – Van Dijk (2004) distinguish between “definitions” and “descriptions” by specifying that the former explain unknown words and the latter explain unknown things. However, these labels are often used interchangeably in the literature on explanation and the distinction between the two categories is not always easy to make in the case of this study, since the “things” explained are “words”. Example (6) is taken from a reference book for older learners, so it is quite traditional in format and style. Both reference materials and teaching materials for younger learners adopt simpler language and intermodal construction of meaning (cf. section 4.2). As in (6), the concepts introduced are in bold and are defined in terms of their function and through denomination. Interestingly, examples are illustrated to make it easier for young children to understand the relationship between words and referents and possibly to help them read the words. Thus, in *Nelson Grammar*, the words ‘chair’, ‘bucket’ and ‘mat’ appear under the three corresponding images.⁴ Concepts are sometimes introduced via simple explanation, often followed by denomination and exemplification as in (7) and (8).

- (7) The things, animals and people in the world around us all have names. These names are called **nouns**. (*DK Visual Guide to Grammar and Punctuation*)
- (8) A **noun** names a person, place or thing. (*Treasures’ Grammar and Writing Handbook*, Grade 1)

Very frequently, definition, explanation, denomination and exemplification cooccur in the presentation of the concept as in (9):

- (9) **Grammar** is the study of the way we use words to make **sentences**. Words can be divided into groups called **parts of speech**. Three **parts**

⁴ Oxford University Press did not grant permission to reproduce fragments from *Nelson Grammar*. However, sample pages can be viewed here: http://fdslive.oup.com/www.oup.com/oxed/primary/literacy/nelson_skills/Nelson_Grammar_QuickLook.pdf (accessed December 2022).

of speech are **adjectives**, **nouns** and **verbs**. (*Collins Primary Focus, Grammar and Punctuation*)

Reformulation occurs frequently in the form of juxtaposition as in (10), where terms like 'verb' and 'subject' are explained by a paraphrase, less specialized lexical items or a generic definition. Metalinguistic terminology can either precede or follow the defining element.

- (10) Most sentences contain a verb (or action word) and a subject (the person or thing doing the action). These two parts of the sentence need to match, or 'agree'. (*Junior Illustrated, Grammar and Punctuation*)

Metalinguistic terms are sometimes explained through similes and anchoring to the reader's experience and knowledge as in (11) and (12):

- (11) Words are like pieces of a jigsaw. We need to fit them together properly to make meaning. (*DK Visual Guide to Grammar and Punctuation*)
- (12) When speaking, you might pause when you've finished saying something, or you might shout if you are angry. When you write, you use **punctuation** to make your meaning clear. (*DK Visual Guide to Grammar and Punctuation*)

No metaphors were found to introduce metalinguistic concepts verbally. The sole exception is the conceptual metaphor underlying the view of language as a mechanism made up of parts which can be dismantled and put back together as in a large machine found on the back cover for Usborne *Lift-the-flap Grammar & Punctuation*:

- (13) This book will show you how English really WORKS. Take language apart with the Great Grammar Machine, find out what each part does – and then put it back together again using the Silly Sentence Maker. (*Usborne Lift-the-flap Grammar & Punctuation*)

Grammar teaching materials for young learners also adopt some verbal strategies that are meant to support attention, enhance memory and promote involvement. Such strategies can be seen as supporting the communicative dimension of knowledge dissemination and transfer (Turnbull 2018), that is, they help create a bond with the reader and a positive attitude towards the contents presented. Examples of such strategies are the use of forms of address that speak directly to the reader, such as questions and the use of second person pronouns as in (14), the use of informal vocabulary which

is typical of children as in (15) or the use of rhymes as in (16). Game-like activities and quizzes also help the learner's involvement.

- (14) How is it done? Many adverbs show **how** something is done. (Usborne *First Illustrated Grammar and Punctuation*).
- (15) These words are all muddled up! [...] The words in the sentence need to work together to make the meaning clear. (Oxford *Primary Grammar, Punctuation and Spelling Dictionary*)
- (16) Remember!
 A noun on its own
 Is just a thing.
 A verb makes it **run**,
 And **dance**, and **sing**!
 (DK *Visual Guide to Grammar and Punctuation*)

4.2 Format, composition and the role of visual resources

Most of the materials in the dataset are multimodal, because metalanguage is presented and made accessible to young learners through the interaction of different semiotic codes (Kress – van Leeuwen 2006; Cappelli 2016). The composition of the pages in the teaching materials, i.e., “the way in which the representational and interactive elements [...] are integrated into a meaningful whole” (Kress – van Leeuwen 2006: 176), is generally not overly innovative. Images are occasionally purely decorative (Roth et al. 2005), as in publication (14), or altogether absent as in publication (9). Most workbooks are indeed quite traditional in their graphic style and in the organization of the contents. They address children aged 5 to 11 and their layout adapts to the readers' ages: the non-verbal elements are widely exploited in books meant for younger learners, whereas the verbal component plays a bigger role in books for older learners. Teaching materials for Years 1-4 use large fonts and little text, moving to smaller fonts and more crowded pages in resources for Years 5 and 6. They all exploit colours for highlighting important information and keywords, and some resort to unusual fonts for headings and subheadings. Tips and relevant information to keep in mind are often presented in text boxes with coloured backgrounds or different fonts. Graphic aids like arrows and circles are omnipresent.

Although the level of interaction of language and images varies greatly in the books investigated, with the few exceptions mentioned, illustrations are

widely used in materials for young learners. Some workbooks include fictional characters which guide them to the discovery of parts of speech or grammar rules, such as in the case of (12), the Scholastic's *Grammar and Punctuation* series, in which an owl provides learners with definitions in comics-style bubbles (Fig. 1)⁵ or asks questions like "how did you do?". This is a communicative strategy (Turnbull 2018) that is commonly used in the popularization of specialized knowledge for young readers (Cappelli 2016; Cappelli – Masi 2019) and exploits the early childhood's interest in fictional characters.



Figure 1. Adjectives, *Grammar and Punctuation*, Workbook ages 5-7, Scholastic

Pictures also function as exemplars. In publication (11), when nouns are introduced, the word chair and the corresponding picture illustrate the syntactic category. In these cases, however, images do not seem to contribute directly to defining parts of speech. Rather, they visually exemplify the part of speech at issue, that is, they are in a relation of exemplification with the text which introduces nouns (Unsworth 2006). However, they are also in a relation of exposition with the accompanying written words: they express the same content in an alternative mode (Unsworth 2006). This might be meant to support the reading skills of children who are new to literacy.

In a way, the use of pictures in grammar teaching materials for children seems to function as a multimodal anchoring strategy. As mentioned above, learning what different structures are essentially means learning to label linguistic material which is already implicitly known. Showing that words that name objects like 'bucket' or 'mat' are called 'nouns' means teaching

⁵ I would like to thank Scholastic Education for granting permission to reproduce the images taken from their publications.

children to categorize known words into classes, just like using the picture of a castle to explain 'silent letters' anchors a metalinguistic definition to a probably very familiar item. Most children will know what the building in Fig. 2 is and will learn how to spell the word in Year 1, thus becoming aware of a difference between spelling and sound in the word 'castle'. Similarly, in *Nelson Grammar's* Pupil Book 1B, children learn that 'Tom' is a proper noun through an illustrated dialogue between two children meeting for the first time. This anchors the function of this part of speech to children's familiar experiences, thus providing a recognizable example of names.

The letter **l** is silent in many words.

walk chalk would

A **t** after the letter **s** can be silent.

whistle castle



Figure 2. Silent letters, *Grammar and Punctuation*, Workbook ages 5-7, Scholastic

The visual component in the reference materials is generally more interesting and more innovative, with the sole exception of publication (2), *Collins Easy Learning Grammar and Punctuation*. The book is actually meant for Year 6 and older and, therefore, it is organized as a classic handbook, with no illustrations. The only visual strategies adopted are the use of light blue for titles and keywords, and bold and italic fonts for examples and for the names of parts of speech. Publications (1) and (3) – (8), in contrast, are very interesting in terms of the multimodal strategies adopted to introduce metalinguistic concepts to young learners.

Publication (6), like (2), is meant for teenagers and, interestingly, the layout reproduces that of a notebook. It exploits different font styles for headings and keywords, and the body of the text is written in a font that mimics handwriting. Illustrations look like drawings and are generally illustrative (Roth et al. 2005) of some of the verbal content on the page. However, they appear to have an overall decorative function rather than to help clarify concepts. For instance, a clock and a compass appear on page 2, which introduces phrases. They only relate to the mention of time and space which figures in the box dedicated to defining prepositions. Definitions are usually presented in textboxes with coloured backgrounds and examples are marked by graphic aids such as highlighted labels linked to textual examples by arrows.⁶

Publications (3), (4), (5) and (7) are meant for learners of Years 3 to 5. Although they differ remarkably in their style, they share similar multimodal meaning making strategies. They all have a vertical organization, with a title indicating the metalinguistic concept introduced in the section, a brief verbal introduction to the concept immediately under the title and then one or two columns with verbal examples or further explanations that are enhanced by non-verbal elements such as illustrations, pictures, graphic aids, and typographic elements (Fig. 3). Just as in teaching materials, the size of the font and the amount of text present on the page varies to meet the needs of the ideal readership of the individual resources.⁷

An introduction and instructions on how to use the books precede the actual chapters, and these sections too exploit the integration of verbal and non-verbal elements to help readers understand what type of information is available and how it is organized (Fig. 4). Interestingly, in the introduction to the *DK Visual Guide to Grammar and Punctuation* different animals explicitly remind the reader that “When you learn about the grammar of your own language, the most important thing to remember is that you already know most of it. Every time you open your mouth to speak, you are using grammar without even realizing it!” (p. 4).⁸

⁶ Cf. <https://www.youtube.com/watch?v=VdS9HqsHTkw&t=51s> (accessed December 2022).


⁷ We could not obtain permissions to reproduce fragments of publication (5), *DK's Visual Guide to Grammar and Punctuation*, in time for the submission of this article. However, a preview of the style adopted in this book can be seen on the website of the publisher at the URL <https://www.dk.com/us/book/9781465462589-visual-guide-to-grammar-and-punctuation/> (accessed December 2022).

⁸ We could not obtain permissions to reproduce fragments of publication (5), *DK's Visual Guide to Grammar and Punctuation*, in time for the submission of this article. However,

Nouns

Nouns are words that tell you the name of something. A noun can be a person, an animal, a thing or a place.


Molly walrus computer India
magic clouds castle helicopter



Proper nouns

A proper noun tells you the name of one particular person, place or thing.

For example, 'London' is a proper noun because it's a particular place.



Proper nouns start with a capital letter.

Freddie
Japan
Mars
Professor Pink
Wednesday
Texas

Proper nouns include...

- people's names

Lauren
Archibald
Dr Brown
- places, countries, continents

Tokyo
Australia
Asia
- days, months, festivals

Saturday
August
Christmas
Diwali

10

Nouns

Nouns are words like 'Army', 'tiger' or 'book' that tell you the name of a person, an animal or a thing. Ideas and feelings, like 'truth' and 'sadness', are nouns as well.

Most sentences contain at least one noun and a single sentence can have many nouns.

There are six nouns in this sentence.


Ryan had a dream that his rabbit was on a voyage through space in a rocket.

Proper nouns

Proper nouns tell you the name of one particular person, place or thing.

'Paris' is a proper noun because there's **only one** Paris.

Proper nouns always start with a **capital letter**.



Paris

I'm proper

Superman Christmas Eve

Common nouns

You use a common noun when you're **not** talking about a particular unique thing.

'Penguin' is a common noun because there are **lots** of penguins.

Common nouns **don't** have a capital letter unless they come at the beginning of a sentence.

I'm common

penguin

cake laughter table star

8

Figure 3. Organization of contents in publications (4, right)⁹ and (7, left)¹⁰

a preview of the page can be seen on the video review of the book available at <https://www.youtube.com/watch?v=acnvs9sq27o&t=13s> (accessed February 2023).

⁹ Reproduced from *Junior Illustrated Grammar and Punctuation* by permission of Usborne Publishing, 83-85 Saffron Hill, London EC1N 8RT, UK. www.usborne.com. Copyright © 2016 Usborne Publishing Limited.

¹⁰ Reproduced from *First Illustrated Grammar and Punctuation* by permission of Usborne Publishing, 83-85 Saffron Hill, London EC1N 8RT, UK. www.usborne.com. Copyright

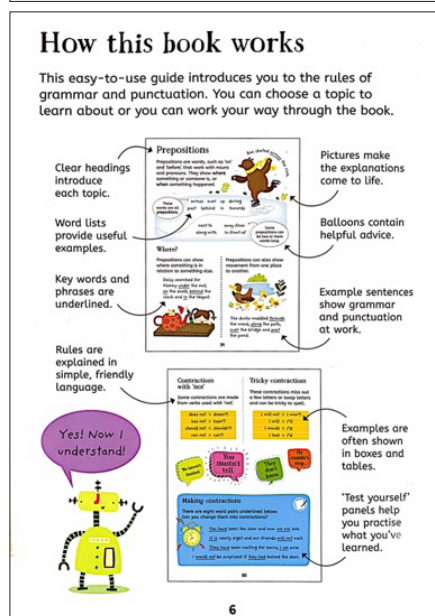
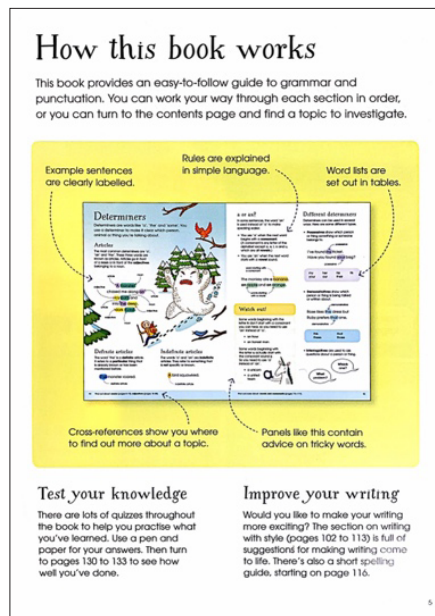


Figure 4. "How to use this book" sections in publications (4, right)¹¹ and (7, left)¹²

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Most of the reference materials are quite interactive. They include activities, usually enclosed in visually well marked dedicated sections on the page which, the younger the learner, are more similar to those found in illustrated activity books. Figure 5 shows two examples from two Usborne publications, *First Illustrated Grammar and Punctuation* and *Junior Illustrated Grammar and Punctuation*. The former is meant for children younger than those served by the latter.



Figure 5. Activities from publications (7, top)¹³ and (4, bottom)¹⁴

Among the books marked as reference materials, especially interesting in terms of format and interactivity are publications (1) and (8), which are meant for a very young readership. They are both lift-the-flap picture books. They introduce only the very basic metalinguistic concepts, but they do so in an entertaining fashion, which requires the reader to interact with the books. In this sense, they exploit strategies that contribute to the communicative dimension of knowledge transfer, rather than to the cognitive one, that is, strategies that

¹³ Reproduced from *First Illustrated Grammar and Punctuation* by permission of Usborne Publishing, 83-85 Saffron Hill, London EC1N 8RT, UK. www.usborne.com. Copyright © 2019 Usborne Publishing Limited.

¹⁴ Reproduced from *Junior Illustrated Grammar and Punctuation* by permission of Usborne Publishing, 83-85 Saffron Hill, London EC1N 8RT, UK. www.usborne.com. Copyright © 2016 Usborne Publishing Limited.

involve readers and create a trusting relationship with them (Turnbull 2018). *The Great Grammar Book* is richly illustrated and includes a wide range of interactive activities that help young children make sense of the concepts introduced. It features lift-the-flap pages, but also more creative pages. Two examples are the page explaining what verbs are and the page introducing prepositions. The former includes a wheel that can be turned to see the characters perform some of the actions described. A rabbit personifies the part of speech and tells the reader what to do with the wheel (i.e., “Hi, I’m Vera Verb! Don’t stop! Keep moving! Verbs are doing words”). The latter includes a pop-up scene which recreates the story narrated in the text and exemplifies prepositions of space (Fig. 6) (e.g., “out of the gate”; “through the hole”).



Figure 6. Two pages from *The Great Grammar Book*¹⁵

¹⁵ I would like to thank Jennie Maizels (illustrator) and Caroline Sheldon (Caroline Sheldon Literary Agency, which manages the Kate Petty estate) for granting permission to reproduce these images.

Similarly, Usborne *Lift-the-flap Grammar & Punctuation* offers young children many opportunities for discovery. In this case, the flaps usually hide examples or additional information. Thus, in the section dedicated to nouns (p. 2), children learn that “A SINGULAR noun stands for just one thing” and “A PLURAL noun stands for *more* than one thing” through the verbal explanation, but their attention is also channelled through the use of capital and italic fonts, as well as the picture of “one beaver” (with the singular form ‘beaver’ written in blue) and the picture of “lots of beavers” (with the plural form ‘beavers’ written in blue) and in small print the additional information that “Most plurals end with an S” connected to the main information by an arrow. The beavers are represented on a flap which, once lifted, unveils the rules governing the morphology of plural nouns as well as the existence of irregular nouns (e.g., ‘child’ > ‘children’). The use of visual elements in these materials is very interesting for young readers, because it often serves the function of exemplifying abstract or complex concepts, such as the notions of ‘comparative’ and ‘superlative’, which are rendered with the pictures of three cakes of growing size and the adjective ‘delicious’ marking the first, and the comparative and superlative forms hidden under the flaps corresponding to the mid-sized cake and large cake.

Perhaps the most interesting example of the way in which the non-verbal component completes and enhances the verbal component in the dataset is represented by the units dedicated to explaining what ‘grammar’ means. Most books meant for younger children, resort to visual elements to create a visual metaphor of language as a system, and grammar as the “glue” which keeps all the different elements together. Discussing in detail all the examples would exceed the limits of the present discussion, but two cases are especially interesting. The first one is taken from the DK *Visual Guide* (p. 8). The unit opens with a question (i.e., “What is Grammar?”) followed by a short text that explains that we use words when we talk and that “Grammar is the way we put these words together so that they make sense”. Another line of text, below the main definition of grammar, explains that “words scattered around on their own don’t mean very much” and below this line, several words appear on what looks like the scattered pieces of a puzzle. This visual metaphor is made explicit immediately after, in a short paragraph claiming that “Words are like pieces of jigsaw. We need to fit them properly together to make meaning”. In an image which follows, the pieces of the puzzle with the corresponding words are organized neatly in a line which now makes sense.¹⁶

¹⁶ We could not obtain permissions to reproduce fragments of publication (5), DK’s *Visual Guide to Grammar and Punctuation*, in time for the submission of this article. However,

Similarly, in the Usborne *Lift-the-flap Grammar & Punctuation*, ‘grammar’ is defined on the very first page as “a set of rules for organizing words into sentences. Each word has its own job to do” (Fig. 7).

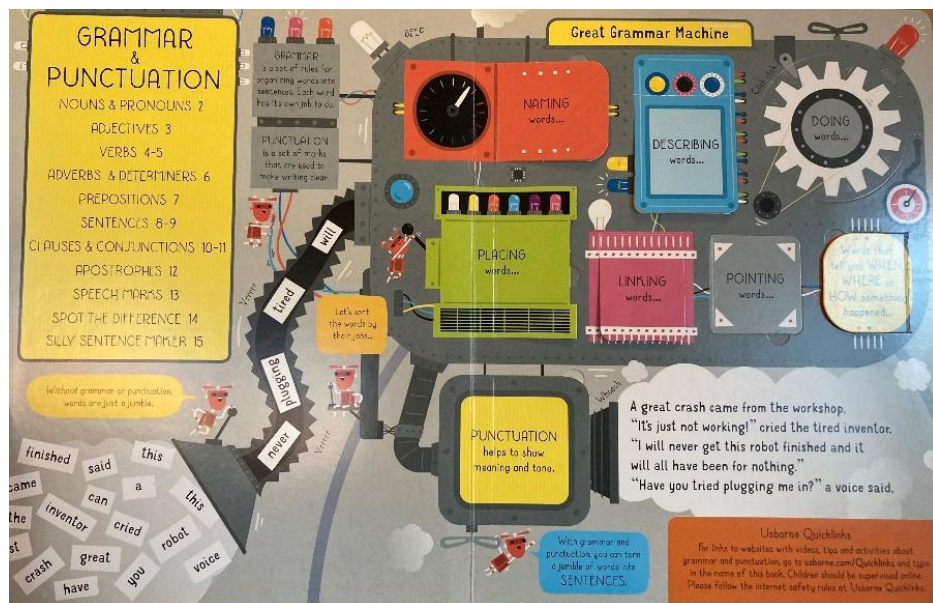


Figure 7. The Great Grammar Machine, Usborne *Lift-the-flap Grammar & Punctuation*¹⁷

This text appears in a small box on the top left-hand side of a large illustration depicting a machine, “the Great Grammar Machine”, in which each flap corresponds to a type of word defined in terms of its function in the system. The actual term is hidden under the flap, together with examples. Thus, in the machine are featured “naming words”, “describing words”, “doing words”, etc. which are then explained through denomination under the flap with statements like “These are known as NOUNS”, “These are known as ADJECTIVES” and “These are known as VERBS”. Scattered words are represented at the input point of the machine and punctuation is at the output point, because it “helps to show meaning and tone” of the different

a preview of the page can be seen on the video review of the book available at <https://www.youtube.com/watch?v=acnvs9sq27o&t=15s> (accessed February 2023).

¹⁷ Reproduced from *Lift-the-flap Grammar and Punctuation* by permission of Usborne Publishing, 83-85 Saffron Hill, London EC1N 8RT, UK. www.usborne.com. Copyright © 2020 Usborne Publishing Limited.

combinations of various types of words organized by the great grammar machine. The illustration represents in an accessible way the contemporary view of language as a complex system in which different parts contribute to the creation of meaning by interacting in a systematic way. In other words, this is a brilliant visual metaphor of one of the most fundamental notions in linguistics, which is made immediately understandable through the integration of verbal and visual resources. Moreover, this strategy is suitable to explain such a complex concept to learners who lack even the most basic linguistic notions.

The interplay between the visual and verbal components is also exploited in the third type of materials included in the dataset: narrative teaching materials. This type of material is meant for young learners and proposes an alternative approach to the teaching of grammar terms. The *Grammar Tales* series is published by Scholastic. The two books analyzed as an example of this genre are *A Verb for Herb* focusing on the concept of verb, and *Chicken in the City*, focusing on the concept of noun. Small textboxes present the concepts in a traditional style throughout the booklets. The illustrations, however, are used in an interesting way: not only do they depict scenes of the story that is narrated in rhymes at the bottom of the page, but often complement and expand the concepts presented as on p. 2-3 of *A Verb for Herb*, in which the verbs jumping out of the fairy's bag exemplify the concept at issue.¹⁸ In other words, illustrations are complementary to the text (Roth et al. 2005) and represent a case of augmentation, i.e., they provide additional meanings to those derived by the text (Martinec – Salway 2005; Unsworth 2006).

The use of narration with a didactic purpose is certainly not a new idea, but the application of narration to the presentation of grammar metalanguage is an innovative attempt to make linguistic terminology accessible and interesting for young learners. Like game-like activities and interactive strategies, it contributes to the communicative as well as the cognitive dimension of knowledge transfer. *Punctuation, the Write Stuff* is grounded in similar theoretical premises, even though illustrations only accompany the large-font text, on separate pages, providing a visual summary of the textual content discussed in section 4.1 rather than complementing or enhancing it.

¹⁸ We could not obtain permissions to reproduce fragments of publication (16), *A Verb for Herb*, *Grammar Tales*, Scholastic – US Office in time for the submission of this article. However, a preview of the pages mentioned can be seen on the video review of the book available at <https://youtu.be/sYV-X9B6dWE?t=71> (accessed February 2023).

5. Concluding remarks

In the light of the discussion in sections 3 and 4 above, we can reasonably conclude that grammar teaching represents a peculiar case of knowledge transfer. Children know the subject matter well: they just need to give a name to the building blocks of such matter, i.e., to learn the specialized terminology to describe language and how it works. In this sense, they operate in a way which is not too different from what linguists do. They learn to observe linguistic production and give a name to linguistic phenomena, so that they can describe how the system works. For this reason, there is no real “recontextualization” in grammar knowledge transfer to children. However, much reformulation is necessary when it comes to explaining abstract grammatical metalanguage to young learners who might well know the language but might also lack the cognitive skills to process such information. The effort to meet the needs of this readership is evident in the strategies adopted in the materials investigated, which are similar to those observed in the popularization of different types of specialized knowledge. For this reason, it seems fair to conclude that grammar teaching and reference materials can be investigated within the wider framework of the studies on “edutainment” (Aksakal 2015) and of knowledge dissemination and popularization for young readers.

The analysis has shown that both verbal and visual resources are exploited to make grammar metalanguage understandable for children, although in different ways in the different books included in the corpus. Books for older learners rely more on text, especially reference materials for Year 5 and up. In the latter, visual resources, including layout, formatting, and font style, are often relegated to the role of attention catching strategies. The younger the readership, the more integrated verbal and visual resources are in the presentation of relevant concepts, with a noticeable difference in innovation and creativity between teaching materials and reference and narrative teaching materials. Overall, although the books included in the dataset adopt a functional approach to grammar learning as a means to speak and write “better” English, most popularizing strategies are exploited in teaching what parts of speech are and do, and to recognize them.

Although the presentation of metalinguistic concepts relies largely on text, even in the more traditional publications (e.g., workbooks), the effort to offer intermodal access to what is assumed to be difficult to grasp for children is evident, although to a different extent. This indicates

that grammar metalanguage is treated as specialized terminology in popularizing materials.

Multiple semiotic resources are especially exploited for exemplification and explanation, although the integration of language and images varies greatly in the dataset. In some cases, text and visual elements simply co-occur, but in other cases, e.g., in some of the most creative materials for young learners, they are complementary and either extend or complement each other. This is the case of some interesting visual metaphors which offer a concrete representation of complex and abstract concepts (e.g., language as a system of interacting structures). Multimodality is also exploited to anchor grammar metalanguage to familiar concepts and experiences (e.g., grammar as a jigsaw or verbs like a constantly turning wheel). This attempt to adjust to pre-existent knowledge, familiar concepts and cognitive skills of the readership is in line with what has been observed in the popularization of different scientific contents for children, as well as the effort to provide instruction through entertainment.

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Popularizing art for children at the MoMA: A multimodal analysis of the audio-delivered pictorial descriptions

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ABSTRACT

The aim of this study is to investigate popularization practices in museum communication for children. More specifically, the study proposes a multimodal investigation of twenty audio-delivered pictorial descriptions in English specifically designed for children, available in the official website of the Museum of Modern Art (MoMA) in Manhattan. The scripts of the pictorial descriptions were retrieved from the website's dedicated section and annotated by means of *QDA Miner Lite* according to a set of codes: 'type of speaker', 'speech', 'music', 'sounds', and 'prosody'. Then, they were analyzed from a multimodal perspective in order to identify key popularization strategies, as well as to investigate how the different semiotic resources are combined to enhance children's art experience. The results show that the encounter with the artwork is shaped as the child's own discovery, in which observation skills and critical thinking are challenged by means of several popularization strategies. A key role is played by questions and invitations (to observe, to think, etc.), as well as by soundscape in which speech, music and sounds are meaningfully combined to increase listener involvement.

Keywords: popularization for children, pictorial descriptions, soundscape, MoMA, multimodal analysis.

1. Introduction

With its stated aim to “encourage more people to discover and engage with Europe's cultural heritage”, European Year of Cultural Heritage 2018 has placed emphasis on the need to involve the widest audience possible in order to enhance appreciation for cultural heritage. In line with the definition of

institutions “in the service of society” (ICOM 2007)¹, over the last decade museums have explored new approaches for increasing accessibility and inclusion in cultural heritage experience. To this purpose, they have attempted to diversify practices for popularizing art so as to involve those social groups who are not always provided with equal opportunities in the museum experience, such as children, the visually impaired, etc. This approach has resulted in multimodal forms of communication in which different semiotic modes are combined to meet the needs of such categories of visitors.

Defined as “a vast class of various types of communicative events or genres that involve the transformation of specialized knowledge into ‘everyday’ or ‘lay’ knowledge, as well as a recontextualization of scientific discourse” (Calsamiglia – van Dijk 2004: 370), popularization – or knowledge dissemination – practices are crucial in making art accessible and inclusive. A key aspect that needs considering in popularization of specialized knowledge is the target audience, as the popularization strategies that will be adopted to make contents accessible will strictly depend on the target audience’s knowledge of the topic or domain involved in the communicative event. Although popularization for children implies the same processes involved in popularization for lay adults (Calsamiglia – van Dijk 2004; Gotti 2014), it may be particularly challenging for a number of reasons. First of all, bridging the gap in knowledge between experts and non-experts might be problematic due to the fact that children’s cognitive and linguistic skills are not fully developed (Myers 2003). As a result, concepts and vocabulary that are common for lay adults may well become specialized knowledge for children. Furthermore, if on the one hand simplification is necessary to make contents accessible to children, on the other hand simplification may lead to trivialization (De Marchi 2007: 27).

Popularization for children has been investigated in various domains, such as science (Myers 1989, 2003; Bruti – Manca 2019; Cesiri 2019), newspaper articles (Diani 2015), history books (Sezzi 2017), EU institutions (Silletti 2017), legal knowledge (Diani 2018), health knowledge (Diani 2020) tourist promotion (Cappelli 2016; Cappelli – Masi 2019), and cultural heritage (Synodi 2014; Sezzi 2019). As noted by Bonsignori and Cappelli (2020: 214), spoken genres in the domain of tourism and cultural heritage promotion tend to be unexplored, with a few exceptions (Rosypalova 2012; Synodi 2014; Lopriore 2015; Fina 2018; Francesconi 2018).

¹ <https://icom.museum/en/resources/standards-guidelines/museum-definition/>, accessed February 2023.

The present study aims to investigate popularization strategies in audio-delivered pictorial descriptions in English specifically designed for children and available in the official website of the Museum of Modern Art (MoMA) in Manhattan. The MoMA describes itself as a museum celebrating “creativity, openness, tolerance, and generosity” and aiming to provide “inclusive places – both onsite and online” where “diverse cultural, artistic, social, and political positions” are preserved and where “the most thought-provoking modern and contemporary art” is shared.² The website is structured into four main sections: ‘Plan your visit’, ‘What’s on’, ‘Art and artists’, and ‘Store’. The ‘Art and artists’ section contains four sub-sections, including the ‘Audio’ one which, among others, contains the audio-delivered pictorial descriptions designed for children. To the best of my knowledge, the present study is the first attempt to investigate popularization for children in a cultural heritage-related spoken genre. As will be seen in the analysis, Sezzi’s (2019) case study on *Tate Kids*, the website of the Tate Gallery family entirely dedicated to children, is particularly relevant to the present investigation, as similar features were identified.

2. Theoretical background

The theoretical background for the investigation of the *MoMA Kids* audio-delivered pictorial descriptions revolves around three aspects. The first one is the stylistic nature of the pictorial description as a text type. Drawing on Fina’s (2018) study of city audio guides, this will be illustrated by referring to the stylistic discourse categories developed by Crystal and Davy (1969). The two scholars investigated the category of ‘medium’ by looking at the distinctive features of speech and writing in reference to the classification of texts in the *Survey of English Usage* (SEU)³ (Quirk 1959), which is based on the fundamental distinction between speech and writing. The two scholars focused their attention on the “undesirable asymmetry” (Crystal 1994: 36) arising from the fact that not always does language stay in one category (either written or spoken), but there are cases in which switch occurs as, for example, in dictation, where speech is produced to be written down. This is also the case of the *MoMA Kids* pictorial descriptions, since in the dedicated section of the MoMA website each audio file is matched by its script. Thus, at a first stage the pictorial description comes as a written script which

² <https://www.MoMA.org/about/>, accessed February 2023.

³ <http://www.ucl.ac.uk/english-usage/about/history.htm>, accessed February 2023.

provides information about the artwork; however, at a second stage this script is read aloud by a professional speaker and recorded for subsequent publication. Therefore, the pictorial description is characterized by what Crystal and Davy term “complex medium” (Crystal and Davy 1969: 71) to classify “certain features of a variety which would fall as a general rule within one kind of discourse by reference to features which would normally be expected to occur only in another”. On the basis of these theoretical observations, the *MoMA Kids* pictorial description as a text genre can be considered an informative script-based oral presentation, whose aim is to popularize art for children. Since the final product is audio delivered, the semiotic mode involved in this text genre is the aural mode, which is based on sound in all its semiotic forms (Kress – van Leeuwen 2001).

Thus, the second theoretical aspect relates to multimodality: since the *MoMA Kids* pictorial descriptions feature script-based speech, music, and sounds, they can be theoretically framed within van Leeuwen’s (1999) model of soundscape. Van Leeuwen defines ‘soundscape’ as a composite semiotic system consisting of speech, music, and sounds, which interact at different degrees of loudness. ‘Sound’, however, does not refer to sounds from external sources only, but it also relates to the way we use voice. Indeed, voice itself is a physical sound, as “the same voice that whispers can also sing, shout, and scream [...]” (Cluett 2013: 116). Van Leeuwen’s model consists of an analytical framework aiming to investigate speech, music and sounds as interrelated phenomena, in terms of “sound-as-sound”, “sound-as-music” or “sound-as-language” (Van Leeuwen 1999: 6). The model comprises six parameters, which are *not* intended to provide a code, but are rather considered as tools to establish some “*meaning potential*” (Van Leeuwen 1999: 10, emphasis in the original) always to be referred to the specific context in which the sound event occurs. The parameters are the following:

- Perspective, i.e., the relative loudness of simultaneous sounds which places sounds at different distances from the speaker;
- Time and rhythm, i.e., the tempo characterizing sounds;
- Interaction of voices, i.e., how the plurality of voices involved in the soundscape intertwine (by taking turns or simultaneously);
- Melody, which is realized through pitch movement, pitch range and pitch level, with pitch being modulated in order to convey specific emotions;
- Voice quality and timbre, which includes varying degrees of tension, roughness, breathiness, loudness, pitch register, vibrato;
- Modality, which refers to the degree of truth assigned to a sound and is determined by a combination of the previous features.

The main feature of interest in the analysis will be how these three elements interact to create meaning, facilitate understanding and increase children involvement, with a focus on the key popularization strategies.

The third aspect concerns popularization discourse as theorized by Calsamiglia – van Dijk (2004) and Gotti (2013), and in particular on the different types of explanations they identified as one of the most widespread knowledge dissemination practices. The focus of the analyses will be on ‘denomination’ (or ‘designation’), whereby new terms are introduced by indicating the specialized terms, and ‘definition’, which implies the explanation of unfamiliar words through the description of some properties or components of the thing being referred to.⁴ Other strategies that will be analyzed are ‘anchoring’ to the reader’s background, and ‘analogy’ (or ‘association’), which involves a comparison with objects or concepts that are cognitively familiar to the layman, as in similes or metaphors.

3. The study: Data, methodology and research questions

The data include twenty pictorial descriptions in English downloaded from the *Kids* section of the MoMA’s website⁵:

Table 1. Corpus of MoMA Kids pictorial descriptions⁶

1.	<i>The Red Studio</i> (Henri Matisse)
2.	<i>Broadway Boogie Woogie</i> (Piet Mondrian)
3.	<i>One: Number 31</i> (Jackson Pollock)
4.	<i>Vir Heroicus Sublimis</i> (Barnett Newman)
5.	<i>The Dream</i> (Henry Rousseau)
6.	<i>Frontal Passage</i> (James Turrell)
7.	<i>House by the Railroad</i> (Edward Hopper)
8.	<i>The Sleeping Gypsy</i> (Henri Rousseau)
9.	<i>The Piano Lesson</i> (Henri Matisse)
10.	<i>Still Life #30</i> (Tom Wesselman)
11.	<i>Dynamic Hieroglyphic of the Bal Tabarin</i> (Gino Severini)
12.	<i>The Migrants Arrived in Great Numbers</i> (Jacob Lawrence)

⁴ Paraphrase and exemplification were not found in the scripts.
⁵ <https://www.moma.org/audio/playlist/289>, accessed February 2023. The pictorial descriptions in Table 1 are those that were available at the time of the research.
⁶ Due to regular re-organization of the MoMA website, the pictorial descriptions analyzed in this study (or some of them) might no longer be available.

13. *Christina's World* (Andrew Wyeth)
 14. *Untitled* (Mike Kelley)
 15. *Splatter Chair I* (Richard Artschwager)
 16. *Guitar* (Pablo Picasso)
 17. *The Magician* (Jean Dubuffet)
 18. *1Flag* (Jasper Johns)
 19. *Unique Forms of Continuity in Space* (Umberto Boccioni)
 20. *Martin, Into the Corner, You Should Be Ashamed of Yourself* (Martin Kippenberger)
-

Each pictorial description lasts about two minutes and can be listened to on the website itself. While listening, the picture of the artwork and the script of the recording are displayed. The contents of the scripts were copied and pasted in single Word files, compared with the recordings and checked for consistency, and then annotated by means of *QDA Miner Lite* (Provalis Research 2011), a software for qualitative data analysis. This software allows users to annotate the data by creating codes and assigning them to selected text segments. The segments labelled with a specific code can then be retrieved, and co-occurrence with other codes can also be displayed.

The scripts were annotated according to five code categories (or node codes) – ‘type of speaker’, ‘speech’, ‘music’, ‘sounds’, ‘prosody’ – each including a set of related sub-codes. The category ‘type of speaker’ includes the types of speakers – apart from the narrator – who might intervene in the description, such as actors or young visitors; the category ‘speech’ includes a set of codes which label content types and their communicative aims or specific verbal strategies, such as different types of question, invitations, popularization strategies (e.g., denomination, definition, etc.). As for extra-verbal features, the category ‘music’ includes sub-codes that label music in relation to its relevance or non-relevance to what is being narrated or described, as well as musical pauses or aspects related to the parameter of ‘perspective’ (see section 2); the category ‘sounds’ draws on a previous classification (Fina 2018, adapted from Crook 1999) and includes sub-codes that classify sounds as ambient sounds (i.e., sounds describing indoor or outdoor environment), sound signals (e.g., those marking the end of a section), confirmatory sounds (i.e., sounds representing or reinforcing the mentioned action, event or situation), or impressionistic sound effects (i.e., particular effects applied to voice or sounds). Finally, the category ‘prosody’ includes the following codes: pause, sentence stress, non-verbal emotional vocalization (e.g., laughter), voice quality (e.g., lax vs tense), and rhythm, which is determined by specific patterns of sentence stress, pausing, alliteration, etc.

The categories and related sets of codes do not operate separately: instead, they integrate with each other to create meaning, increase accessibility and enhance the young visitor's museum experience. Thus, the analysis will develop around the following research questions:

- What strategies, at both the verbal and extra-verbal levels, are adopted in the *MoMA Kids* audio-delivered pictorial descriptions to popularize art for children?
- What is the role of the soundscape⁷ in the popularization process?

The multimodal analysis of the pictorial descriptions will shed light on the key popularization strategies and will highlight how the different semiotic resources characterizing the soundscape are combined to create meaning and involve the young listener.

4. Analysis

Before proceeding with the analysis, a number of general features of the pictorial descriptions need describing. First of all, the general structure of the pictorial description involves two phases: a narrative or descriptive phase and an explorative phase. In the former, the story underlying the painting or the description of what is depicted in it is provided; in the latter phase, the young listener is invited to visually explore the painting or encouraged to interact with it. However, as we will see in the analysis, these phases are often blended. A second key aspect is second speaker intervention, which involves either actors impersonating fictional characters that narrate the represented story, or children engaged in a 'peer-to-peer' discussion of the represented objects or people in the paintings. This leads to a third key aspect, which is the frequent use of questions and invitations, by which the young listener is addressed directly and encouraged to explore the painting and subsequently to reflect on the meaning underlying it. Finally, the narration and description are often enhanced by music and sounds, which do not seem to have been chosen randomly, as in several cases they actually mirror the story or concepts which are being delivered by the speaker. Analyzing these aspects separately would not successfully exemplify the integration of the different semiotic resources involved in the popularization process. For this reason, the analysis will be carried out from a multimodal perspective:

⁷ For a detailed study of soundscape in the *MoMA* pictorial descriptions for children, see Fina (2020).

it will begin with verbal strategies and will then be expanded to extra-verbal strategies. The type(s) of narrator involved, the type of music and sounds, the presence of musical pauses ('musical P') and distinct pauses lasting around 1 second ('[P]') are all indicated in the analyzed excerpts.

4.1 The role of questions

The frequent use of questions as a strategy of popularization for children has already been highlighted in previous studies (Diani 2015, 2020; Sezzi 2017, 2019; Silletti 2017). In this study, questions were classified into the following types according to their main function:

1. narrative questions, i.e., questions regarding possible outcomes in the story represented in the painting and posed to sustain tension and keep the young visitor interested (e.g., "What do you think will happen next?" or "Is he[the lion] going to eat her?");
2. didactic questions, i.e., *wh*- questions regarding the objects or characters represented in the painting (e.g., "Now what do you see?"); these were found to be frequently used also in museum websites (Sezzi 2019);
3. questions aimed at description, i.e., questions posed by the narrator to indicate or describe details of the artwork, and often introduced by expressions like "Did you see...", "Can you see/find..." (e.g., "Did you see a ceramic plate and a white box of blue crayons?").

Types 1 and 2 are not mutually exclusive, as didactic questions can be considered a sub-type of narrative questions and the two functions involved may co-occur in the same question. Furthermore, both types belong to the same type of exploration, since they both encourage the child to describe what is represented or to imagine the story behind the depicted scene. A different type of exploration is involved in type 3, instead, since questions aimed at description usually provide ready-made descriptions which are meant to facilitate item identification. As such, types 1-2 and type 3 are mutually exclusive.

We will now begin the investigation by analyzing the following excerpt:

- (1) [Male narrator]: This painting by artist Henri Rousseau shows a mysterious scene. ^[1]*Where is this woman*, and ^[2]*why is there a lion with her?* Look closely at the painting. [P] ^[3]*What clues can you find?*
[Kid 1]: It's night time – the stars and the moon are out.

[Kid 2]: It looks like a desert, but there's water behind them.

[Kid 1]: ^[4]*How did she even get there?* I don't see any footprints.

[Kid 2]: She's got an instrument with her, ^[5]*maybe she's a musician?*
[music performed by a mandolin]

[Male narrator]: And ^[6]*what about that lion?* ^[7]*Is he going to eat her?* [lion roaring softly] ^[8]*Or is he here to protect her?* [lion roaring softly]

Maybe the lion is part of the woman's dream as she sleeps. Or, maybe the woman is in the lion's dream! [lion roaring louder] Oh, sorry! [whispered] ^[9]*What do you think will happen next?*

(*The Sleeping Gipsy* – Henri Rousseau)

This script relies heavily on questions so as to make the meaning of the painting manifest to children, but these questions serve different aims. Questions [1], [2] and [3] are didactic questions, by means of which the young listener is invited by the main narrator to describe the scene. Thus, far from providing ready-made descriptions, the child's observation's skills are challenged from the start. In terms of soundscape, interaction of voices takes place, since the answers to such questions are not provided by the narrator himself, but by two children who participate in the discussion. This dialogic dimension may produce two interrelated effects: the description takes place not in the form of a 'lecture' but of an informal discussion among peers; as a result, the formal distance between the expert narrator and the non-expert listener is neutralized. Furthermore, since question [4] is asked by Kid 1 rather than the narrator, the young listener will feel encouraged to visually explore the painting and draw hypotheses about its meaning exactly as his/her fellows do in the recording. Questions [6]-[9] can be classified as narrative questions, instead, since their aim is to encourage the listener to use his/her imagination to go beyond what can be seen in the painting and come up with possible outcomes of the story. At the extra-verbal level, in the Kid 2 line about the instrument lying next to the gipsy, music plays a key role in popularization. The name of the instrument – a mandolin – is not named verbally, but this omission is compensated for by the music that can be heard after the utterance "maybe she's a musician", which is performed by a mandolin. Furthermore, the lion depicted in the scene is also brought to life by the roaring sound (confirmatory sound), which aurally marks questions [7] and [8]. Finally, the concluding lines "Maybe... Or maybe..." seem to encourage the listener to reflect on possible meanings of the artwork beyond objective representation, and a connection between the observer and the painting is

created in the aural interplay between the lion, who roars louder, and the narrator, who apologizes for disturbing him.

We will now analyze the use of questions in the following excerpt:

- (2) [Sound of steam train in the background]
 [Female narrator]: You're in a train car over 65 years ago, in America, leaving the deep south.
 [Actor impersonating the train driver]: [sound of train in the background] You'll be lucky if you find a place to sit – on this car every seat is taken. Excuse me, ma'am, you'll have to move your bag – i-it's blocking the aisle.
 [Female narrator]: ^[1]*But where are all these people going?*
 [Actor impersonating the train driver]: They've left their homes and they're traveling north! Places like New York, Chicago [increased loudness].
 [Female narrator]: ^[2]*Why?*
 [Actor impersonating the train driver]: They're hoping to find work in the big cities. ^[3]When so many people travel, it's called [P] a migration. Next stop, Philadelphiaaaaa! [increased loudness] [sound of train] [sound of train ends]
 [Female narrator]: Artist Jacob Lawrence created sixty pictures. [...]
(The migrants arrived in great numbers – Jacob Lawrence)

Wh- questions [1] and [2] can be classified as didactic questions, but they actually relate to the part of the story that is not visible in that painting. Indeed, what the young listener sees is black people walking and holding luggage: 'where' and 'why' are not manifest in the painting and require some background knowledge which a child, especially if little, is unlikely to possess. Thus, these questions could be better defined as narrative questions, as they focus on possible outcomes of the story and probably aim to raise the child's curiosity and stimulate his/her critical thinking. Such questions, however, are uttered by the narrator herself, who does not (directly) address the listener but the train driver, a fictional character brought to life by the voice of an actor. Thus, in this case the dialogic dimension involves dramatization:⁸ the temporal gap is nullified by placing the narrator in the scene herself, and the story behind the painting is brought to life by

⁸ For a detailed analysis of dramatization in the *MoMA* pictorial descriptions for children, see Fina (2020).

means of the dialogic dimension between the narrator and the fictional character. In this case, too, the formal distance between the expert narrator and the non-expert young visitor is neutralized, as the ‘where’ and ‘why’ of the story are seamlessly explained to the children by a fictional character. Worthy of particular attention is line [3], in which popularization takes place through the strategy of definition (“When so many people travel”) followed by denomination “it’s called a [P] migration” (see sub-section 4.3). The word “migration” is preceded by a distinct pause (signalled by ‘[P]’ in the excerpt), which emphasizes the concept and makes it easier for children to memorize. Sounds of a steam train are used as “immersive triggers” (de Jong 2018) to make the scene vivid in the young listener’s mind, in the same way as the marked accent of the English spoken by the train driver conveys authenticity. The end of sounds marks the end of the dramatized scene, and standard narration begins (“Artist Jacob created sixty pictures. [...]”).

We will now analyze the use of questions in the following excerpt:

- (3) [Female narrator]: ^[a]Take a moment to look all around this painting. [7s musical pause – classical piano music starts, moderato, melancholic – well audible during speech] ^[1]*Where do you think we are?* [2s musical P] ^[2]*How do you know?* [2s musical P] ^[3]*See all the paintings in this painting?!* ^[b]Don’t forget to look on the walls AND the floor. There are a few sculptures, too. ^[c]Try to find them. [4s musical P – louder after speech] ^[4]*And what about on the table?* ^[5]*Did you see a ceramic plate and a white box of blue crayons?* [5s musical pause] [sound signal] [music ends].
This is a painting of the studio where the artist Henri Matisse made his art. You can also think of it as a portrait of Matisse himself, because it contains so many things he made.

(*The Red Studio* – Henri Matisse)

Questions [1], [2] and [4] clearly challenge the child’s observation skills, as they invite him/her to identify the type of room represented in the painting based on the objects that are depicted in it. Questions [3] and [5], instead, are questions aimed at description, in which details of the painting are introduced by the rhetorical question “Do/Did you see...?”. Thus, their actual function is to direct the listener’s gaze towards specific items in order to facilitate exploration and identification by providing precise details about the objects (“ceramic plate”, “white box”, “blue crayons”). At the extra-verbal level, music can be argued to play an important role in the exploration process. The music consists of a melancholic melody performed

by a piano at a moderato tempo: thus, it can be classified as narrative- / description-independent (as opposed to narrative- /description-specific), as it has merely a mood-setting function and is neither explicitly nor implicitly linked to what is being narrated or described by the speaker. Music is used to fill the pauses⁹ in-between the questions and invitations uttered by the speaker. The musical pauses after invitations [a] and [b] and the one after question [5] last around 7, 4, and 5 seconds respectively, presumably to give the young listener some time to visually explore the painting. The end of the explorative phase is marked by a sound signal and by the end of the piano music. In terms of perspective, the music is well audible during speech without compromising intelligibility, but its volume is louder in musical pauses and lower when speech resumes.¹⁰ Finally, at the level of prosody the conjunction “and” in invitation [b] bears prosodic stress [signalled by the use of all caps] so as to more firmly encourage the listener to thoroughly observe all the parts of the painting.

Further examples of questions aimed at description are provided in the following excerpts:

- (4) [rhythmic music with drums in the background] ^[1]*How about this critter?* [cry of the elephant] ^[2]*Did you find the elephant, behind the orange tree?* (*The Dream* – Henri Rousseau)
- (5) ^[1]*In the upper right corner see the string of colorful flags?* [2s musical P] ^[2]*And the little cat face?* [cat meowing] (*Dynamic Hieroglyphic of the Bal Tabarin* – Gino Severini)

In these excerpts the questions intertwine with confirmatory sounds which reinforce the concept or item mentioned by the speaker. In excerpt (4), the gradual discovery of the animals dwelling in the jungle depicted by Rousseau is marked by confirmatory sounds reproducing the animals' cries or movements, and the sounds occur before the animals are mentioned, thus serving as hints about what to look for in the painting. The critter sound is introduced by didactic question [1], which prompts the listener to associate the sound with the animal producing it and identify the animal in the painting. Then, the identification process is facilitated by question

⁹ Musical pauses lasting around 1 second and reflecting the normal duration of full stop were not annotated in the script.

¹⁰ This pattern characterizing the interaction between speech and music was found in all the pictorial descriptions analyzed.

aimed at description [2], which also indicates the position of the animal in the painting (“behind the orange tree”). In terms of perspective, the critter sound is foregrounded against other animals’ cries as well as the musical soundtrack, which is characterized by rhythmic, energetic music performed by drums. In excerpt (5), instead, the confirmatory sound reproducing the cat meowing occurs after the cat is mentioned in question aimed at description [2]; furthermore, similarly to excerpt (4), question aimed at description [1] indicates the position of the object to be identified (“in the upper right corner”).

To sum up, in line with Sezzi’s (2019) results, the examples analyzed in this section have shed light on the crucial role played by questions in the popularization process, up to the point that they become “an integral part of knowledge dissemination” (Sezzi 2019: 170).

4.2 Invitations

The dialogic and informal style characterizing the pictorial description is determined not only by the frequent use of questions but also by invitations. The young listener is often addressed directly and prompted to observe the painting or identify items in it, as in excerpt (1) (“Look closely at the painting”) and in excerpt (3) (“Take a moment to look all around this painting”, “Don’t forget to look on the walls AND the floor”, and “Try to find them”). Other instances of invitations, instead, prompt the young listener not only to observe, but also to play or ‘interact’ with the artwork. An example is the following:

- (6) ^[a]Take a few more steps back. [xylophone-like descending scale representing the steps the kids have to take] ^[b]Now look at the most important part of the painting. [P] ^[1]What? *You can’t see one?* In most paintings the artist shows us what’s important. But here, the colors and paint are spread all around so your eyes roam all over. [3s musical P] ^[c]Okay, now walk up closer [xylophone-like 3 ascending notes representing the steps the kids have to take] and ^[d]choose one thread of paint. [3s musical P] ^[e]Don’t get too near, but use your finger in the air to trace where your thread is going. [2s musical P] ^[f]Follow it as far as you can. [2s musical P] ^[2]*Can you keep track of it under all those layers, or do you get lost in the tangle?* [7s musical P, then end of music]
(*One: Number 31* – Jackson Pollock)

The child is invited first to step back from the painting (invitation [a]), and then step closer to the painting (invitation [c]) in order to fully grasp

the peculiar use of colours made by the artist. Invitations [b], [d] and [f] aim to make the young listener an active participant rather than a passive observer. Indeed, the child is here invited to experience personally on the one hand the impossibility of finding a core subject, and on the other hand to realize the complexity of the artwork. In this process the child is guided also by questions [1] and [2], which can be defined as rhetorical questions. If distance from and closeness to the painting serve educational purposes, the three-note descending and ascending scales performed presumably by a xylophone have a pragmatic value, as they accompany the invitations to change proximity to the painting.¹¹ Thus, at the extra-verbal level, the use of musical patterns conveys the idea of fun and game, which definitely make the educational experience more appealing for children.

We will now analyze the following excerpt:

- (7) Now, stand in front of the painting, in the middle. ^[a]Move closer, but not too close. [xylophone-like ascending notes representing the steps the kids have to take]
^[1]*Is it scary?* [scary music] ^[2]*Exciting?* [exciting music, as in the culminating moment in a film] ^[3]*Or does it make you feel warm, like you're in front of a fireplace?* [sounds of flames]
 [...] Here's a fun game to play with your grown-up. ^[b]See if you can each come up with five words that describe this painting without using the word "red." Give it a try!

(*Vir Heroicus Sublimis* – Barnett Newman)

This excerpt shares similar patterns with excerpt (6) in terms of invitations and use of music. However, it also features three questions which can be said to indirectly invite the child to identify the emotion(s) produced by the use of red in the artwork. Once again, the listener is guided in this process, this time by the scary music occurring after indirect invitation [1], the exciting music accompanying indirect invitation [2], and the confirmatory sound reproducing flames in a fireplace occurring after indirect invitation [3]. The pictorial description ends with a further invitation ([5]), this time to play a game, whose aim is probably to challenge the child's skills in describing things but also to foster imagination and critical thinking.

The following excerpt is worth analyzing, too:

¹¹ The same pattern was also found in *Vir Heroicus Sublimis* by B. Newman and *The Dream* by H. Rousseau.

- (8) This figure seems to be right in the middle of running, [1s P] like when you take a photo of someone moving and it's blurry. [musical P] ^[a] See if you can make the same pose. [3s musical P] ^[1] *Where did you put your legs and* [1s P] *ARMS?* Hey, the arms on this sculpture seem to be missing! [...] ^[b] Try making your own action pose. ^[2] *How can you show energy and motion?*

(Unique forms of continuity in space – Umberto Boccioni)

Here the child is invited to reproduce the same pose as the sculpture (invitation [a]) so as to make him/her realize that the sculpture has no arms (*wh*- question [1]). To guide the child through this process, the speaker prosodically delays the word “arms” by making a 1-second pause before pronouncing it, as well as by marking it with high pitch. Towards the end of the pictorial description, the child's imagination and critical thinking are challenged by invitation [b] and didactic question [2], by which the child is invited to use his/her own body to mimic a sculpture conveying energy and motion. It is also worth noticing that the popularization strategy of analogy is used to better describe the pose of the sculpture ([...] “like when you take a photo of someone moving and it's blurry”). The analogy anchors the concept of “being in the middle of running” to the child's everyday life experience; at the prosodic level, it is preceded by a 1-second pause which makes the core message more memorable. Further examples of analogy will be provided in the next section.

4.3 Other popularization strategies

As rightly noted by Calsamiglia and van Dijk (2004: 371), “popularization discourse must always adapt to the appropriateness conditions and other constraints of the media and communicative events”. This aspect is particularly crucial in the case of the *MoMA* pictorial descriptions for children, firstly because concepts that can be classified as non-specialized knowledge might actually be specialized knowledge for children due to likely gaps in their cultural background, but also because the text is to be delivered orally, thus posing issues related to balancing information load, a need for synthesis, and time constraints. In line with Sezzi's (2019) results, a frequent strategy adopted in the pictorial descriptions is explanation, in all its various forms. Denominations and definitions tend to co-occur in the same utterance, as exemplified in the following excerpts:

- (9) Wesselmann's kitchen is a collage – but he called it '*a still life*', which means a bunch of objects grouped together. (*Still Life #30* – Tom Wesselmann)
- (10) It's twelve and a half feet long, made up of different colors and patterns and forms – pink, blue, orange, and green stripes. And orange shapes with eight sides, called octagons. (*Untitled* – Mike Kelley)
- (11) Can you find the letters V–A–L–S–E? [Viennese waltz begins; it decreases in loudness when speech resumes] They spell "*valse*" – French for "*waltz*" – a dance where two people whirl round and round in circles! (*Dynamic Hieroglyphic of the Bal Tabarin* – Gino Severini)
- (12) Painters often make pictures of people to capture how they look – they're called portraits. (*House by the Railroad* – Edward Hopper)
- (13) How is this flag different from others you've seen? [andante music begins, piano and other instruments repeating the same notes in unison] Look closely and check out the materials he used to make it. [musical P] Johns used *encaustic paint*, which is hot wax mixed with color, to give it that bumpy, thick, smeared texture. (*Flag* – Jasper Johns)

In excerpts (9) and (13) the definitions of the specialized terms "*still life*" and "*encaustic paint*" are provided by means of a relative clause, while in excerpts (10) and (12) the denominations "*octagons*" and "*portraits*" are introduced by the metalinguistic item "*called*" (Gotti 2008). The following excerpt is worth discussing, too:

- (14) Instead of listening to the birds chirping, [birds chirping ends] he has to concentrate on the beat of the *triangular metronome on the piano*. (*The Piano Lesson* – Henri Matisse)

Here, no definition of the term "*metronome*" is provided, but this object is made easily recognisable by indicating its position ("*on the piano*") and its shape ("*triangular*") (Fina 2018).

Another popularization strategy is '*analogy*', which is also used to simplify concepts by associating them with things characterizing everyday life, as in the following examples:

- (15) [playful music conveying the idea of colours and game] These patterns and woolly materials may look familiar. [3s musical P] [music turns

into soft, reverberating sounds similar to a lullaby] Cozy. *Like something to curl up in if you're chilly, or cuddle when you're afraid.* (Untitled – Mike Kelley)

- (16) Artist Jacob Lawrence created sixty pictures. They tell the true story of a time when thousands of African-Americans moved from the farmlands of the south to cities up north in search of a better life. [guitar music begins] Each picture tells an important part of the story, *like illustrations in a book.* (*The migrants arrived in great numbers* – Jacob Lawrence)

At the extra-verbal level, in excerpt (15) the analogy is reinforced by music. In the part of the script preceding the excerpt the music is a playful one, with a rhythmic pattern that conveys the idea of different colours and shapes. Then, when the speaker utters the adjective “cozy”, the music turns into a lullaby, which certainly conveys feelings related to cosiness and comfort. Thus, in this case music is description-specific, as it evokes the concepts mentioned by the speaker.

Finally, the strategy of ‘anchoring’ was also found to be used for the artwork to be perceived by the child as close to his/her own world rather than something abstract and unfamiliar, as in the following excerpts:

- (17) *Many traditional still life paintings show fruits and vegetables on a table. But not packaged foods! Do you recognize any from your own kitchen?* (*Still Life #30* –Tom Wesselmann)
- (18) *Have you ever molded anything out of clay or playdough? Or have you seen something carved from stone or wood? That's how most sculptures had been made before Picasso. But Picasso decided to cut shapes out of sheets of metal and put them together to build this guitar and make a work of art!* (*Guitar* – Pablo Picasso)
- (19) [evocative music in the background] [...] *Have YOU [P] ever taken an ordinary object – a rock, a stick, or something you found – and turned it into something else? I bet you have.* With imagination, EVERYONE is a magician! Put “ordinary” things together [p] and you can create an “extraordinary” thing. Then... Abrakadabra, Allakazan – you’ve learned to see [P] like an artist can! [sound reproducing a charm] [music ends] (*The Magician* – Jean Dubuffet)

In excerpt (17) reference to ordinary reality (“many traditional still life paintings”) is made to introduce the extraordinary feature characterizing Wesselmann’s artwork (“But not package foods!”). However, despite the peculiar feature of the painting, anchoring occurs (“Do you recognize any from your own kitchen?”) so as to move the artwork closer to the child’s reality. In excerpts (18) and (19) the child is indirectly invited to be and think like an artist him/herself, with the question “Have you ever...?” clearly aiming to stimulate the child’s curiosity, imagination, and creativity. Excerpt (19) is particularly interesting because of the soundscape involved in it. The only narrating voice is that of an actor, who brings to life the artwork by impersonating the Magician himself. Thus, the child is immediately immersed in a dimension of magic, with evocative music in the background characterized by an alternation of medium-pitched notes produced by sustained pressing of keys on an organ (or a similar instrument). The music conveys an aura of mystery, against which reverberates the vibrato, rough and tense voice of the Magician, which makes the story intriguing. Prosody is masterfully used to keep the listener’s attention, with varied pitch range and tonic stress on the words “you” and “everyone”, and a distinct pause after the word “you” and before “like an artist can”, which clearly aim to encourage the child to self-identify with the artist. The dimension of magic is further enhanced by a sound reproducing a charm, which is repeated in the key moments of the Magician’s tale. Like in excerpt (1), in this pictorial description dramatization is used as an edutainment strategy, too, so as to reduce the formal distance between the expert narrator and the non-expert young visitors, as well as to make art closer to the child’s world.

5. Concluding remarks

The analysis has shown that the encounter with the artwork is shaped as the child’s own discovery, in which the child’s observation skills and critical thinking are challenged by means of several popularization strategies. Questions were found to be a recurring item in the script, especially *wh-* didactic questions. Their use seems to confirm that they express “an imbalance of knowledge between participants” (Hyland 2002: 530), but such imbalance was found to be neutralized by means of dramatization, as in excerpts (2) and (19), and peer-to-peer learning, as in excerpt (1). Indeed, second speaker intervention, which may involve actors who impersonate fictional characters or children interacting with the adult narrator, reduces

the formal distance between the expert narrator and the non-expert child. As a result, the exploration of the artwork does not take place in a lecture-style approach, but in an interactive and collaborative way, which may also involve edutainment strategies such as dramatization and gamification. From an interdiscursive perspective, edutainment can be said to determine “genre embedding” (Bhatia 2010: 35), since features belonging to two other distinct generic forms, namely drama and game, are embedded in the audio-delivered pictorial descriptions. Furthermore, invitations are often used not only to encourage the child to visually explore the painting, but also to interact and play games with the artwork in order to experience first-hand particular visual features or emotional effects, as in excerpts (6)-(8). More overtly didactic strategies are denominations and definitions, which often co-occur to explain the meaning of words or concepts that might be difficult for children to understand, while analogy and anchoring are used to ‘move’ art closer to the child’s world, so that s/he can feel an active participant in the art experience rather than a mere, passive observer.

Soundscape has proved to play a crucial role in the popularization process, since the various different voices, i.e., the speaker’s voice, speech, music, sounds, and prosody, meaningfully combine and integrate to shed light on what is not immediately retrievable, to bring to life the story behind the artwork, and to make the meaning of the artwork manifest and accessible to children. Music was found to ‘punctuate’ the exploration of the artwork by means of musical pauses, while confirmatory sounds are used to bring to life the objects in the painting and to create vivid pictures of the story in the listener’s mind.

In his discussion on museum discourse for children, Sabatini (2017: 66) observes that the “co-construction of knowledge through children’s engagement can be dazzling but, at the same time, boil down to ‘fun but forgettable’”, and that museum communication for children sometimes “seem[s] to [...] long for offer marvels, coming close to show-business and advertizing discourse, where children are often used as ‘actors’ in a kind of spectacularization”. Whether this is the case of the *MoMA Kids* pictorial descriptions can only be determined by means of cognitive studies involving children directly. On the basis of the multimodal analysis, it can be reasonably argued that edutainment does not seem to occur at the expense of the educational function of the art experience. Indeed, this seems to be preserved thanks to the cognitive relations activated by didactic questions, invitations, analogies and anchoring. The study presented in this paper

only draws hypotheses about the possible effects that popularization strategies may have on children, but also sets the ground for defining analytical criteria and formulating research questions for future cognitive studies.

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An intergalactic journey to the popularization of modern art in museum-based websites for children

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ABSTRACT

The aim of this paper is to explore how modern art is disseminated among children through museum-based websites. As a matter of fact, there are few well-known museums and galleries that have websites specifically designed to enable children to gain insight into the artworks and the protagonists of their collections or to visit their rooms virtually. Specifically, these websites create an interactive learning environment based on the combination of education and entertainment (“edutainment”) and on specific discourse and multimodal strategies that recontextualize art expert discourse for the young lay audience. Thus, the analysis focuses on the popularizing discursive practices used in three museum-based websites for children: *Tate Kids*, *MetKids*, and *Destination Modern Art: An Intergalactic Journey to MoMA and P.S.1*. *Tate Kids* and *MetKids* are examined both quantitatively and qualitatively, while *Destination Modern Art* is investigated only qualitatively, as it partly differs from the other two.

Keywords: popularization for children, art discourse, museum-based websites for children, edutainment, discourse analysis, corpus analysis.

1. Introduction

The Internet gives us access to content on an ever-increasing number of sites and webpages intended for children and aimed at popularizing different types of knowledge, from science to geography. They can be designed by institutions, individual teachers, private companies or publishing houses, and they can be either generic platforms or discipline-specific sites. In any case, they support informal home-based learning that crosses the boundaries of school walls, and which is rooted in “edutainment” (also

called “infotainment”). This expression, coined by the National Geographic documentarian Bob Heyman, indicates the combination of “education” and “entertainment” (Aksakal 2015: 1232), which has a self-evident goal, namely, “to inform and entertain their overt audience – children” (Djonov 2008: 217). This “two-faced” Janus essence of educational websites is shared by many other educational products such as TV programmes, informative books, music, films, videogames, and multimedia software. Generally, the term “edutainment” describes “[...] a hybrid genre that relies heavily on visual material, on narrative or game-like formats, and on more informal, less didactic styles of address” (Buckingham – Scanlon 2005: 41). Together with the above-mentioned characteristics, educational websites are also characterized by the metaphor of learning as an adventure or travel (Buckingham – Scanlon 2004; Stenglin – Djonov 2010), and by their dual addressees, children and adults (Djonov 2008). Indeed, parents buy personal computers for their offspring believing that this might lead to successful educational achievements (Okan 2003, 2011; Buckingham – Scanlon 2004).

Within the framework of a constructivist and one-to-one approach to learning (Okan 2003, 2011; Buckingham – Scanlon 2004) created by the medium, educational websites exploit multimodality (Kress – van Leeuwen 2001) “such as pictures, sound, animation, and video” (Turner – Handler 1997: 25), and the users’ possibility to navigate the website, thereby constructing personal “multiple reading paths” (Kress – van Leeuwen 2006: 204) according to children’s motivation and interests, and to the structure of the website (see also Lemke 2002; Baldry –Thibault 2006; Maier et al. 2007; Djonov 2008; Maier 2008; Stenglin – Djonov 2010). Lastly, children enjoy the interactivity of these websites, mostly “drill-and-practice” activities that provide feedback on their knowledge acquisition through test scores, or even more complex problem-solving and simulation games (Buckingham – Scanlon 2004).

Given their importance, education products have begun to receive growing scholarly attention. For example, multimodality in coursebooks and informative books has been explored with a focus on how knowledge is construed thanks to the collaboration between illustrations and verbal texts (see for example, Unsworth 2005, 2006; Kress – van Leeuwen 2006). This interrelation has also been studied in connection with videos (Cesiri 2020) and educational hypermedia for children (Silletti 2017; Diani – Sezzi 2020; Diani 2021). As far as hypermedia are concerned, elements such as navigation and interactivity, user orientation, and the development of children’s multiliteracies have also been considered (among others, Buckingham – Scanlon 2004; Djonov 2005, 2007, 2008; Zhao 2008, 2010, 2011).

When facing the discursive strategies involved in the popularization for children, the few studies on the recontextualization of specialized knowledge for a young audience in an informal learning context have focused on a wide range of materials and domains, that is, the popularization of legal concepts in targeted websites and information books (Engberg – Luttermann 2014; Sorrentino 2014; Diani 2015, 2018), of the EU's geography and organization in two websites of the European Union (Diani – Sezzi 2019), of information connected with tourist destinations in English and Italian travel guidebooks for children (Cappelli – Masi 2019), and issues concerning environments in two English and Italian magazines for children (Bruti – Manca 2019). Other studies investigate the translation of informative books for youngsters (Reiss 1982; Puurtineen 1995), for example on history (Sezzi 2015, 2017), and of non-fiction picturebooks (Masi 2021; Wozniak 2021).

Against this background, the dissemination of modern art for children stands out for its peculiarity. If children's non-fiction on artists' lives has carved an important niche in the publishing market for children, art popularization aimed at children on the World Wide Web basically takes two forms: either the traditional arts and crafts websites suggesting projects and activities for children, or websites sections of museums and art galleries promoting their onsite workshops and events for youngsters and families (Sabatini 2017). However, some internationally recognized museums and art galleries take a different route. These museum-based sites aim to explain the artworks and life of the protagonists of their collections and exhibitions (Sezzi 2019) or enable young generations to take virtual tours of their halls. Therefore, they go beyond "craftivity" web portals and museum websites sections in which workshops and events for kids and families are presented for promotional ends (Sabatini 2017).

This type of websites involves museums' fundamental stakeholders, namely future citizens, by introducing them to the world of art so that these websites turn into "primary space[s] for the exposure to the world's artist and artworks" (Kuh 2014: 153). Thanks also to their websites, museums and galleries fulfil their role of "active cultural agents, trying to realize their basically educational aims in a rapidly changing cultural market" (Bondi 2009: 113).

In this light, their promotional ends are not hidden but fully rooted in museums' nature since "[L]ike advertisers, museums have target audiences, which at the moment are principally the younger visitors that will hopefully grow up to become loyal museum members and sponsors and then bring their families and friends to the museum" (Smith Bautista 2014: 221). The major risk in addressing children is, in this case, that the synergistic union between education and entertainment characterizing knowledge

popularization for children might lead to spectacularization in some blogs or children's museums:

Co-construction of knowledge through children's engagement can be dazzling but, at the same time, boil down to "fun but forgettable". In fact, mothers' blogs, for example, and some web pages from children's museums, seem to indulge in hyperbole and to long for / offer marvels, coming close to show-business and advertising discourse, where children are often used as "actors" in a kind of spectacularization. (Sabatini 2017: 66)

To my knowledge, the museum and gallery websites disseminating art history online have been investigated only in three studies: Fina (2020) analyses the soundscape of pictorial descriptions in twenty audioguides in English specifically intended for children, which are accessible from the official website of the Museum of Modern Art (MoMA) in Manhattan; Sezzi (2019) delves into the popularizing strategies used to disseminate art knowledge in the section "Explore" of the website for children of the Tate Gallery (*Tate Kids*), which presents the life and the works of the artists exhibited in the gallery itself; Bondi (forthcoming) identifies how readers are engaged on the website *Tate Kids* and on the website for children of the Metropolitan Museum of Art (*MetKids*).

Following the last two studies, this paper aims at illustrating and comparing the popularizing strategies adopted in the websites *Tate Kids*, *MetKids* and *Destination Modern Art: An Intergalactic Journey to MoMA and P.S.1* to better understand the dynamics of popularization of modern art for children. Therefore, Section 2 illustrates two of the websites under investigation (*Tate Kids* and *Metkids*), Section 3 introduces the methodology adopted, Section 4 presents some preliminary results of the analysis of *Tate Kids* and *MetKids*, while Section 5 examines *Destination Modern Art*. Some concluding remarks are then provided in the Conclusions section.

2. *Tate Kids* and *MetKids*: The *MuseKids* corpus

*Tate Kids*¹ is one of the two websites dedicated to young people (for children aged 6 to 12) launched by the Tate Galleries. As a matter of fact, *Young Tate* (for young people aged 13 to 25) and *Tate Kids* are the "most notable digital

¹ <https://www.tate.org.uk/kids>, accessed August 2022.

projects" (Smith Bautista 2014: 203) of the four art galleries in London, Liverpool and Cornwall known as Tate Modern, Tate Britain, Tate Liverpool, and Tate St Ives. In particular, *Tate Kids* was redesigned in order to meet the aims explicitly stated in the Tate website's section named "Our Vision":² more specifically, as Jackson (2009) emphasizes, its mission is "to increase public knowledge, understanding and appreciation of art by the creation of a colourful, relevant, interactive Web site with engaging content that would both entertain and educate the intended audience of six to 12 years old." The website is characterized by three main macro-sections, in the form of clickable horizontal bands that make up the homepage design: the section "Make", which gathers subsections presenting sets of instructions that children can follow in order to create works of art or objects, such as "Draw a dancer" or "Make a robot"; "Game & Quizzes", which allows children to play interactive games and quizzes on the different artists and art techniques, including, for example, "Art Parts", where children can draw in the missing parts of famous artworks, or quizzes on several subjects, such as "Which art superhero are you?" and "Which artist should design your bedroom?"; finally, the last macro-section is called "Explore", where visitors can read about artists and art movements. Within the homepage, there are two other sections: "What's new" puts in the foreground the new elements of the web, for example, new games, which can also be found in the dedicated section; instead, "Tate Kids Gallery" allows young users to create and share their own gallery of works.

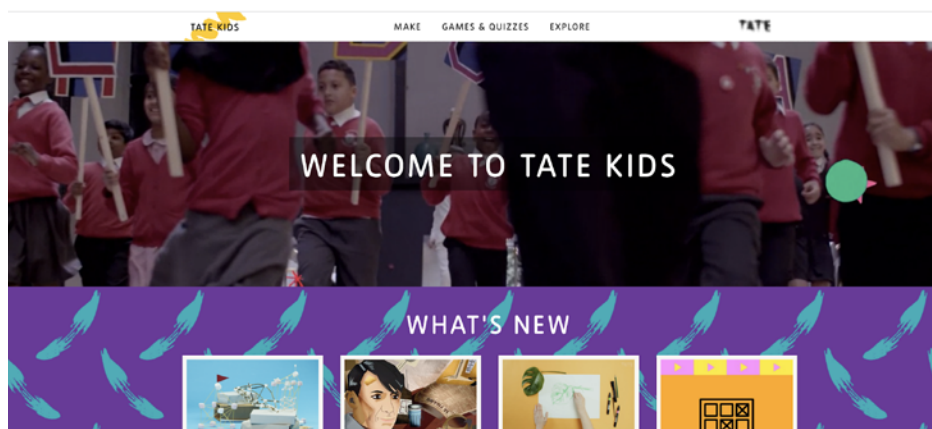


Figure 1. Homepage – *Tate Kids*. <https://www.tate.org.uk/kids> © Tate, London

² <https://www.tate.org.uk/about-us/our-priorities>, accessed August 2022.

The three main sections can be accessed even from the header and menu bar at the top of the homepage. The layout of the homepage characterizes the entire website: all the pages have a horizontal structure as they are divided into horizontal brightly uniform-coloured bands with equally vivid child-like motifs such as stars, paintbrushes, or flashes of lightning and umbrellas. The typeface is Tate's font, which is also used for Tate's logo. It is a component of Tate's "global brandscape" (Pierroux – Skjulstad 2011: 206) to create Tate's corporate identity (Sabatini 2015: 113).

The present analysis is centred on the section "Explore", which is the most informative part of the website. This section's main title, "Go on an art adventure", is overlaid on a video showing a close-up of a child's eyes looking at Matisse's *The Snail*, with colourful stylized patterns of abstract forms floating around. These elements epitomize the importance of visual perception (Bondi 2009: 113) in the learning process (Sezzi 2019) and the metaphor of learning as an adventure or journey (Buckingham – Scanlon 2004; Stenglin – Djonov 2010) that, in this case, becomes an "educational adventure about art" (Stenglin – Djonov 2010: 187).

In particular, "Explore" includes the subsections "Who's who?" on the artists and "What's that?" on the art movements. The links to the different topics are clickable, white-framed pictures with a title embodying the content and a palette icon, signalling that the pages are informative. These webpages are centred on the photos of the works of art exhibited in the galleries.

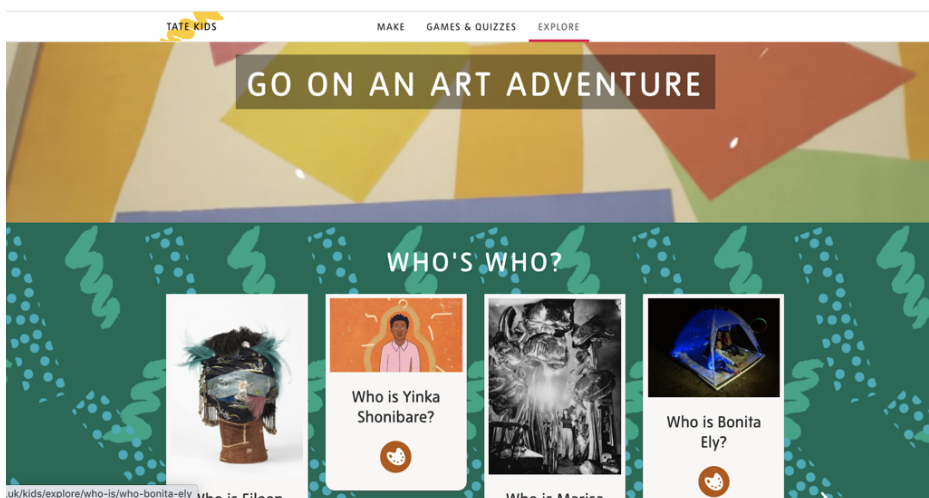


Figure 2. Section "Explore" – Tate Kids. <https://www.tate.org.uk/kids> © Tate, London

The second museum website for a young audience under analysis is *MetKids*,³ the website of the Metropolitan Museum of Art in New York dedicated to children from 7 to 12 years old. Its launch in September 2015 was accompanied by the words of the CEO of the Metropolitan Museum that underline the importance of children as an audience and of the accessibility of art:

The Met has always been a place of discovery for young visitors and their families. We have developed many resources and programs over the years for this important audience, and #MetKids demonstrates even further our commitment to making the Met – and to making art in general – as accessible as possible to kids and families.⁴

The website includes forty videos, news, and projects that offer a digital experience of the museum. It is conceived as a digital support before, during, and after the visit to the Met's rooms and halls.⁵ The concept at the heart of the website is a vision of the Met as a “huge time machine”⁶ that allows children to explore the art of distant worlds and times by simultaneously learning from experts and by sharing their own experience with other peers. The idea of art as an adventure is therefore also subsumed by *MetKids*.

Following the concept underlying the website, the homepage shows three navigation paths. The first one is “Explore the Map”: it is a full-screen illustrated map of the museum that interprets the museum's various collections.

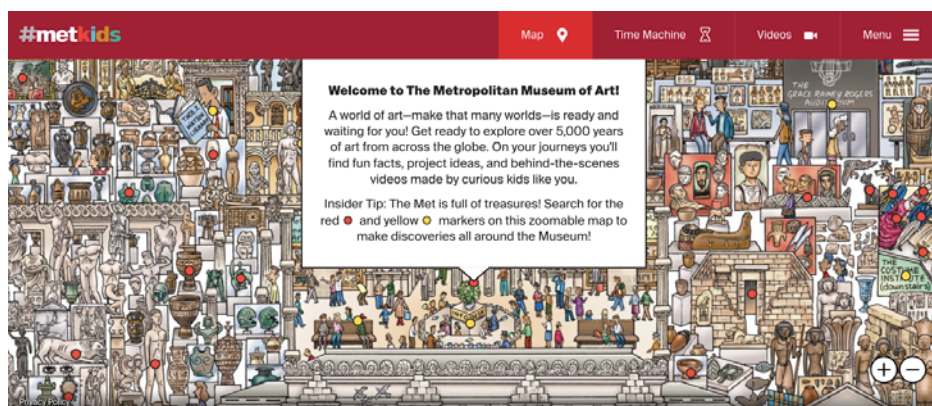


Figure 3. Homepage – *MetKids* <https://www.metmuseum.org/art/online-features/metkids/explore/> © Met, NY

³ <https://www.metmuseum.org/art/online-features/metkids/>, accessed August 2022.

⁴ <https://www.metmuseum.org/press/news/2015/metkids-launch>, accessed August 2022.

⁵ <https://www.metmuseum.org/press/news/2015/metkids-launch>, accessed August 2022.

⁶ <https://www.metmuseum.org/press/news/2015/metkids-launch>, accessed August 2022.

It allows children to explore the collections from an interactive zoomable map.⁷

This map access to a series of subsections of the museum artworks. They are subdivided into exploratory categories, enriched with links to the *Blueprint for Teaching and Learning in Visual Arts*, which is “a guide developed by New York City visual arts educators for grades PreK-12 and included by agreement with the New York City Department of Education, Office of Art and Special Projects.” These links aim to clarify difficult terms and to provide additional information. The second channel for navigating the website is “Hop in the Time Machine”, which allows children to search for an object of interest based on a specific period, geographical area, or theme (“Big Ideas”, namely, “topics of interest resulting from audience research and feedback from the #MetKids Advisors”).⁸ The third navigation channel (“Watch Videos”) is connected to forty videos showing children as “investigative reporters, animators and producers”.⁹ Their purposes range from answering children’s questions, as tutorial videos, to suggesting creative activities (“Q&A”, “Made by Kids”, “Create”, and “Celebrate”).

The sub-subsections on the Met’s artworks are divided into “Discover”, “Imagine”, “Create”, and “Fun Facts”. These webpages centre on one specific work of art within the museum, whose picture is again accompanied by a verbal text describing it and presenting the related artist or art movement. Only the sub-sections on Modern European and American Art are considered for the analysis.

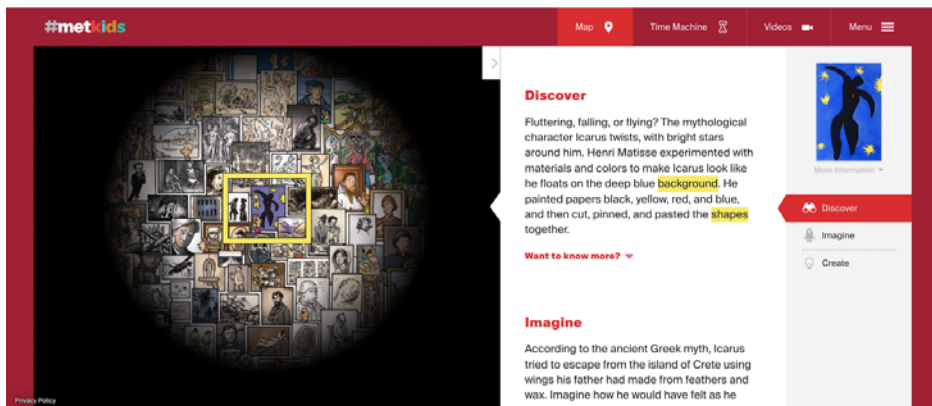


Figure 4. “Discover” – MetKids. <https://www.metmuseum.org/art/online-features/metkids/explore/337069>© Met, NY

⁷ <https://www.metmuseum.org/art/online-features/metkids/explore/>, accessed August 2022.

⁸ <https://www.metmuseum.org/press/news/2015/metkids-launch>, accessed August 2022.

⁹ <https://www.metmuseum.org/press/news/2015/metkids-launch>, accessed August 2022.

Specifically, the corpus *Musekids* consists of 49,379 tokens, and it is composed of the sections “Explore” of the *Tate Kids* (29,998 tokens) and “Discover” of the *MetKids* (19,381 tokens). It was collected in 2019, and it is part of the project “Museum online communication for children and early teenagers (from 6 to 14 years old)” (FAR 2019) of the Department of Studies on Languages and Culture, University of Modena and Reggio Emilia, Italy.

The third website, *Destination Modern Art: An Intergalactic Journey to MoMA and P.S.1*¹⁰ is described separately in paragraph 5 because it has a different structure even though it shares some characteristics with *Tate Kids* and *MetKids*. It is not part of the quantitative analysis given its limited verbal text.

3. Methodology

The discursive strategies used to popularize art in the *Musekids* corpus are examined by gathering different approaches. Precisely, the expression “popularizing strategies” is intended as including different types of explanation, of questions, of citations, and of engagement markers.

As highlighted by Sezzi (2019) for the website *Tate Kids*, the six “types of explanation” as defined in Calsamiglia and van Dijk’s taxonomy (2004: 372) are fundamental in disseminating art and are creatively exploited. Their use is corroborated by other studies on different educational websites and products for young people (among others, Diani – Sezzi 2019). The types of explanation are categorized as follows:

- a. “Denomination” or “designation” is a strategy that introduces new terms or objects and their specialized denominations (Calsamiglia – van Dijk 2004: 381). It is associated with expressions such as “called”, “known as”, “meaning” (Garzone 2006: 91-92);
- b. “Definition” is strictly interrelated with definition. It subsumes the explanation of unfamiliar words by describing the properties and characteristics of the objects they refer to (Calsamiglia – van Dijk 2004: 375; see also Garzone 2006: 92);
- c. “Reformulation” or “paraphrase” implies that a “discourse fragment” is rendered “easier to understand than the original discourse fragment” (Garzone 2006: 94). Appositions, parentheses, dashes, quotes and

¹⁰ <https://www.moma.org/interactives/destination/>, accessed August 2022.

metalinguistic expressions usually introduce this strategy (Calsamiglia – van Dijk 2004: 383);

- d. “Exemplification” concerns the use of specific examples in order to explain general phenomena (Calsamiglia – van Dijk 2004: 383);
- e. “Generalization” works in the opposite way how the previous strategy does since general conclusions are drawn from specific instances (Calsamiglia – van Dijk 2004: 383);
- f. “Analogy” or “association” (Calsamiglia – van Dijk 2004: 376) is based on the comparison with objects that can be more easily understood by the layman, like similes or metaphors.

Given that one of the features that characterizes museum discourse is the recourse to quotations (Lazzeretti 2016), the analysis also contemplates the different forms of quotations seen as an indication of the relevance and credibility of the information to be conveyed to non-experts, though these elements are not typically found in popularization for children.

In particular, Calsamiglia and López Ferrero’s (2003) classification of styles of quotations – they use the term “citations” – detected in popularization of science for adults seems particularly appropriate. The different formulae are described according to their insertion within the text: therefore, their categories include “direct citation” and “indirect citation”; “integrated citation”, which “has the form of indirect citation but with segments – of greater or lesser extension – signalled as being cited directly/literally with clear graphic or typographic marking, mainly with quotation marks or marked fonts (boldface or italics)” (Calsamiglia – López Ferrero 2003: 155); “inserted citation”, introduced in the main discourse by means of markers such as “in the words of” or “according to”.

As mentioned, popularization for children is defined by the co-presence of two apparent polarities: education and entertainment. This two-faced Janus nature of what is termed “edutainment” finds the convergence of these components in the use of questions. On the one hand, questions have an engaging function as they directly address the audience, and, on the other, they convey information by anticipating users’ questions and objections (see, for example, Hyland 2002).

With regard to engagement markers, not only are both *wh*-questions and polar questions taken into account, but also imperatives, exhortatives, exclamations, colloquial features, and personal forms used to address the readers are considered, as they are frequently adopted in different educational materials (Diani 2015; Sezzi 2015, 2017, 2019; Silletti 2017; Bruti – Manca 2019; Diani – Sezzi 2019; on art see Sezzi 2019; Bondi forthcoming).

However, it must be underlined that some of the above-mentioned elements are not investigated. In fact, engagement markers are limitedly and foremost analysed in comparison to the use of the typologies of explanation and of quotations, namely, those strategies that primarily convey information and, henceforth, can be said to be the main “knowledge bearers”.

Musekids was annotated using the UAM corpus tool (O’Donnell 2008a, 2008b). It is a free downloadable software for manual or semi-automatic linguistic annotation of text corpora. At first, *Musekids* was annotated at a document-level, thereby identifying the webtexts of *MetKids* and the webtexts of *Tate Kids*, and secondly, at a segment-level: segments of each text were annotated on the basis of a coding-scheme grounded upon the different types of explanation, of questions, and of engagement markers. After the annotation was completed, UAM automatically performed a chi-squared test that highlighted the statistically significant popularizing strategies in each sub-corpora by comparing the texts from Tate and Met’s websites for children.

4. Making the most of the popularizing strategies: Some results

Table 1 shows the statistically relevant data as signalled by the UAM corpus tool thanks to one or multiple “plus” signs: one plus sign (“+”) means a weak significance (90%), two plus signs (“++”) stand for medium significance (95%), and three plus signs (“+++”) for a high significance.

As indicated in the scheme, *Tate Kids* relies more on the types of explanations and on citation styles to introduce children to modern art, whereas *MetKids* hinges more on users’ engagement. The *Met* website for children seems to be tipping the balance more in favour of the audience’s involvement rather than on clarifications or on the use of artists’ and experts’ words.

Table 1. Popularizing strategies in *MetKids* and *Tate Kids*

Feature Total Units	Met Kids N= 1571		Tate Kids N=1593		ChiSqu	Sign.
	N	Percent	N	Percent		
Popularizing Strategies						
• <i>Types of explanation</i>	129	8.21%	339	21.28%	107.193	+++
• <i>Citation-styles</i>	14	0.89%	49	3.08%	19.347	+++
• <i>Engagement strategies</i>	1428	90.90%	1205	75.64%	131.782	+++

Interestingly, a closer look at the different popularizing strategies under investigation discloses that there are no relevant preferences for specific types of explanation when comparing the two sub-corpora.¹¹

Table 2. Types of explanation and citation-styles in *MetKids* and *Tate Kids*

Feature Total Units	Met Kids N= 1571		Tate Kids N=1593		ChiSqu	Sign.
	N	Percent	N	Percent		
Types of explanation	N= 129		N=339			
• <i>Denomination</i>	42	32.5%	90	26.55%	1.666	
• <i>Definition</i>	16	12.40%	53	15.63%	0.776	
• <i>Reformulation</i>	19	14.73%	31	9.14%	3.054	+
• <i>Exemplification</i>	25	19.38%	75	22.12%	0.419	
• <i>Generalization</i>	0	0.00%	0	0.00%	0.000	
• <i>Analogy</i>	27	20.93%	90	26.55%	1.573	
Citation-styles	N=14		N=49			
• <i>Direct - citation</i>	5	35.71%	33	67.35%	4.552	++
• <i>Indirect - citation</i>	3	21.43%	9	18.37%	0.066	
• <i>Integrated - citation</i>	2	14.29%	7	14.29%	0.000	
• <i>Inserted - citation</i>	4	28.57%	0	0.00%	14.949	+++

Both *MetKids* and *Tate Kids* rely equally on the different types of explanations. Denominations in the two sub-corpora mainly refer to art techniques (1)¹² or movements (2):

- (1) See the red and blue dots in this painting? They are based on the kind of dots used to print comic strips and other images in newspapers, *called Benday dots*. Roy Lichtenstein used patterns and colors inspired by comics in most of his paintings. (*MetKids*)
- (2) He was one of a group of artists making art in the 1960s *who were called pop artists* because they made art about “popular” things such as TV, celebrities, fast food, pop music and cartoons. (*Tate Kids*)

¹¹ The definitions within the body of the texts of *MetKids* have been considered. The definitions provided by moving the cursor on the underlined expression have not been annotated.

¹² Emphasis added in the examples.

By the same token, definitions are primarily associated with art terminology, as in examples (3) and (4), where it is specified what “panoramas” are or what “Cubism” is:

- (3) *Panoramas were large paintings meant to give viewers a sense of what it would feel like to be in the place shown. They would have fascinated people the same way movies do today. (MetKids)*
- (4) *While he was studying at the Slade School of Fine Art in London, Ben Nicholson discovered cubism. Cubism was a style of art invented in around 1907. (Tate Kids)*

Yet, they also cover all those terms that are supposed to be difficult for children to understand given their limited background knowledge and experience of the world (Myers 2003). Definitions of terms like “asylum” (5) or “psychologist” (6) are therefore given:

- (5) *Van Gogh’s brother Theo shipped art supplies to the asylum where Van Gogh was staying so he could draw and paint as he was getting better. An asylum is a place where people who are mentally unwell are cared for. (MetKids)*
- (6) *Surrealists were inspired by a famous psychologist called Sigmund Freud. (A psychologist studies behaviour and how people think). (Tate Kids)*

The necessity to be precise and to provide children with all the indispensable information to understand artists’ lives is combined with the strategy of exemplification, as in (7) where specific instances of a natural type of glue are offered, or examples of what types of animals George Stubbs liked drawing (8) are presented:

- (7) *This robe is made from an animal skin. When painting on animal skins, artists often mixed pigments with a natural glue – like cactus juice, fish eggs, or boiled hide scrapings – to help the paint stick. (MetKids)*
- (8) *Stubbs liked drawing all animals, especially ones from exotic countries. He loved finding out about new species like zebras, cheetahs and moose. (Tate Kids)*

Exemplifications can take more complex forms when they are inserted in the descriptions of the works of art, thereby playing an essential role in the

interpretation of the paintings or of the statues exposed in the Metropolitan Museum or in the Tate Gallery, as in the following example:

- (9) This work shows a view of Henri Matisse's studio: we can see part of his large painting *The Dance* (now at the Museum of Modern Art, New York), propped against the far wall. Even though this painting shows a real scene, the artist played with the sense of depth and perspective. He arranged the chair with the blue-and-white seat, the three-legged sculpture stand (holding a vase of flowers), and the painting against the back wall in a tricky way. *For example, one leg of the sculpture stand seems to rest in the grass depicted in the painting.* (MetKids)

In the above example, Matisse's *Nasturtiums and the painting "Dance"* (1912) is presented. In this case, exemplification is an essential part of its description: the verbal texts on the objects of art are usually short descriptions *in praesentia* (Bondi 2009: 126), as a picture of the works of art always accompanies the text so that "[t]he potential of multimodality is here exploited to the full" (Bondi 2009: 126). It is said that the artist plays with the lines of perspective as can be seen in one of the legs of the tripod table that invades the painting on the wall of his studio. Therefore, the example guides the gaze of the child viewer, making him/her discover the details of the artworks and offering him/her "an interpretative key to visual perception" (Bondi 2009: 126).

In (10), the exemplification provides the key to understanding Gowda's symbolism:

- (10) She is famous for using unlikely things to make her art. These are things used every day in India, but to Sheela Gowda they have a symbolic and sometimes mystical meaning. *For example, the scraps of tarpaulin and old oil drums she uses in her installations represent the simple slum houses of poor Indian workers, as this is often what they use to construct them.* (Tate Kids)

Analogy has a double function, too, in both the sub-corpora. Firstly, similes in popularization for children are linked to the children's world, to the "common experiences of the lay reader" (Gotti 1996: 219). These references are a strategy of popularization that connects the expert discourse with "other elements of non-scientific/specialized culture" (Myers 1989: 171), such as music, cinema, television, or sport. Thus, analogies are created between art and children's lives in order to make the art understandable and make young people appreciate it. They do shorten the distance between the world of art discourse and the world of young visitors, as in examples (11) and (12):

- (11) Just in case, the artist provided the owner of the sculpture with a copy of the head made from plaster, which is much lighter than marble. The artist even wrote a note suggesting that the owner place the extra Medusa head on a table with a candle inside – *just like a modern-day jack-o'-lantern*. (*MetKids*)
- (12) All the rich men and women would go to the races and the horses were so famous that everybody knew their names (*a bit like the way we know footballers' names now*). (*Tate Kids*)

Analogy is also exploited in the descriptions of the works of art in *Tate Kids* and *MetKids*; similes often become “visual anchors” that help the readers in the interpretation and boost their visual literacy:

- (13) A girl in red holds on tightly to the arm of an older woman dressed in blue, whose eyes are so dark that *her face almost looks like a mask*. The tops of trees in the background frame their heads like green halos, while a hut and wildflowers peek out from behind the older woman's shoulder. (*MetKids*)

For instance, the face of one woman represented in one of Gauguin's paintings (*Two women*) is compared to a mask and two crowns of trees in the background are said to resemble two halos, hinting at a deeper meaning. Indeed, these short descriptions are always followed by a question that makes children reflect upon the art objects presented on the webpage, suggesting the appropriate response (see Bondi forthcoming).

In point of fact, this text is complemented by the following question “What do these surroundings and their pose tell us about these two women, and how did the artist make them look both the same and different?”. It involves the readers, making them think about the meaning and the technique used in the painting.

Similarly, in example (14), the elements in Paul Nash's landscapes are said to evoke persons, animals, or other fantastic creatures. The artists' words are also reported to support this interpretation and to stimulate children's imagination:

- (14) The features in his landscapes often seem to be more than just a tree or a hill. *They have characteristics that make them look like animals, people, or other strange creatures*. When he was young, Paul Nash was fascinated by a group of tall elm trees that grew at the end of his garden. These

trees were very old and he thought they looked as if they were “Hurrying along stooping and undulating like a queue of urgent females with fantastic hats”. (*Tate Kids*)

Again, the structure of a short description ending with a final question is to be found on *Tate Kids*’ webpage: “Do you ever look at things in the landscape like gnarled tree trunks or clouds and think they look like animals, people or monsters?”.

As observed by Bondi (forthcoming), questions involving the users (“you”) centre on readers’ “speculation” on the *MetKids* website, whilst questions on the *Tate Kids* website have children’s experience at their core. In general, analogies in the preceding descriptions are key to understanding and appreciating the artistic works.

The last type of explanation in Calsamiglia and Van Dijk’s classification is reformulation. On both websites, this strategy is especially used with foreign specialist terms, and it evidently goes hand in hand with denomination:

- (15) Fashions like this are known as haute couture, which, in French, *literally means “high sewing.”* Haute couture is sewn by hand instead of with sewing machines and is created to fit the person who buys it perfectly. This type of fashion design is often extremely creative, daring, and unusual – not the kind of clothing people wear every day. (*MetKids*)
- (16) Wallis never had an art lesson. At the time, art was never taught in schools. Wallis taught himself how to paint. Even without any training, he just did it, because he wanted to. This is why his paintings are called naïve. *This means that he did it without knowing any of the technical methods of how to paint.* (*Tate Kids*)

Reformulations are slightly more significant in *MetKids* (Table 2), where there are three unusual instances:

- (17) Where do they lead you? Where else can you find lines? In all of Vincent van Gogh’s paintings and drawings, he repeated lines and colors to create rhythm and movement. In this picture *Van Gogh [van GO]* uses them to show a nearly empty hallway. Notice how they make it look like there is depth by drawing your eye into the distance. That’s called perspective. (*MetKids*)

- (18) Introducing Marie, a fourteen-year-old ballerina who lived in France. When she was just six years old, she and her sisters started taking dance classes at the Paris Opéra. There, Marie met the artist *Edgar Degas* [d-GAH], who loved the ballet and often sketched the dancers practicing in class and hanging out backstage. (*Met Kids*)
- (19) The designer of this dress was Yves Saint Laurent. *His first name is pronounced like "Eve,"* but many people simply use his initials: YSL. (*MetKids*)

As the above examples show, foreign artists' names are somehow phonetically transcribed so that children can pronounce them correctly (17-18), or a clue is given by indicating an English word with a similar pronunciation (19). This systematically occurs in the other American museum website, that is, the MoMA website for children (see the following paragraph).

As already mentioned, citation is not a common strategy in children's popularization, but it is frequent in museum discourse (Lazzeretti 2016). Different styles of citations are also employed in the museum-based websites for children under analysis. *MetKids* sometimes uses inserted citations to introduce voices not belonging to the world of art. These voices provide the knowledge necessary for appreciating and deciphering the artworks (20). *Tate Kids* prefers to let the artists speak so that they can offer their own interpretation or explanation of their work and life so that they can offer (21):

- (20) According to the ancient Greek myth, Icarus tried to escape from the island of Crete using wings his father had made from feathers and wax. Imagine how he would have felt as he began to fly. (*MetKids*)
- (21) And what's it like to have a secret identity? One Guerrilla Girl said: "It's like having a super-power"
And does anyone know their secret identities? The Guerrilla Girl known as Frida Kahlo says:
"Hard to tell. Partners know. Very close friends. My dog knows!". (*Tate Kids*)

In general, the analysis highlights the effort of *Tate Kids* and *MetKids* to make modern art comprehensible to children. As a matter of fact, the two museum-based websites rely on five out of six types of explanations to help children appreciate and interpret modern works of art, trying to create texts that are both precise and easy to understand. In addition, they use two popularizing

strategies that appear to be specific to this type of website, that is, citations and phonetic clarifications of some foreign artists' names.

5. "That's not art! It's a fire extinguisher": The website for children of MoMA

Another type of museum-based website is the MoMA (Museum of Modern Art)'s website for children: *Destination Modern Art* is midway between an online "artdventure" game, that is, "an educational adventure about art" (Stenglin – Djonov 2010: 187), and museum websites such as *Tate Kids* and *MetKids*. Like *MetKids*, *Destination Modern Art* is an interactive resource that focuses on a visit to the Museum of Modern Art and to its affiliate, P.S. 1 Contemporary Art Center in New York City. It is aimed at young children aged 5 to 8 and was created with two goals in mind: the primary aim was "to provide younger children with the tools they needed to begin looking critically at art", focusing on specific works of art; the second one was "to inspire children and their parents to do that 'looking' at MoMA and its affiliate, P.S.1 Contemporary Art Center" (Schwartz – Burnette 2004).



Figure 5. *Destination Modern Art* – MoMA for children. <https://www.moma.org/interactives/destination/> © MoMA, NY

In particular, children are accompanied on the virtual tour of the museum in Manhattan by an alien character. As stated by Schwartz and Burnette (2004), it is “a friendly and inquisitive alien, whose lack of familiarity with the art environment allows questions with varying degrees of complexity. In this way, the alien could serve as the impetus for discovery and allow the children to interact directly with the art.” The presence of a speaking character, in this case, addressing the users both with speech bubbles and voice-over, is a typical element of educational websites (Buckingham – Scanlon 2004).

The alien’s spaceship mission is based on an animated tour of MoMA’s permanent collection followed by a “treasure hunt” in P.S.1 that encourages children “to find the permanent artworks scattered throughout the building” (Schwartz – Burnette 2004).

In the MoMA section, by selecting artworks, visitors can learn about the works of art, artists, their techniques, and inspirations. Children are primarily engaged in activities through interactive icons titled “Tools”, “Listen”, “Look”, “Words”, “About”, and “Idea”, the latter including ideas to create children’s own artworks. This website is mainly based on multimodality and interactivity since its essential core is to make children learn about art through activities. Therefore, the information load is mainly distributed between interactive activities and pictures of the artworks. The section “About” is the more informative one. Even though its texts are reduced to the minimum and revolve around a photo of a work of art, some popularizing strategies are nonetheless used.

There is only one *definition* (22) in the form of an apposition:

- (22) For many years, Marcel taught at the Bauhaus, *a famous German design school*.

As a matter of fact, pictures play a major role, and the limited verbal text is focused on the lives of the painters, the designers, or the sculptors of the works of art at the MoMA and at the P.S.1. For example, denominations referring to art movements are always anchored to a specific work and no definitions follow (23):

- (23) Frida’s paintings are sometimes *called Surrealist*. Surrealist art is inspired by dreams. (*Destination Modern Art*)

Direct citations are also employed. At the beginning of almost every artist’s brief biography, there is a quotation of his/her own words (24), such as the following one by Polly Apfelbaum:

- (24) "I always wanted to be an artist, even before I knew what an artist was." (*Destination Modern Art*)

The other strategy, which is systematically adopted, is the type of reformulation as found in *MetKids* that helps children pronounce the names of foreign artists (Fig. 6). Furthermore, it is also used for complex American names whose pronunciation might be ambiguous:

- (25) Click on each number to learn a fact about Polly Apfelbaum [*Ap-full-bom*]

Umberto Boccioni. *Unique Forms of Continuity in Space*. 1913

Click on each number to learn a fact about
Umberto Boccioni [boat-cho-nee].

1 2 3 4 5

Umberto had a group of friends that included artists, musicians, and writers. They called themselves "The Futurists."

Swifts: *Paths of Movement + Dynamic Sequences*.
by Giacomo Balla, 1913

Figure 6. Umberto Boccioni – *Destination Modern Art*. <https://www.moma.org/interactives/destination/> © MoMA, NY

6. Conclusions

Popularization for children has a Janus essence as it combines educational goals with entertainment. The Internet is the hotbed for disseminating knowledge among youngsters as it effortlessly combines these two elements. Websites play a major role within the domain of informal education in many disciplines, for example, in science. Instead, art popularization on the web mainly takes two forms: art and crafts websites and sections of art

museum websites aiming at promoting workshops for families and children. However, few art museums go against this tendency: the British Tate gallery, the American Metropolitan Art Museum of New York, and MoMA have websites specifically dedicated to children, *Tate Kids*, *MetKids*, and *Destination Modern Art*.

The analysis of the verbal popularizing strategies accompanying the photos of the works of art in the corpus *MuseKids* (composed of the more informative sections of *Tate Kids* and of *MetKids*) shows that nearly all types of explanations are used with no significant differences between the two websites. They are all oriented towards children's familiarization with art. The analysis demonstrates that the first two websites aim at introducing art in a precise and accessible way relying on denominations and definitions: not only do they refer to art terms dealing with art movements, art techniques or art groups, but also to terms or names of people that might not be familiar to children.

In addition, modern art is made less obscure and indecipherable with exemplification and analogy, especially within the descriptions of the works of art. Exemplifications allow the child user to guide his/her gaze in discovering details and interpreting the artworks. Similarly, analogy, being rooted in children's world, tries to bring the world of art closer to children: it is used both for connecting art discourse to children's own lives and for supporting and boosting their visual literacy. Creative use of reformulation is identified in *MetKids*, which is linked to the concern of making children pronounce the names of the artists correctly. This systematically occurs in *Destination Modern Art*. Foreign or strange artists' names are thus clarified so that they are both precisely pronounced and, simultaneously, they are not perceived as obstacles by young users.

In *Destination Modern Art*, the verbal texts accompanying the pictures of the works of art are more concise and essential. Nonetheless, the website does resort to almost all types of explanations.

There is no space for *generalization* on any of the three websites: this is probably due to the fact that artworks are presented as unique. The uniqueness of art might also explain the use of citations, especially of the artists' words. As a matter of fact, their individuality and their creativity are in this way emphasized. Art popularization on these three websites is also shown to be creative and unique, combining accuracy and accessibility.

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