



Illustrated Barcodes of Picturebooks: Artistic Peritextual Elements with Pedagogical Applicability

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Abstract

This study explores the potential of illustrated barcodes of picturebooks in the educational context. The study reviews the modification by artists of conventional and mandatory barcodes into creative barcode placements in picturebooks. By raising awareness of the aesthetic subtleties of barcodes, the paper articulates how these attractive and ironical peritextual elements may have pedagogical applicability. The study brings to the surface these invisible artistic elements to better appreciate their aesthetic potential for read alouds. For exploring the rich diversity of depictions, a corpus of 500 illustrated barcodes was grouped and analyzed into categories with the creators' explanation for the use of these artistic peritextual features. Findings based on quantitative and qualitative content analysis suggest that illustrated barcodes comprise significant information that educators may use during picturebook read aloud sessions. Educators familiar with the hidden information within illustrated barcodes may guide children into exploring these peritextual features and talk about them during interactive storytime.

Keywords Picturebooks · Illustration · Barcodes · Visual literacy · Dialogic reading

Introduction

Barcodes are mandatory and globally omnipresent in almost all commercially available items, and, as might be expected, in picturebooks too. Barcodes have a plain standardised format for identification purpose; but now and again, creators turn barcodes into artistic peritextual features. These are particularly appealing to some picturebook creators, many of whom have featured them in their picturebooks. Several artists have created artwork around barcodes turning the simplicity of numbers and

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the black and white bicolour parallel lines into fun, colourful and memorable artistic elements of the picturebooks. As suggested by many scholars, picturebooks have diverse layers of meaning because every feature of a picturebook is meaningful: from the peritextual features (front and back cover/jacket, endpapers, size), to the visual elements (pictures, illustrations, photographs), and, naturally, the verbal text (Sipe, 1998; Kress, 2003; Kress and van Leeuwen, 2006).

This research study explores in detail the art surrounding barcodes illustrations in picturebooks. The aim is twofold: to investigate the role of artists in the creation of illustrated barcodes as aesthetic elements of picturebooks and to focus on how teachers might mediate their appreciation during class read alouds. The study is framed against the backdrop of the complex relationship between text and images put forward by many scholars of contemporary picturebooks (Nodelman, 1988; Nikolajeva and Scott, 2006; Arizpe and Styles, 2016; Kress and Van Leeuwen 2006; Serafini 2012; Salisbury and Styles, 2012; Kümmerling-Meibauer, 2018).

In order to awaken awareness of the subtleties and mediation around barcodes, the study analyses the potential of creative barcode placements as meaningful peritextual elements of picturebooks. After researching a robust corpus of illustrated barcodes and the creators' approaches towards barcode illustrating, the paper puts forward a proposal for teachers' mediation on the applicability of these artistic elements to enhance communicative interaction during read alouds. This methodology, which draws attention to the graphical representation of barcodes during read aloud sessions, is influenced by the work of authors who suggest that book sharing is a well-loved strategy used by parents and teachers of any language to entertain, educate and teach children of all ages and linguistic competence levels (Housen, 2002; Jalongo, 2004; Gohsn, 2013; Yanawine, 2013; Pollard-Durodola et al., 2015; Lambert, 2015; Roche, 2015, Fleta, 2018).

Theoretical Grounds

Long before children learn to read texts, they make mental images of the pictures they see (Nespeca and Reeve, 2003); and long before they learn to communicate through language, they navigate and understand the world through visual literacy. In this regard, picturebooks offer a rich potential for understanding meaning through thinking about what children hear and see. Furthermore, picturebooks play a role in children's spontaneous speech production during face-to-face conversational interactions and discussions: "In an interactive read aloud of a picturebook, a teacher uses the reading of a book to engage children in authentic dialogue with her, and with each other, about the book" (Roche, 2015, p. 49). This interactive (dialogic) reading is a collaborative experience whereby children predict and discuss the story via mediation and adults ask questions and simultaneously actively listen to what the children bring to the shared-reading transaction (Housen, 2002; Yanawine, 2013; Lambert, 2015). For the above reasons, picturebooks are excellent tools for viewing art and for inviting children to find a meaning in the pictures they see and the oral narrative they hear during shared-reading sessions (Housen, 2002; Serafini, 2012; Yanawine, 2013; Lambert, 2015; Roche, 2015).

Books' decorative illustrations are built upon what the father of the picturebook mode Walter Crane (1896; 2016, p. 184) called "an architectural plan", since the book decoration is adorned with "picture, and ornament and device". This multi-modal interpretation of books goes a long way toward Bader's (1976) definition of a picturebook "...text, illustrations, total design..." (p. 1). What these two views suggest is that apart from the illustrations and the authors' words that tell the stories in books, all physical features that "surround it and extend it, precisely in order to present it" (Genette, 1987, p. 1) are meaningful and can be explored during dialogic reading.

The many diverse physical parts of picturebooks include the peritext (dust jacket, front/back dust flap, front/back covers, front/back endpapers, copyright and dedication page, half-title, title page, and barcodes); visual elements (line, colour, shape, texture, space, value, perspective); types of media (painting, drawing, printing, cloth, photography), and the visual textual grammar (Nespeca and Reeve, 2003; Sipe, 2008; Kümmerling-Meibauer, 2018). This multimodality of picturebooks involves children during read alouds; first as 'lookers' and listeners by extending their language and content knowledge development and, at a later stage, as readers and writers. In this respect, seeing and listening both become active skills of the meaning-making process during read alouds (Sipe and Brightman, 2005; Kress, 2003; Kress and van Leeuwen, 2006). As stressed by Nodelman (1988) "...the relationship of words and pictures as it is found in all good picture books may be of particular significance in the education of children into mature human beings" (p. 206).

The peritext viewed as a conspicuous part of picturebooks is "anything in a book other than the printed text" (Sipe, 1998, p. 71) and is as much a source of meaning as the verbal text of the story. The study of peritextual features helps to develop children's critical and inferential thinking as well as visual interpretation skills (Sipe, 2008). Barcodes are peritextual features always located on the back jacket/cover of picturebooks and, like other elements of the peritext, form part of visual meaning-making.

Barcodes on Picturebooks

Barcodes are optical and machine-readable representations of data. These data usually describe information about an item; in other words, barcodes are like the DNA of items which encodes sequences of numbers, bars, and spaces for its identification.



Fig. 1 Examples of ISBN

Years ago, barcodes were not part of books, since they were formerly identified by their International Standard Book Number (ISBN) as illustrated in Fig. 1.

It was not until 2007 that barcodes were obligatory on books, with the standardized format of rectangular blocks with three basic inseparable elements: parallel black bars, white space, and ISBN number of 13 digits which identify the book edition, publisher, physical properties as well as pricing information (Fig. 2). The accepted placement generally preferred for the barcode graphic representation symbol is the lower-right quadrant of the book cover/dust jacket and the reserved standard size of the barcode area is 9.2075 cm × 3.175 cm free of images and text.

Former studies which focus on children's response to picturebook reading make no reference to the rich meaning-making experience that illustrated barcodes afford (Nikolajeva and Scott, 2006; Kress and van Leeuwen, 2006; Sipe and McGuire, 2006; Sipe, 2008; Lambert, 2015; Roche, 2015; Arizpe and Morag, 2016; Kümmerling-Meibauer, 2018). The objective of this study is to take a closer look at a range of barcodes with illustrations to develop a better sense of how these peritextual features may contribute to children's "aesthetic appreciation and cognitive and literary understanding of books" (Pantaleo, 2003, p. 74).

Method

In recent decades, barcodes placement has been particularly appealing to picturebook creators, many of whom have featured them in their work. Although still an exception rather than the rule, some artists deviate from the standardized formatting of barcodes and make the decision to illustrate them. They create artwork around barcodes, turning the simple numbers and the black and white bi-colour parallel lines on the jacket or back cover of the book into whimsical, colourful and memorable artistic elements.

Although barcodes are part of the peritext, they have not been explored in depth by scholars of contemporary picturebooks. The research on illustrated barcodes is



Fig. 2 Example of a book barcode. Source: Google images

scarce in general, with an earlier investigation of illustrated barcodes in Portuguese publications carried out by Ana Margarida Ramos (2017), and an updated list of unanalyzed illustrated barcodes compiled by the librarian Travis Jonker on his web site. This study explores the applicability of illustrated barcodes as educational resources from aesthetic and pedagogical perspectives, addressing the following questions:

- RQ1. What is the artistic experimentation of picturebook creators with barcodes? Is there a barcode typology?
- RQ2. What are the authors' and illustrators' attitudes towards barcode illustrating?
- RQ3. How can teachers develop conversations around illustrated barcodes?

To answer these questions, a mixed method research design was used, integrating quantitative and qualitative data collection and analysis (Creswell and Plano Clark, 2018). First, illustrated barcodes were collected and then analysed by assigning numeric values to each illustrated barcode. For the qualitative data, an open-ended interview was sent to some representative picturebook authors and illustrators. The analysis of the text from the interviews involved reading through all the data which complemented the quantitative findings and helped to develop a general understanding of the database.

Data Sources

Most illustrated barcodes in the corpus were compiled in the Early Years and Primary education libraries of the British Council School of Madrid. The search was limited to the stock accessible then for students in both libraries. Other barcodes were collected in bookshops in England. To provide sufficient statistical power to address the research questions, every sample was carefully selected and photographed along with the front and back covers as well as the copyright page. To represent the rich variety of the aesthetic forms, the barcodes were analysed into categories. The category system used to analyse barcodes emerged from the investigation of the corpus. This typology grew inductively from the examination of 500 illustrated barcodes of contemporary picturebooks. The formula to calculate the number of barcodes in each category is $(\text{Part/Whole}) \times 100 = \text{Percentage}$. Feedback from an interview sent to some picturebook artists was the research instrument used to obtain qualitative data. The two questions posed to artists to get first-hand information from the sources were: "Who makes the decision to illustrate barcodes?" and "What, in your opinion, is the purpose of an illustrated barcode?"

Typology of Picturebooks' Illustrated Barcodes

The earliest illustrated barcodes documented in the corpus date from 1986, 1989 and 1990. The book *Ride a Cock-Horse* (1986) by Sarah Williams and Ian Beck is a collection of knee-jogging rhymes, patting songs and lullabies. Illustrator Ian Beck

Fig. 3 Back cover of *Ride a Cock-Horse* by Sarah Williams and Ian Beck (1986). Reprinted by permission of © Ian Beck

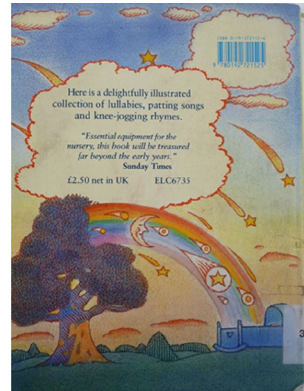


Fig. 4 Back cover of *Pudding and Pie* by Sarah Williams and Ian Beck (1989). Reprinted by permission of © Ian Beck



brings the barcode to the fore by placing it inside a cloud in the upper right quadrant with its parallel lines and numbers pictured in turquoise blue. Figure 3 shows the back cover of the book that relates to the *Sleep, baby, sleep* lullaby whose image is also depicted in a double-page spread of the book (pp. 46–47). The barcode is figured in a cloud as the blurb is.

Figure 4 presents the back cover of Sarah Williams and Ian Beck's *Pudding and Pie* (1989), a selection of favourite nursery rhymes. The back cover replicates the front cover image of a window with pictures to do with the rhymes such as blue bells, shells, stick, bucket, moon. The barcode is embedded in the *Little Boo Deep* lamb character. Ian Beck explained that it is a pun on the words 'bar' and 'baa'; the sound made by sheep, something that might only be noticed by the reader after several sharings of the book.

The Wheels on the Bus picturebook (Fig. 5) is a pop-up book of a traditional children's songs with movable parts, adapted and illustrated by Paul O. Zelinsky. The back cover presents a guitarist and the music sheet of the *The Wheels on the Bus* song, both placed in a room with bookshelves full of books. At the bottom, buses go

Fig. 5 Barcode of *The Wheels on the Bus* illustrated by Paul O. Zelinsky (1990). Reprinted by permission of Penguin Random House LLC



up and down a hilly road making a clear allusion to the lyrics of the song. The barcode is depicted as a road sign in the lower right corner. All these figures stand on framing wavy yellow, magenta, and blue lines, which enclose them.

As we can see in Fig. 5, Zelinsky plays with the colours yellow, magenta, and blue to make the barcode look like a picture of a motorway billboard.

Colour and Frame

In addition to location, barcodes' black bars background is not restricted to canonical white colour. There are other acceptable background colour combinations for printing which are warmer than white, "The mere presence of a vivid colour is so likely to give weight to visual objects that illustrators forced to work within the constraints of one-or two color printing almost always use it to focus on the significant details of otherwise colorless pictures" (Nodelman, 1988, p. 100). In this regard, many artists vary the predominant white colour in order to give visibility to barcodes. Artists like Laurence Anholt give bright colours to the barcode background in *Big Book of Families* (1998). In Fig. 6, the white background colour has been replaced by a mustard yellow rectangle which in turn is framed in turquoise blue placed within the blue frame probably to stand out and to give a voice to the barcode and say "Eh, I'm here".

In some barcodes, the background colours may vanish with the background colour of the back cover; this is possibly done to promote uniform, textual cohesion with the back cover/jacket artwork. As stated by some artists in the survey, publishers' requirements may vary for printing and it seems that the rules governing

Fig. 6 Barcode on *Big Book of Families* by Catherine and Laurence Anholt (1998). Reprinted by permission of © Catherine and Laurence Anholt

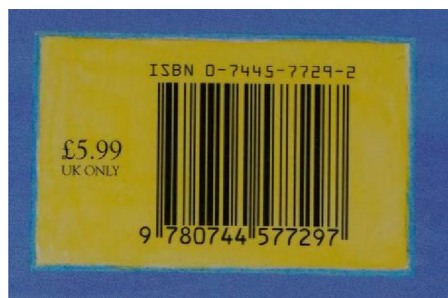


Fig. 7 Barcode on *Monkey About with Chimp and Zee* by Catherine and Laurence Anholt, 2009. Reprinted by permission of © Catherine and Laurence Anholt



Fig. 8 Barcode on *Winnie's Jokes* by Valerie Thomas and Korky Paul (2010). Reprinted by permission of Winnie and Wilbur © Valerie Thomas and Korky Paul, published by OUP © illustration Korky Paul



what can be done with barcodes differ from publisher to publisher. Some request a certain amount of blank white space on all sides of the barcode, or just at the top. Some require the barcode to be at a specific distance from the bottom and sides of the book; some do not. Some allow a background image instead of a pure white background behind and around a barcode, as long as the image comprises only the magenta and yellow inks used in colour printing and have no cyan or black ink. Some allow yellow but not magenta. Although the white space may not be present, the ISBN must stand out as an element of special functional interest in all instances.

In Laurence and Catherine Anholt's *Monkey About with Chimp and Zee* (Fig. 7), the barcode is brought to the foreground with a decorative frame.

Likewise, some of Korky Paul's illustrated barcodes are decorated with ornamental cast iron frames with heavy lines around them to look attractive (Fig. 8).

In most cases, the canonical placement of barcodes on books is the lower-right quadrant on the back cover/jacket near the spine. However, illustrated barcodes can be found placed at different angles on the back cover/jacket.

Barcodes with Modified Shape

One of the most notable changes creators can make to custom barcodes is the modification of their shape. Only eight unique barcodes with modified shapes appear in the corpus (1,6%). In each instance, the barcode design relates to the topic or to some characters in the story. The picturebook by Mary Lyn Ray and Steven Salerno's *BOOM! Big, Big Thunder and One Small Dog* (2013) tells the story of

a boy and a little dog, distressed by thunder, and how they deal with their fears. The barcode depicts a dense black cloud charged with electricity and a rolling boom of thunder spreading in blue and rain cascading like a waterfall (the barcode black bars). Conversely, in *Duck! Rabbit!* by Amy Krouse Rosenthal and Tom Lichtenheld (2009) the barcode is not related to the story in any way. The book presents two narrators looking at a duck/rabbit with the reader's focus on each page, while one storyteller is trying to convince the other that it is a duck, the other insists it is a rabbit. Finally, another silhouette appears to rekindle the narrators' debate about brachiosaurus/anteater. On the back cover, Lichtenheld depicts a billowy cloud in the upper right quadrant and a zebra shape barcode in the lower-left quadrant of the back cover with the amusing comment of one of the narrators' "Hey, look! A zebra!" Lichtenheld is playing a whimsical game with the reader. If the animals in the story can be interpreted in different ways, there is no doubt about the animal defined in the barcode, even though a zebra's stripes are physically different but mathematically similar. It seems as if by using zebra stripes, Lichtenheld highlights the barcode pattern with a light-hearted touch. One possible explanation is that illustrators probably use shaped barcodes to grab the readers' attention (Merry and Rogers, 2007).

Barcodes Lending Support

Barcodes may become the support basis for one or more depicted elements (21%). Furthermore, artists may choose to replicate elements from the book to illustrate the barcode. The pictures may depict the main or secondary characters of the story. These characters are pictured leaning, standing, climbing, jumping or sitting on the barcode. For example, written in bouncy verse, Catherine and Laurence Anholt's *What I like* narrates likes and dislikes as seen by six children (protagonists). The little spotty dog in Fig. 9 is a secondary character portrayed in five depictions throughout the book. Laurence Anholt has chosen the little dog as a focalising character to climb the barcode standing upright on his hind legs and leaning on the barcode with his forelegs.

In contrast, the protagonist of Caryl Hart and Edward Underwood's *Big Box Little Box* is a curious little cat who likes to investigate all sorts of boxes (Fig. 10). The cat who likes to wander through the boxes has a well-defined personality in each illustration.

Fig. 9 *What I like* Catherine and Laurence Anholt (1998). Reprinted by permission of © Catherine and Laurence Anholt



Fig. 10 Back cover of *Big Box Little Box* by Caryl Hart and Edward Underwood (2017). Reprinted by permission of © Edward Underwood

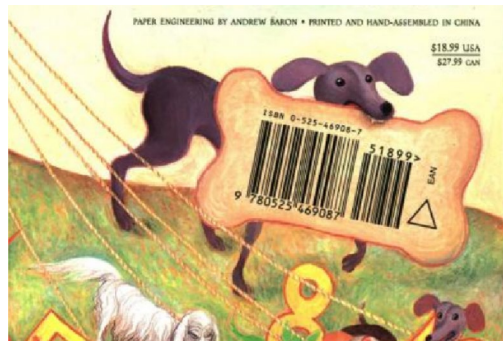


The cat is depicted on the back cover in two different postures. In the top right quadrant, he is sitting on a box, his eyes closed, looking peaceful and relaxed; however, on the barcode box in the lower-left quadrant, in contrast, he is standing with his tail and whiskers sticking up in fright.

Barcodes Being Supported

Some artists choose to illustrate barcodes that are supported, held, transported or carried by one or more elements of the story (7.4%). Paul O. Zelinsky's *Knick Knack Paddywhack* (Fig. 11) is an interactive pop-up book with moveable parts where the pictures on each page rhyme with the number of the verse. The book is colourful with very vibrant water colours and the dog is a protagonist carrying a bone in page openings. The back cover presents the music for the song, and a boy holding a different dog by a lead, framed in reddish squares much like a quilt pattern. All the dogs are carrying yellow numbers in their mouths, except for a big brown dog who is holding a big bone containing the barcode.

Fig. 11 *Knick Knack Paddywhack* by Paul O. Zelinsky (2002). Reprinted by permission of Penguin Random House LLC



Another example can be found in Catherine and Laurence Anholt's *Kids*. This is a question/answer book that shows what children can do mentally and physically and will work especially well for dialogic reading. Children can choose to read the pages they find especially interesting without following a particular order. The barcode on this book is being held up by one of the characters (Fig. 12).

On the white back cover Laurence Anholt has depicted three children, a girl with freckles wearing a blue jumper with yellow elbow pads, red trousers and a red ribbon in her hair, and a boy in a yellow plaid shirt and plaid green trousers carrying the blurb written inside a big mustard coloured rectangle. They are followed by a small boy in a striped sailor shirt and yellow trousers carrying the barcode in a small mustard coloured rectangle framed in black.

Barcodes Integrated into Back Cover Aesthetic

Some artists may depict characters or scenes from the story in the back cover artwork; in such a case, the back cover/jacket duplicates images from inside and recreates a scene from the book or even replicates the main character or other characters or elements from the story. Yet, in some cases, artists “often try to create appropriate expectations by pictures on covers or dust jackets that appear nowhere else in a book and that sum up the essential nature of the story” (Nodelman, 1988, p. 49). The analysis of the corpus shows that a lot of illustrated barcodes become visibly integrated into back cover illustrations (46.6%); they have been drafted in such a way that barcodes are somewhat camouflaged into a larger illustration. Figure 13 shows the barcode in Lane Smith's *The Happy Hocky Family moves to the Country!* (1996) embedded in the illustration of one of the five cows pictured on the back cover; thus, becoming an integral part of the artwork depicted on the back-cover.

Furthermore, some artists design both covers/jackets as a continuous picture. This implies that both the front and the back covers/jackets are stylistically interconnected when opened fully. In *Counting Rhymes* by John Foster and Carol Thompson (1997), a collection of modern poems for young children (Fig. 14), the artist depicts a little rabbit with spots and wearing boots sitting on an orange wall

Fig. 12 Barcode on *Kids* by Catherine and Laurence Anholt (1992). Reprinted by permission of © Catherine and Laurence Anholt



Fig. 13 Barcode in *The Happy Hocky Family moves to the Country!* by Lane Smith (1996). Reprinted by permission of © Lane Smith

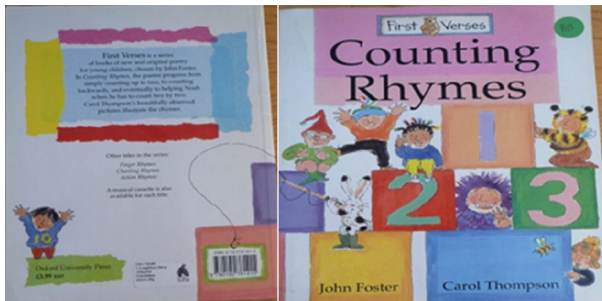


Fig. 14 Front and back covers of *Counting Rhymes* by John Foster and Carol Thompson (1997). Reprinted by permission of © Carol Thompson

holding a fishing rod on the front cover. Opening out the front and back covers create one whole illustration, where the fishing line connects with the drawing on the back-cover, the hook catching the barcode which is framed and enclosed in an orange square. This little rabbit is also portrayed fishing in a river on the endpapers catching number 3 and it is also pictured fishing together with four other characters on the double page 10 where the poem *Five Fishermen* is presented. In relation to this book, Carol Thompson stresses that the little rabbit “becomes one more character in telling the ‘fishing’ story. The fishing line is a game—the rod line continues across the spine, to reach the back cover, (the drama of turning over the page) following the line with your finger.....all the way down. “Oh! the fishing line has hooked a barcode box! Maybe I can read the numbers too?”

A great number of integrated barcodes can be found in Korky Paul’s artwork. This artist illustrates the picturebooks series of Valery Thomas’ *Winnie the Witch and Wilbur* and her big black cat. The back covers of this series include considerable information, such as a collection of other books in the series, reviews from credible sources, a blurb of what the story is about, the price, the publishers’ logo, and artwork related to the story. Korky Paul depicts barcode transformations whereby each of the illustrations isolate the barcode from the canonical rectangular background; in particular, by relating the black parallel bars and white space harmoniously to the back cover artwork. For most of his books, Korky Paul chooses one element pictured in the story such as a cauldron (Fig. 15), pumpkin,

Fig. 15 Barcode on *Happy Birthday Winnie!* by Valerie Thomas and Korky Paul (2007). Reprinted by permission of Winnie and Wilbur © Valerie Thomas and Korky Paul, published by OUP © illustration Korky Paul



dog feeder, cushions, engine (Fig. 16) or baskets (Fig. 17) to embed the barcode but still make it visible.

Interacting with the Barcode

The preferred orientation of the barcode symbols in the corpus is a picket fence with the black bars and number characters at the top and bottom, perpendicular to the back cover surface to be read from left to right. However, vertical layout or ladder orientation where the characters of barcodes can be read either from top down or bottom up can be found in the corpus (1.6%). One example is represented in Jon Scieszka, Lane Smith and Molly Leach's *The Stinky Cheese Man and Other Fairly Stupid Tales* (Fig. 18).

In addition to that, some artists depict a kind of interaction with barcodes by gazing, staring, making gestures or pointing to the barcode (7.4%). But undoubtedly some of the most amusing illustrated barcodes are those that depict

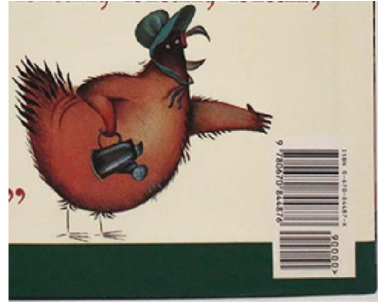
Fig. 16 Barcode on *Winnie's Big Bad Robot* by (2015). Reprinted by permission of Winnie and Wilbur © Valerie Thomas and Korky Paul, published by OUP © illustration Korky Paul



Fig. 17 Barcode on *Sanji and the Baker* by Robin Tzannes and Korky Paul (2008). Reprinted by permission of Sanji and the Baker © Robin Tzannes and Korky Paul, published by OUP © illustration Korky Paul



Fig. 18 Ladder orientation barcode in *The Stinky Cheese Man and Other Fairly Stupid Tales* by Jon Scieszka and Lane Smith and Molly Leach (1992). Reprinted by permission of © Lane Smith



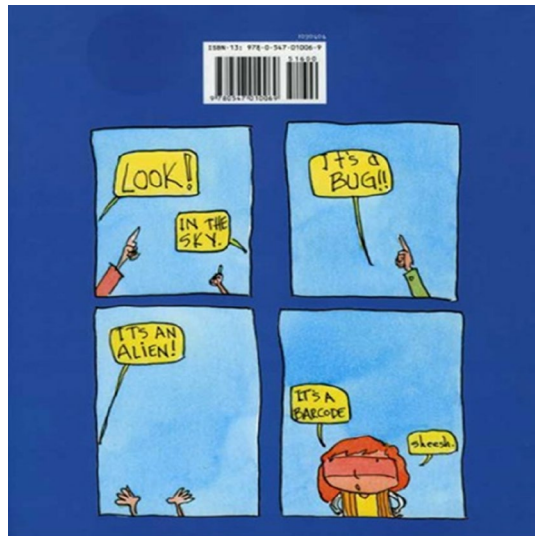
characters talking to the barcode as in Jon Scieszka, Lane Smith and Molly Leach's *The Stinky Cheese Man and Other Fairly Stupid Tales* where the little reddish hen on the back pokes fun of the barcode convention by saying (see Fig. 18 above):

“What is this doing here”
This is ugly! Who is this
ISBN guy? Who will buy this
book anyway? Over fifty
pages of nonsense and I’m
only in three of them. Blah,
blah, blah, blah, blah,
blah, blah, blah, blah, blah,
blah, blah,
blah, blah,
blah, blah,
blah, blah.”

Similarly, there is verbal interaction with the barcode in Beth Cadena and Frank Dormer's *Supersister*. The back cover of this book is painted in royal blue and divided into four sky blue rectangles; speech bubbles and arms pointing at the barcode are depicted inside three rectangles, in the fourth rectangle, the protagonist of the story is talking to the barcode (Fig. 19). The barcode is situated in its canonical format in the middle of the upper quadrant of the back cover. The arms point their fingers at the barcode and the speaking bubbles talk saying *Look! In the sky. It's a bug. It's an alien. It's a barcode. Sheesh*. As Frank Dormer explains: “The whole idea of the barcode as a Superhero in the sky was mine. As a child I watched the adventures of Superman on TV. I paid homage to the opening of the show. In the opening sequence, people in the city of Metropolis start saying: “*Look*” “*Up in the sky*”, “*It's a...*”, and then the show announcer would say: *Superman*. So, in paying homage, I changed the ending to what you see on the back of *Supersister*”.

Frank Dormer in *Supersister* presents both an overt and subtle visual intertextual clue, referencing *Superman* in the barcode's visual verbal irony.

Fig. 19 Back cover of *Super-sister* by Beth Cadena and Frank Dormer (2009). Reprinted by permission of © Frank Dormer



Discussion

From the artistic perspective, barcodes, which are functional elements and a necessity on the back cover/dust jacket of picturebooks, become playful and meaningful peritextual features as artists incorporate into them “motifs, puns, visual and textual information, and humor” (Serafini, 2012, p. 457). In some respects, one could relate barcode illustration to Pop Art, in that artists take commonplace functional objects (soup cans, hamburgers, letters, numbers, flags or road signs) as subject matters to create an aesthetic effect. In a similar way, the art surrounding barcodes represents the creators’ own artistic style and visual thinking. A close examination of illustrated barcodes shows that sometimes artists embellish barcodes with the main or other characters from the story, or, in other cases, with abstract elements. As this study shows, some barcodes are manipulated graphically in such a way that their traditional shape changes, while others are camouflaged in a larger illustration or merged as a central element of the back cover/jacket. Some artists prefer to disguise the barcode within reason, while others make fun of the barcodes as a focal point. Furthermore, sometimes artists give barcodes a voice allowing them to talk, or they allow other elements of the illustration to interact with the barcodes.

Overall, the key findings of the qualitative data analysis show a general consensus among the 14 artists interviewed in their view that barcodes are ugly additions, and very poor, ungainly design elements, yet a necessity for retailers that must be added to the back cover of the book. The answer to question one (see ‘Method’ above) underlines that the decision to decorate barcodes is made by illustrators in the first place, and then, by discussion with the editor and designer. In response to question two, the artists’ attitude towards barcode illustration reveals that the whole idea of decorating barcodes is to turn this intrusive functional element into the picture book aesthetic in order to enhance the appearance of the back of the book and to make the

whole package more pleasing to the reader. However, the artists' view generally is neither to hide the barcode nor to give it prominence, but rather to take this opportunity to make every square inch of the book a meaningful conversation between the creator and the reader. All illustrators agree that illustrating barcodes is a creative exercise in being playful with a visual joke or pun. Furthermore, some illustrators see this practice as a challenge to give an additional aesthetic element to the picture-book which usually reflects the theme or tone of the book story as well as adding a good design feature to the back cover.

Pedagogical Applicability

The barcodes typology presented here can help to engage adults and children in dialogue and discussion by paying attention to this peritextual feature and talking about the barcodes design during interactive storytimes. The examples of each typology can be useful for educators to nurture children's visual intelligence by introducing the idea of interpreting what children see (Lambert, 2015). Given the teacher's support, children may be encouraged to look at the barcodes and comment on how the images connect with illustrations in the book. To provide embedded instructional scaffolding, teachers should take time to study the illustrated barcodes as an integral part of the peritext, allowing children to think and encouraging them to predict and hypothesize about the visual elements. Moreover, to increase the applicability of illustrated barcodes in the educational context and to build up visual literacy, educators could provide feedback using discourse strategies during dialogic reading. One suggested strategy for focussing children's attention on the pictures in a picturebook is to take a "picture walk" prior to reading a book. The mediation approach presented below suggests ways in which illustrated barcodes can be brought into play as artistic peritextual features during read alouds to generate communicative interaction (Fig. 20). In Serafini's words on peritextual elements "I would suggest spending 5 to 10 min during a read aloud to discuss these elements and use that discussion as a way to introduce the book, activate relevant background knowledge, and prepare students to comprehend the story being read" (Serafini, 2012, p. 458). To exemplify the mediation approach for communicative interaction more fully, steps in Fig. 20 apply the inquiry-based teaching method Visual Thinking Strategies approach (VTS) (Housen, 2002; Yenawine, 2013) which "...uses art to teach visual literacy, thinking, and communication skills-listening and expressing oneself" (Yenawine, 2013, p. 19).

Barcode Mediation Method

Educators play a key role in mediating picturebooks since they help children to construct meaning and talk about what they see and hear during read alouds (Lambert, 2015). The following suggests a mediation method that allows opportunities for children to explore the artistic peritextual features of picturebooks.

An outstanding book for the mediation approach is Fran Manushkin and Paul Zelinsky's *The Shivers in the Fridge*. The art of the wraparound jacket and the hard

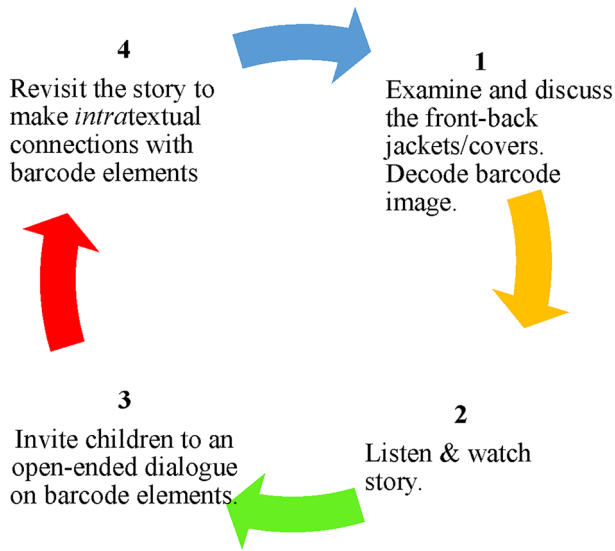


Fig. 20 Steps to develop visual analysis strategies applying VTS

cover presents different images. The front panel of the jacket depicts a refrigerator with the door half-open and a group of “shivers” inside surrounded by vegetables and groceries. The back panel of the jacket features a box of magnets, magnetic letters, and a letter cube, all embedded in a hand drawn scribble-doodle oval frame within an orange background (Fig. 21). As can be seen, the barcode is on the front of the cardboard box.

In addition, both hard covers create one whole illustration depicting the front and the back of an old refrigerator. The fridge is surrounded by a family of

Fig. 21 Barcode on the jacket of *The Shivers in the Fridge* by Fran Manushkin and Paul Zelinsky (2006). Reprinted by permission of Penguin Random House LLC



magnets (shivers) also depicted facing and back turned. At the bottom, Zelinsky has drawn a cat's ears also seen from the front and back, and in the corners, the initial letters of the author and illustrator (F, M, P, Z). Zelinsky playfully uses the wire grid at the back of the refrigerators by placing the barcode underneath. (Fig. 22).

Next, a method to mediate with the unique affordances of illustrated barcodes is presented:

Step 1: Read the title and the author-illustrator's name. Take a "picture walk" and examine the outside of the book thoroughly, identify the front and back of the book. Look at the whole jacket and focus on the visual narrative. Remove the dust jacket and open it out to see if the dual images are the same or different to the ones beneath so that children can use their inferring skills. If the book has dual-image jackets, this will allow children to make connections between the front and back images - *Why is it? Why isn't it...*? Next, attract the children's attention and provoke their curiosity by focussing on the barcode and noting details in the illustration. *The Shivers in the Fridge*, for example includes two dissimilar illustrated barcodes, one on the jacket and one on the hard cover (Figs. 21 and 22). Then, decode the illustration elements and pose VTS open-ended invitation questions to engage children in aesthetic responses: *What's going on in this picture? What are you thinking as you're looking at this picture? What do you see that makes you say that? What more can we find?* (Housen, 2002; Yenawine, 2013).

Step 2: Read the story aloud while watching the visual narrative, invite children to talk about their inferences. Encourage intertextual connections where children relate the two modes of expression (visual and textual). As a general practice,

Fig. 22 Barcode on the hard cover of *The Shivers in the Fridge* by Fran Manushkin and Paul Zelinsky (2006). Reprinted by permission of Penguin Random House LLC



continue exploring the book up to the lower-right quadrant of the back cover/jacket.

- Step 3: Return to the back cover/jacket image, make inferences based on evidence in the text and pictures, draw attention to the barcode and reflect on the barcode elements posing VTS questions to get children's inferences, guesses, opinion, and explanations: *I wonder why the artist chose this image to decorate the barcode? Can you make a connection between this picture and other pictures in the book?*
- Step 4: Revisit the story. Track similarities across the barcode illustrations in the openings of the book to make *intratextual* connections and links of the barcode elements within the book. Facilitate discussions by asking open-ended questions: *What do you know about...? What do you like best about the barcode? I wonder why the artist did that?* With this inquiry-based method, teachers foster the development of visual analysis. Children have agency and take an active role in the communicative interactions. They actively learn language through their ears and their eyes using different communication modes—the aural, the oral, the visual, the gestural, etc. (Fleta, 2015), and by expressing their thoughts orally they become active talkers since “Learning to “read” and interpreting the images in picture books is part of visual literacy” (Yokota and Teale, 2011, p. 70).

In brief, this holistic approach to reading picturebooks may have significant benefits for young children developing literacy and for child learners of English as a second/foreign/additional language because, although unable to read and write, they are still able to read images to quest for meanings (Gohsn, 2013; Pollard-Durodola et al., 2015; Lambert, 2015). Furthermore, paying attention to illustrated barcodes and making sense of the decorated images will not only foster children's language, concepts and visual literacy, but it will also help to expand their knowledge about what the artists conceived when they created the picturebooks.

Conclusion

As has been shown, a barcode on a picturebook back cover/jacket that deviates from the standardized formatting is uncommon; despite this, some artists play with barcodes to make them more appealing. Illustrated barcodes make a contribution to the visual narrative of picturebooks, very often with inherent irony. Barcodes offer artists and readers the chance to become creative and imaginative; though symbols may belong to the same category, when decorated they are all different.

In general, illustrated barcodes can be amusing and highly original elements that need to be considered “seriously” by readers as an integral part of the book since they add artistic features to the peritext of picturebooks. Moreover, educators' mediation should capitalize the pedagogical applicability of illustrated barcodes for encouraging oral communication and for enhancing visual literacy. Illustrated barcodes should open up picturebooks read alouds for discussion and transform monologic reading into dialogic reading by asking inferential questions and by inviting

predictions while children examine all picturebook illustrations, including the covers/jackets, endpapers, introductory pages and indeed the barcode illustrations.

If attuned to the potential of the information in the illustrated barcode, educators may take time to guide children through these features and show them how to “read” the hidden visual images and how to interpret them. Simply by pointing out the designed barcode elements and asking children about barcode art in the ways suggested can extend and enhance children’s visual literacy and visual comprehension. In this way, children will enjoy “hunting” for illustrated barcodes in subsequent readings of picturebooks and the practice of delving into the art and design behind barcodes will expand their knowledge of picturebooks as artistic objects.

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