

WAYS OF READING AND THINKING: ANALYSING YOUNG READERS' RESPONSE TO  
THE RELATIONSHIP BETWEEN TEXT AND ILLUSTRATIONS IN CHILDREN'S PICTURE  
BOOKS

BY  
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## Abstract

There are many ways of reading and interpreting the relationship between text and illustrations, both in literary and everyday contexts. These ways vary based on who the reader is and what is the purpose of their reading. In this study the reader is the child, and the purpose of the study is to examine the child's cognitive, semiotic, and poetic engagement with six different text-picture relationships using the theoretical frameworks of cognitive, semiotic, and poetic theory. More specifically cognitive theory depicts how the child engages with the cognitive processes in Lorin W. Anderson and David R. Krathwohl's (2001) *Taxonomy of the Cognitive Domain*, consisting of memory, comprehension, application, analysis, evaluation, and creation. Semiotic theory reveals how the child communicates their understanding of a text through a signifying system of communicative behaviour consisting of visual, verbal, physical, oral, or synthesized exchanges. And poetic theory depicts the child's use of the visual elements in a text such as line, shape, colour, texture, and the verbal elements such as figurative language, sound techniques, structure, irony, and register. Together these theoretical frameworks depict the vast opportunities that picture books provide children for cognitive, semiotic, and poetic engagement. These opportunities are more extensively outlined in a report addressed to participating schools in the study. The report includes several recommendations that expand upon a teacher's professional practice, while simultaneously improving children's learning outcomes through suggested education and pedagogy. In doing so the study makes a valuable text-picture relationships inherent in children's picture books through the exploration of the visual and verbal signs in them which are part of a signifying system of communicative behaviour.

## **Declaration**

I, Nade Krstevska, declare that the PhD thesis entitled ‘Ways of Reading and Thinking: Analysing the Interpretive Relationship Between Text and Illustrations in Children’s Picture Books’ is no more than 100,000 words in length including quotes and exclusive of tables, figures, appendices, bibliography, references and footnotes. This thesis contains no material that has been submitted previously, in whole or in part, for the award of any other academic degree or diploma. Except where otherwise indicated, this thesis is my own work.

Signature



Date 20/7/2020

## **Dedication**

*To Grandpa and Grandma*

*I love you and miss you so much.*

## Acknowledgements

*'Let us be grateful to people who make us happy; they are the charming gardeners who make our souls blossom.'*

*– Pleasures and days: And other Writings (Proust, 1967)*

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**CHAPTER**  
**1**  
*Intellectual History*  
**Introduction**

*‘Anybody can make history. Only a great man can write it.’*

*– Personality and Pattern in History (Oscar Wilde in Fehl, 1975)*

If a room without books is like a body without a soul, then a room without picture books is like a gallery without art. I had the privilege of visiting this gallery with my students when I worked as a teacher. Each time I visited, I marvelled at the collection of masterpieces inside. I also had the opportunity to curate one of these works of art when I embarked upon a master’s in literature and created my own picture book. This was the catalyst for my doctoral research where I discovered that the essence of the picture book was a synthesis of art and text which communicated meaning through different interactions. Some of which included the symmetrical and contradictory interaction which I had been oblivious too as a teacher. When I thought of symmetry, I had a greater love for the fragments that broke than the appreciation of a whole vase. My knowledge of contradiction much like the broken and dormant pieces of a vase lying on the floor consisted of fragments of conscious thought that contradicted itself.

Upon reflecting on my experience as a teacher, I wondered how children understood these text-picture relationships when I read picture books to them and more extensively the visual and verbal poetic devices in them. Did children have knowledge of metaphors, analogies, and similes used in texts? Did they look up when I proclaimed that ‘it was raining cats and dogs?’ Or did they look down when I said the ‘carpet is as green as grass?’ Were children visually literate? Did they foresee my fury as I clenched my fist, flared my nostrils, opened my mouth, and exhaled fire? Perhaps they just called me their dragon teacher.

In addition to having these questions I also wondered what cognitive benefits picture books offered to children. Were children only engaging with memory and comprehension? Or were they engaging with more complex cognitive processes? These questions led me to investigate how children cognitively, semiotically, and poetically engage with different text-picture relationships. The answers that transpire from the thesis will hopefully furnish children's minds with the richest of interpretations of these masterpieces that reside in the gallery of the classroom and in the vividness of their mind.

## **Gap in Knowledge**

Long before children can read and write, picture books play a significant role in the development and understanding of the world around them. As children commence school, these picture books become a popular and primary resource in the development of their education, teaching them to read, write, speak, create, and reflect on increasingly complex subjects through the relationship between text and illustrations. This relationship is far more complex than reading text and illustrations on their own. Not only does each mode of communication have its own sign system, but it functions differently in a relationship. According to David Lewis (2012), text and illustrations interanimate each other through the complexity and flexibility in the picture book that acts as an ecosystem. The pictures give life to the words, and the words give life to the pictures, facilitating their survival through their interdependence and their interconnectivity. Barbara Cooney likens this connectivity to a string of pearls. 'The pearls represent the illustrations, and the string represents the printed text. The string is not the object of beauty on its own, but the necklace cannot exist without the string' (1988, p. 6). Lawrence R. Sipe (1998) views the connectivity between text and illustrations as 'synergistic', as the absence of either medium would not create synthesis in its entirety. Despite this connectivity between text and illustrations the function of each medium within the relationship is different. Text has a greater capacity to convey temporal information, as reading

is associated with time and linear progression. In contrast, illustrations have a greater potential to convey spatial information due to their expansion on the page, that drives the reader to stop and stare. The difference between the two, according to Sipe may cause the reader tension because of how visual information is processed in space, and how verbal information is processed in time, as Sipe (1998, p. 101) explains:

This tension results in the impulse to be recursive and reflexive in our reading of a picture book: to go back backward and forward in order to relate an illustration to the one before to after it, and to relate the text on one page to an illustration on a previous or successive page; or to understand new ways in which the combination of the text and picture on the page relate to preceding or succeeding pages.

This tension may occur because different hemispheres of the brain are used for viewing text and illustrations. As Joseph H. Schwarcz and Chava Schwarcz (1991, p. 3) explain, ‘it seems quite certain that the left hemisphere governs analytical, abstract, logical thinking; the right one spatial (i.e., visual), inventive, creative, and synthetic thought processes.’

Not only do text and illustrations have to be processed differently but the sign systems within them have to be understood as picture books are not simplistic pieces of children’s work, as previously thought, but they are complex literary forms identifiable as a specific genre. Postmodern picture books, for example ‘deliberately work against a linear story-telling pattern’ (Wolfenbarger & Sipe, 2007, p. 275), by mocking the traditional form through textual devices that include a non-linear narrative structure, self-referentialism, a sarcastic tone and an antiauthoritarian stance. As a result of this genre of sophisticated writing, Dawnene D. Hassett and Jen Scott Curwood (2009, p. 279) note that:

Teachers must do more than simply use current theories of reading to engage with new forms of texts—they must understand how multimodal texts engender new roles for the reader, as well as new roles for the teacher.

These new roles involve understanding the sign systems in picture books which children are increasingly asked to interpret through linguistic, visual, auditory, spatial, and gestural ways of communicating (Anstey & Bull, 2010). The Victorian Curriculum (2021) supports these roles by encouraging teachers to use a range of texts which inhabit many forms including rhyming verse, poetry, fiction, and non-fiction texts. Children are asked to view, listen to, read, and interpret the spoken, written, illustrated, and multimodal aspects in these texts. They are also asked to identify the language features and linguistic devices in them including simple and compound sentences, punctuation, unfamiliar vocabulary, high-frequency words, and words that need to be decoded phonically.

The Victorian Curriculum (2021) also supports children's cognitive engagement with these texts as children are asked to comprehend and interpret the key events and ideas in them. They are also asked to engage with more sophisticated cognitive processes which require them to analyse, evaluate, and critique a variety of sources. While the curriculum addresses these learning outcomes, it is unknown how children cognitively, semiotically, and poetically engage with each text-picture relationship in these texts. The thesis fills this gap in knowledge by investigating children's engagement with six different text-picture relationships using the theoretical frameworks of cognitive, semiotic, and poetic theory. A qualitative approach to research is used to capture children's emotional experience with different texts as it is lived, felt, or undergone. In contrast to a quantitative approach which adds, multiplies, or quantifies experiences to verify a predetermined hypothesis and reveal a convenient truth. The findings reveal that children are competent and active agents in their learning, who are not only able to form complex and multifaceted ideas using a variety of semiotic systems, but they share all the commonalities of adults, albeit in their simpler forms.

## **Ways of Reading**

Prior to investigating children's engagement with each text-picture relationship, it is important to understand the reading process as it will reveal a deeper insight into which mode of communication children with different levels of proficiency rely on and its subsequent influence in aiding or impeding their understanding of a text.

### **Using Memory to Read**

Beginning readers often rely on memorisation to assist with comprehension of a text. This process consists of the reader using memory and the repetition of words, themes, and motifs to assist with visualisation and the subsequent act of memorised reading.

### **Using Pictures to Read**

Emerging readers may rely on pictures to assist them with the comprehension of a text. The process will consist of remembering visual content, inferring, and interpreting it. This process will however not always ensure accuracy as learning to read from pictures is a complex process due to the abstract and intangible quality (Doonan, 1993) of pictures which is influenced by visual literacy and the reader's expertise in decoding pictures (DeLoache, Pierroutsakos & Uttal, 2003).

### **Using Words to Read**

Fluent readers will solely rely on words to read a text. Reading words, however, is not as simple as it sounds as it will involve skills such as having to 'anticipate text information, select key information, organize and mentally summarize information, monitor comprehension, repair comprehension breakdowns, and match comprehension output to reader goals' (Grabe, 2009, p. 15).

## **Ways of Thinking**

In addition to having knowledge of how children read it is also important to understand how they think, as it will reveal a deeper insight into the thought process that influences how children interpret different text-picture relationships and the subsequent understanding that emerges about each text as a result.

### **Abstract Thinkers**

Children who engage with abstract and symbolic thinking in the study will go beyond the obvious and search for hidden meanings by associating random things that are not present in the physical world with things that are present in this world. This type of thinking is present in the latter stages of children's development (Piaget, 2019) as it requires more complex thinking to reason abstractly.

### **Concrete Thinkers**

In contrast to abstract thinkers, concrete thinkers focus on the physical world, rather than the abstract, theoretical one. Concrete thinkers are less competent than abstract thinkers in solving complex problems (Meinke, George, & Wilkinson, 1975) as they think in such a basic, literal way that they forgo any lateral solutions that an abstract thinker might be receptive to. Most children in are expected to engage with this type of thinking as children think in concrete terms, as they see the world in a more literal than theoretical, representational way (Sandvaer, 2014).

### **Analytical Thinkers**

Analytical thinkers are adept problem-solvers and shrewd thinkers who approach activities in a structured, organized, and methodical manner. They 'use analytic strategies and analytic techniques to understand how things work, how they fit together, and how they relate to other things' (Johnson, 2013, p. 6).

## **Creative Thinkers**

Creative thinkers engage with a multiplicity of different cognitive processes, which enables them to think laterally and come up with innovative solutions. These types of thinkers are ‘conditioned by innate abilities, creative predisposition, stimuli given by the family and environment, motivation, and certain features of the teaching process’ (Miletic & Vukicevic, 2013, p. 1966).

## **Critical Thinkers**

Critical thinkers are able to carefully evaluate a situation according to a criterion to determine the authenticity, accuracy, worth, validity, or value of something. Rather than breaking down the information, critical thinkers explore other elements in the situation that could influence its outcome.

## **Convergent Thinkers**

Convergent thinkers focus on coming up with the single most suitable answer to a problem (Cropley, 2006). They use speed, accuracy, and logic to accumulate stored information and reapply it in a relevant way. These types of thinkers thrive in situations where an answer readily exists and simply needs to be either recalled or established through decision making.

## **Divergent Thinkers**

In contrast to convergent thinkers, divergent thinkers explore an infinite number of possible solutions to one problem. They look at a problem from many different angles, and think in a spontaneous, imaginative, and free-flowing way, which is ‘non-linear’ and at times unconventional. ‘These thinkers need to be allowed to have opportunities to make choices about their learning and about how they demonstrate understandings’ (Gregory & Chapman, 2013, p. 35).

## Study Overview

The study consists of eighteen children which were randomly chosen from two state schools. The children were from grades 1, 2, and 3. These year levels were specifically chosen to capture the dynamics between the text-picture relationship. The text-picture relationships investigated in the study include:

- 1) *Symmetrical Relationship* where the text and illustrations mirror each other's meaning;
- 2) *Extend, Enhance, Elaborate, Amplify, Clarify Relationship* in which the illustrations extend the story by providing additional information that is omitted by the text;
- 3) *Text Carries Primary Narrative, Illustration is Selective Relationship* where the story is predominantly told through the text, whilst the illustrations focalize one aspect of the text;
- 4) *Illustration Carries all the Narrative Relationship* in which the story is solely told through illustrations;
- 5) *Counterpoint Relationship* where the text and illustrations tell two different stories, from the perspective of two different characters in the text and;
- 6) *Contradiction Relationship* where the text and illustrations tell two opposing or contradictory stories.

Children's engagement with these text-picture relationships consisted of them reading the texts and being interviewed about them using Aidan Chambers' (1993) *Tell Me* strategy. Children were asked 1) what they liked or disliked about the text; 2) what they found difficult to understand; and 3) what patterns or connections they made. Once children answered these questions, they were invited to produce a textual response (of their choice) about the text, and they were interviewed about their work, while being voice-recorded. Children's interviews and their work samples were analysed in the study using the theoretical frameworks of cognitive, semiotic, and poetic theory. More specifically:

- Cognitive theory: examined how children engaged with the cognitive processes from Anderson and Krathwohl's (2001) *Taxonomy of the Cognitive Domain* including memory, comprehension, application, analysis, evaluation, and creativity.
- Semiotic theory: investigated how children communicate their understanding through a signifying system of communicative behaviour consisting of visual, verbal, physical, oral, or synthesized forms of communication.
- Poetic theory: analysed children's engagement with visual and verbal elements. Visual elements pertained to children's understanding of line, shape, colour, and texture, while verbal poetics related to children's use of figurative language, sound techniques, structure, irony, and register.

## Thesis Structure

The thesis is divided into six chapters. Each of these chapters contributes to the overall argument that children are competent and active agents in their learning, who like adults, possess remarkable abilities to engage with complex cognitive processes while expressing their understanding using a variety of different semiotic systems.

The first chapter of the thesis more specifically provides a summary of the intellectual history which contributes to the purpose of the study. An overview of the different ways of reading and thinking is also provided, which may be used to understand children's interaction with the different text-picture relationships examined in the study.

The second chapter reviews the literature in relation to how text and illustrations communicate meaning individually, synergistically, and in different text-picture relationships. This leads to the gap in knowledge and the absence of research in relation to children's engagement with different text-picture relationships from the theoretical frameworks of cognitive, semiotic, and poetic theory.

The third chapter contextualises the research in relation to the methodology which consists of the focus of the study, the methods of data collection and analysis, and the theoretical frameworks to be used. The scope of the research is also focalised through the sample size, the status of participating schools, and the picture books to be used to investigate children's cognitive, semiotic, and poetic engagement with six different text-picture relationships.

The fourth chapter examines the findings in the study, which are arranged in a vertical-horizontal format, synonymous with a harlequin tapestry. The vertical format depicts children's case studies which derive from their interviews and work samples. And the horizontal format depicts the cognitive, semiotic, and poetic thematic patterns that emerged from children's case studies.

The fifth chapter includes a discussion of the findings that have emerged in relation to children's cognitive, semiotic, and poetic engagement with different text-picture relationships and the implications of these for teachers and children.

The sixth chapter of the thesis concludes the thesis argument by making recommendations for teachers and future researchers in relation to research design, focus, population, methodology, socioeconomic status, class, and culture, the use of a variety of picture books, and the exploration of broader themes and subjects.

The appendix section of the thesis includes the research procedure and the report written for participating schools in the study. This report aims to make a valuable and significant contribution to education through the suggested pedagogy and education that picture books provide children for cognitive, semiotic, and poetic engagement.

## CHAPTER

### 2

## *Literature Review*

### Introduction

*'Picture books build readers, Mr. Leon. Two missing books from our collection is like two missing bricks from a cathedral'*

– *The 13th Sign* (Tubb, 2012)

Just as picture books build readers the literature review builds on the findings of its predecessors to construct a cathedral of knowledge that enlightens its audience. The first few bricks in this cathedral consist of defining the parameters of the picture book as there is a wide spectrum of texts that range from illustrated books to picture narratives (Nikolajeva & Scott, 2000). Within this spectrum, there is a balance of power which over the years has been distributed differently. When picture books first originated they primarily focused on the text and included decorative images to fill the pages as opposed to enhance the story and explore visual thinking (Massey, 2015). Nowadays most theorists define picture books through an emphasis of illustrations as affirmed by Carl M. Tomlinson and Carol Lynch-Brown (2008, p. 91), who define the picture books as 'profusely illustrated books' in which illustrations are 'essential to the enjoyment and understanding of the story.' Other theorists such as John Warren Stewig (1995, p. 9) distribute power equally as 'the story and pictures are of equal importance.' Some theorists such as Schwarcz and Schwarcz (1991, p. 5), however, view the exchange of power between text and illustrations as mutable and changeable as 'text and pictorial narrations accompany each other, alternate and intertwine' as their roles are interchangeable.

Beyond this spectrum of text, the picture book has also been defined through its whimsical, sentimental value as it has the ability ‘[to] touch our emotions, delight our senses, appeal to our whimsy, and bring back memories of our childhood’ (Mitchell, 2002, p. 71). It has also been acknowledged for its pedagogical value, which may illustrate vocabulary and ideas (Hansen & Zambo, 2005), ‘enhance and enlarge the reader’s personal interactions with a subject’ (Vacca & Vacca, 2005, p. 161), strengthen student’s understanding of complex concepts (Massey, 2015), and develop skills in critical thinking and visual literacy (Pantaleo, 2017).

Just as there are many ways to define a picture book, there are also many ways to spell the word, including picture book, picture-book or picturebook (Booker, 2012). In the thesis the term will be spelt as picture book, as opposed to picturebook or picture-book to refer to the medium of pictures and text (within the book) as separate entities that come together within the text-picture relationship. Within this framework the picture book will be identified as a pedagogical resource, defined by a series of illustrations and text, which communicate meaning through an array of text-picture relationships.

## **Illustrations as Independent Signifiers of Meaning**

In developing a deeper understanding of the text-picture relationship, it is important to investigate each medium within the relationship independently. Illustrations on their own, according to Jane Doonan (1993), convey what cannot be expressed directly, such as ideas, moods, abstract notions, and qualities. To understand these the reader must have knowledge of how lines, shapes, and colours refer to ideas and feelings. Lines, for example, may induce serenity and predictability through feelings of continuous movement (ibid). or they may evoke trepidation and angst through sharp, angles illustrating acuteness and severity. Colour may set the tone and mood through hue and saturation—lighter colours evoke feelings of comfort and well-being, and darker colours depict a more sombre mood (ibid).

Like Doonan (1993), Zhihui Fang (1996), describes how illustrations represent abstract notions in her description of their six functions. The first function of illustrations according to Fang is to establish a setting and a time. She discusses how the muted colours devoid of bright hues in Van Allsburg's award winning picture book *The Polar Express* (1985), create an eerie feeling surrounding a young protagonist who watches a magical train steam through his front yard during Christmas Eve. The second function of illustrations is to help 'define and develop' (p. 132) a character's physical and behavioural traits through their actions or interactions with other characters in the text and their circumstantial states. Fang explains how this occurs in *Where the Wild Things Are* (1963) through the sparse text and the elaborate illustrations that describe Max, the wild things, and the rumpus. A third function of illustrations is to 'extend or develop plot' (p. 133) through the constraint of text and the prevalence of illustrations, which extend the plot by revealing more information about the characters and their circumstances. This occurs in *Where the Wild Things Are* (1963) through the text which reveals Max's punishment, and the illustrations, which amplify the reasons for it: Max standing on books, hammering nails into the wall, and chasing the dog with a fork. A fourth function of illustrations is to 'provide a different viewpoint' (p. 134). Fang explains how this occurs in *Rosie's Walk* (1967), through the text that says Rosie, the hen, takes a peaceful stroll around the farm and gets back in time for dinner, and the illustrations that tell another tale – one of a menacing fox lurking in the background, waiting to pounce. A fifth function of illustrations is to 'contribute to textual coherence' (p. 135). This occurs when illustrations are well-integrated with text or provide referential cues for the text such as those in *Where the Wild Things Are* (1963), which capture the transformative nature of a bedroom growing into a moonlit forest (Fang, 1996). A sixth function of illustrations according to Fang is to 'reinforce text' (p. 136), rather than to extend or amplify its meaning. This often occurs in nonfiction picture books where the illustrations repeat what the text conveys using illustrations or diagrams.

While knowledge of how illustrations function leads to a deeper understanding of how they communicate meaning, illustrations on their own may, however, be misinterpreted, due to their polymorphous nature and each individual's subjective interpretation. As Sarah Dowhower (1997, p. 57) explains, 'visual images have an almost infinite capacity for verbal extension, because viewers must become their own narrators, changing the images into some form of internalized verbal expression' which may be misunderstood because of its context. A red triangle for example, with the absence of a surrounding environment, would still be a red triangle. However, 'if this were an illustration for a story about the ocean, we could variously read the red triangle as the sail of a sailboat, a shark's fin, a volcanic island rising from the sea, a 'red nun' buoy, or the bow of a sinking ship' (Bang, 1991, p. 2). Illustrations, as demonstrated, have a greater propensity to be misinterpreted, due to their context and the ambiguity within lines, shapes, and colours, which may be associated with a range of different possibilities that do not represent the inherent meaning of the object.

The misleading nature of illustrations was particularly evident in Nodelman's study (1990), as most participants who viewed the illustrations in Maurice Sendak's *Where the Wild Things Are* (1963), associated them with doom, gloom, and depression, despite the story's fantasy genre. Similarly, participants who viewed the illustrations in Celestino Piatti's *The Happy Owls* (1964), also overlooked the story about the seasons due to the challenges of interpreting a sequence of illustrations. According to Marie Thérèse Bornens (1990), it is far more difficult to interpret sequential illustrations rather than a single picture on its own, as sequential illustrations operate through their 'dynamic sequential existence' (Scholes & Kellogg, 1966, p. 207) – what David Wiesner calls the 'syntax of the story' (in Bandré & Button, 2011, p. 54). The elimination of this order causes the 'syntax of the story' to be disrupted and the reader's understanding to be distorted.

Despite the misleading nature of illustrations, there have been several studies that suggest illustrations, in conjunction with text, facilitate the process of remembering and recalling specific information (Brookshire, Scharff, & Moses, 2002; Haring & Fry, 1979; O'Keefe & Solman, 1987). This is because illustrations draw attention to the important parts of a text while reducing unnecessary cognitive effort (Marcus, Cooper, & Sweller, 1996), which may freed up and used elsewhere. Despite these benefits, Brayden Bettelheim (1976), maintains that illustrations do not serve the child's interest, as they can distract them from experiencing the story independently of the illustrator's cues, which can never be as vivid as those that the child creates from their own imagination. Schwarcz (1982, p. 2), challenges this view by weighing up the advantages and disadvantages of illustrations:

It is true that too many pictures may limit the viewer and detach him from his internal and external reality, and especially hurt his imagination. But is it less true that the imagination needs to be stimulated and that pictures can liberate the viewer from his own narrowness and improve his perception of the world?

There is evidently a strong argument about the advantages and disadvantages of illustrations. To understand these in the context of the relationship it is important to investigate text independently.

## **Text as an Independent Signifier of Meaning**

Like illustrations, text as an independent signifier of meaning also has the propensity to mislead readers. This was particularly evident in Nodelman's (1990) study of adults reading *Where the Wild Things Are* (1963). The absence of illustrations caused them to imagine the story to be about all sorts of wild and irrational things associated with their nightmares, which they perceived to be inappropriate for children, due to the frightening content. When the story was, however, revealed to them through the illustrations the participants breathed a sigh of relief. Sendak's monsters were not as wild and as frightening as they had imagined. In fact, most of them were perceived to be charming rather than terrifying. Max, in contrast, was thought to be more of a prominent and assertive figure, rather than the scared little boy they had imagined. Nodelman's (1990, p. 197) study emphasised that 'it is in fact, the pictures and not the words that tell us there is nothing to worry about, that despite our assumptions about the weakness of children and the violence of monsters, this particular child can take care of himself with these particular monsters.'

The deceptive quality of text is further demonstrated in Judith Graham's (1990) reading of Jenny Wagner's *John Brown, Rose and the Midnight Cat* (1977), to adults and children. The absence of illustrations led the participants to explore several different possibilities about the characters and narrative. When the illustrations were revealed to them, most participants were shocked at the divergences between the illustrations in the text and the illustrations in their imagination. They had imagined John Brown to look and act differently: 'I didn't see the dog as big as that. I didn't see the dog cuddling her, sitting in what is obviously her late husband's chair, sitting up to table, pulling the curtains shut. He seems to be a husband substitute. And isn't he willful?' (Participants in Graham, 1990, pp. 18–19). The participants (1990, pp. 18–19) also imagined the cat to look differently and to be symbolic of different things:

It wasn't until I saw the pictures of the cat that I realized the story could be about something other than the dog's possessiveness. My cat was fairly harmless and only important as an object of Rose's generous attitude to animals. In Brook's pictures the cat has a far more insistent quality—unnerving really, could she be a symbol of death?

The participants' images differed from those in the text, due to the reader's subjectivity and the word's partiality. Even though words appear to be direct markers of meaning, pointing to something, words are not exclusive terms. Their meaning differs according to their context, and the reader's interpretation as Nodelman (1990) explains, using the words 'long nose', which are subjective and open to interpretation. What may seem like a long nose to one person, may not to another. A nose in the general sense of its function or where on the body it is located, as opposed to what it looks like, may be defined, and understood without any complication. If a nose is, however, depicted in the specific way of its length it becomes an exemplification as it may embody several vast possibilities, depending on a person's subjective interpretation, as illustrated in Nodelman's experiment.

Text and illustrations on their own are evidently misleading as they need one and other to anchor each other's meaning. The text needs the illustrations to anchor meaning by reducing the range of misunderstandings that may arise from viewing illustrations on their own. While the illustrations need the text to reduce the multiple signifieds (Golden, 1990) which may arise due to the reader's imagination. Although text and illustrations rely on each other, Lewis (2001, p. 95) maintains that they 'cannot be completely dissolved into, merged with, forms of verbal discourse no matter how much the concepts and procedures of semiotics seem to blur the boundary.' As the two cannot be completely dissolved into each other their individual function is depicted in the table below. It is particularly important to consider how text and illustrations communicates meaning independently, in understanding how they function in unison.

**Table 1 Dichotomy Between Text and Illustrations**

<b>Text</b>	<b>Illustrations</b>
Verbal	Visual
Symbolic	Indexical (in semiotics)
Seeing	Hearing
Read temporally	Viewed spatially
Singular in meaning (often)	Polymorphic in meaning
Denotes by signification	Exemplifies by example
Greater capacity to tell	Greater propensity to show
Greater propensity to evoke emotion	Greater capacity to evoke thoughts
Processed using left hemisphere	Processed using right hemisphere

The analysis of text and illustrations as independent signifiers of meaning suggests that the two forms of communication operate as binary opposites, as text and illustrations are a pair of related terms that are set off against each other through their opposite ways of communicating. Although their opposition seems to be contradictory, it is in fact a structurally complementary one, as text and illustrations are in reciprocal determination to one and another. Both influence each other's meaning as part of a larger structure that makes up a whole. Despite this structure there is, however, a continuing struggle for dominance between text and illustrations. As W. J. Thomas Mitchell (1987, p. 43) affirms 'the history of a culture reflects in part a continuing struggle between pictorial and linguistic signs for dominance.'

## **The Relationship Between Text and Illustrations**

The struggle for power is particularly evident in Golden's (1990) taxonomy of the different text-picture relationships depicted below. It is particularly important to consider these text-relationships in order to understand the dynamics between them and how they may affect children in the study.

- a) *Text and Picture are Symmetrical Relationship*
- b) *Text Depends on Picture for Clarification Relationship*
- c) *Illustrations Enhance and Elaborates Relationship*
- d) *Text Carries Primary Narrative, Illustration is Selective Relationship*
- e) *Illustration Carries Primary Narrative, Text is Selective Relationship*

### **Text and Picture are Symmetrical**

In the *Text and Picture are Symmetrical Relationship*, the picture communicates what the text implies by reinforcing its meaning. While text and picture reflect each other's meaning in this relationship, Golden maintains that there is not always a one-to-one correspondence between the two information sources: 'Not all that is represented in the text is in the image and, conversely, not all that is in the image is in the text' (Golden, 1990, p. 102). This is perhaps due to the two forms of communication working through two differing sign systems. Despite their difference, there is, however, an equilibrium within this relationship, as neither text nor pictures assume a more dominant role. Rather, each form of communication contributes equally to the partnership through their differing roles.

### **Text Depends on Picture for Clarification**

In the *Text Depends on Picture for Clarification Relationship*, the text relies on the picture for clarification (Golden, 1990), as without the picture, the text may be misunderstood. This relationship exemplifies how text is not always the dominant and primary means of communication, as it may require the support of illustrations to convey meaning.

### **Illustration Enhances, Elaborates Text**

In the *Illustration Enhances, Elaborates Text Relationship*, the illustrations enrich and elaborate the text by presenting additional information (Golden, 1990). The role of text in such an instance is independent and primary, as it does not depend on the picture for clarification, while the role of illustrations is to show the meaning of the text through their decorative, embellishing features.

### **Text Carries Primary Narrative, Illustration is Selective**

In the *Text Carries Primary Narrative, Illustration is Selective Relationship*, the text is primary as it conveys all the necessary information (Golden, 1990). It assumes a dominant, primary role, as it performs the function of telling the story and at times telling the reader what is hiding in the illustrations. In contrast to the text, the illustrations assume a less prominent, submissive role, as their function is to merely focalize one particular detail or aspect of the text.

### **Illustration Carries Primary Narrative, Text is Selective**

The roles are reversed in the *Illustration Carries Primary Narrative, Text is Selective Relationship*. Here, the illustrations assume a more primary, dominant role compared to the text. In contrast, the function of text is more passive and inferior as it plays a supporting role.

There is evidently a struggle for power in Golden's taxonomy which is won by text, as it is the dominant form of communication in four of the five categories. Illustrations, in contrast, assume a more passive, supportive, and decorative role: they enhance, elaborate, or clarify meaning. The disparity between text and illustrations is inevitably interconnected with the two differing modes of communication, performing two different functions.

These functions are particularly evident in Schwarcz's (1982) taxonomy, which is divided into two categories: a congruent or deviant relationship (ibid). In the congruent relationship, the pictures and text are amicable, as they both faithfully show what the other is conveying (ibid). In contrast, in the deviant relationship, there is much opposition and divergence, as the text and illustrations veer away from one another, as their meaning differs (ibid). Within these two types of relationships Schwarcz identifies a subset of other text-picture relationships that exist within each category and function according to their overriding characteristics. These categories more specifically include:

### **Congruent Relationships**

- a) *Reduction/Specification Relationship*
- b) *Elaboration Relationship*
- c) *Amplification Relationship*
- d) *Extension Relationship*
- e) *Complementation Relationship*
- f) *Alternation Relationship*

### **Deviant Relationships**

- g) *Contradiction/Counterpoint Relationship*

The first text-picture relationship in Schwarcz's (1982) congruent category is the *Reduction/Specification Relationship*. In this relationship the illustrations clarify or reduce the meaning of the text. In contrast, in the *Elaboration Relationship*, the illustrations extend what is said in the text. Similarly, in the *Amplification Relationship*, the illustrations augment and enlarge the story, while temporarily halting the persistence of the main plot. In the *Extension Relationship*, the illustrations provide additional information. In the *Complementation Relationship* the illustrations complement what the text is communicating. And in the *Alternation Relationship*, the illustrations move the story through the text and pictures 'taking turns in continuing the story, with some of the steps in the plot presented only once, by either of the two' (p. 15). When either medium stops communicating, the other takes over to tell the story.

In the deviant category, there is a *Counterpoint* and *Contradiction Relationship*. In the *Counterpoint Relationship*, the text and illustrations tell two different, though related stories. In the *Contradiction Relationship*, the text and illustrations contradict each other so much so that according to Schwarcz (1982) they spite each other.

In contrast to Schwarcz (1982), Nikolajeva and Scott (2000) use a less polarising approach to define the relationships between text and illustrations within a taxonomy which identifies the interactions below:

- a) *Symmetry Relationship*
- b) *Enhancing and Complementarity Relationship*
- c) *Counterpoint and Contradiction Relationship*

## **Symmetrical Relationship**

In the *Symmetrical Relationship* Nikolajeva and Scott (2000, p. 225) maintain that ‘words and pictures tell the same story, while essentially repeating the same information through the different forms of communication.’

## **Enhancing and Complementary Relationship**

In the *Enhancing and Complementary Relationship* either pictures amplify the meaning of words, or the words extend a picture’s meaning so that the different information in each, produces a more complex dynamic. According to Nikolajeva and Scott (2000, p. 230), the enhancement in this text-picture relationship may be minor or quite dramatic. In the minor enhancement:

Apart from these elements of visual characterization, there is little in the verbal text that allows expansion by means of the pictures. We may find the pictures charming, and we may note the richness of the characters’ postures and facial expressions, corresponding to words describing their emotions. But we must admit, however, that the pictures do not add much that is different to the narrative.

In the significant enhancement, Nikolajeva and Scott (2000) maintain that there is often no overlap, but rather an interaction where the two work together to strengthen the overall effect.

## **Counterpoint and Contradiction Relationship**

In the *Counterpoint and Contradiction Relationship* the reader is challenged as they have to mediate between the words and pictures, and the scope of either medium alone (Nikolajeva & Scott, 2000). This type of relationship often exists in contemporary and postmodern picture books, although not exclusively, as they often exhibit complex relationships that use a range of metafictional devices to reveal multiple storylines and diegetic levels, through intrusive or obtrusive narrators, characters, eclecticism, indeterminacy, and dissolution of genre (Pantaleo & Sipe, 2012).

Denise E. Agosto (1999) uses a different approach to Nikolajeva and Scott (2000) to describe the relationship between text and illustrations in children's picture books. She categorises these text-picture relationships into an interdependent or twice-told interaction. In the interdependent interaction, Agosto contends that the reader must consider both forms of communication concurrently to comprehend the story in the picture book, as they work together, while in the twice-told relationship the text and illustrations both tell the same story. The difference between the twice-told tale and the interdependent tale is that in the twice-told tale, the reader has the option of viewing the story through words or pictures, as both convey an equivalent meaning, whilst 'in interdependent tales, synergy plays the primary storytelling role, and without considering the synergy between words and pictures, a reader cannot discern the book's story' (Agosto, 1999, p. 268). According to Agosto the interdependent relationship is more beneficial for the reader's cognitive development as it facilitates the use of both critical and imaginative skills that correlate with both hemispheres of the brain, whereas the twice-told tale does not require the reader to synergistically assimilate the text and illustrations, as the same story is told twice: 'once through text and once through illustration' (1999, p. 267). These text-picture relationships and the subcategories within them are more extensively depicted below:

## **Interdependent Relationship**

### ***Augmentation***

- *Irony*
- *Humour*
- *Fantastical Representation*
- *Transformation*

### ***Contradiction***

- *Irony*
- *Humour*
- *Disclosure*

## **Twice-Told Relationship**

### ***Augmentation***

- *Irony*
- *Humour*
- *Fantastic Representation*
- *Transformation*

### ***Contradiction***

- *Irony*
- *Humour*
- *Disclosure*

While Agosto's taxonomy is particularly helpful in understanding the different types of text-picture relationships that exist within singular and plural storytelling, it is important to go beyond the confines of these taxonomies to explore the relationship more fluidly between text and illustrations. Lewis' (2012) approach is particularly fitting as he views the relationship as a fluid interaction where the text and illustrations animate each other within the picture book, which acts as a kind of miniature ecosystem. Within this ecosystem, Lewis maintains that the internal ecology of the picture book is not the same for every text because the picture book, like an ecosystem, is generally more complex. He observes that in some picture books the illustrations and text are autonomous and free. In others, the illustrations and text are so tightly bound together that the narrative cannot be interpreted in any other way, unless it is dislocated or fractured. Irrespective of the relationships that exist, Lewis maintains that the text-picture relationship cannot be defined as a simple two-term relationship, but as a whole network of relationships, comparable to an ecosystem which inhabits the below interactions.

*a) Interanimation*

*b) Flexibility*

*c) Complexity*

**Interanimation** (to animate mutually)

In the interanimation interaction, Lewis (2012) contends that the pictures give life to the words, and the words give life to the pictures, within the picture book's 'ecosystem', which facilitates the survival of text and illustrations through their interdependence, interconnectedness, and coexistence.

## **Flexibility**

Within the ecology of the picture book's ecosystem, Lewis maintains that there is an ebb and flow between the text and illustrations, which affords a degree of flexibility, as words and illustrations shape and transmute each other: 'One moment the words step forward to occupy centre stage, the next they retire to the wings or comment like a chorus on some key point of the action being played by another part of the text' (Lewis, 2012, pp. 51–52).

## **Complexity**

While the picture book's ecosystem is fluid, Lewis (2012) acknowledges that it is also complex as there are many multifaceted text-picture relationships. He attributes this to the shifting, changing, and linking that occurs between the text-picture relationships performing different functions within the story which acts as the ecosystem in the picture book.

While Lewis (2012), Agosto (1999), Nikolajeva and Scott (2000), Schwarcz (1982), and Golden (1990), have provided in depth analyses of the text-picture relationships that exist in picture books, their taxonomies and analogies are not without their limitations. Many theorists question the validity of their interpretations given the differing functions of text and illustrations. Lewis, (2001) questions the existence of a *Symmetrical Relationship*, contending that pictures can never be entirely symmetrical with words, as both forms of communication show and tell the reader different things. He demonstrates this conundrum by drawing on the scene from *Where the Wild Things Are* (1963), when Max puts on his wolf suit and makes mischief, and argues that this scene is not symmetrical, as the words do not describe everything in the picture, such as Max hammering nails into the wall, running through the house, and chasing the dog with a fork.

even the simplest, barest depiction of the action in a visual image cannot help but show much more than is provided by a bald statement. It cannot help, for example, representing the bodily lineaments of the actor carrying out the action; it might also represent facial expression, posture, clothing, circumstances of accompaniment – the bits and pieces that surround the figure in the scene. (Lewis, 2001, p. 96)

Lewis, (2001) argues that images by themselves do not offer enough information in the way that words do, as symmetry is implied through pictures and words that work together to help interpret their meaning in one way rather than another. As such symmetry according to Lewis (2001, p. 96) is ‘largely an illusion, an artefact, a product of word-picture interaction,’ as not all that is conveyed in illustrations is reflected in the text.

Lewis also argues that *Contradiction* is also problematic, as ‘contradiction is once again an artefact, a product, of the pictures and words coming together and acting upon one another rather than simply a matter of two discrete modes offering transparently contrary meanings.’

Like Lewis (2001), Sipe (2012) also questions the notion of a *Counterpoint Relationship* as he considers the term to be rather slippery in its definition. He observes that picture books that are categorised as *Counterpoint* may tell two different, though related stories, or, alternatively, they may tell the same stories but through two different perspectives. Sipe (2012) consequently maintains that the term counterpoint requires greater clarification before it can be used within a typology. Not only does he question the validity of the different text-picture relationships, but he also identifies complications within some of the taxonomies, including that of Golden (1990):

The problem with this is that the relationship is not so much a matter of the balance of power as it is in the way in which the text and pictures transact with each other and transform each other; thus Golden's scheme tends to ignore the joint influence of words and pictures, and ends up discussing their relationship along only one dimension. (Sipe, 2012, p. 14)

Sipe (2012, p. 15) also questions Agosto's (1999) notion of a twice-told tale:

In the opinion of most scholars, picturebooks are never simply 'twice-told tales' because there is never complete redundancy between words and pictures, and because of the profound differences in these two sign systems (for the example, the visual sign system has a simultaneous orientation and presents space predominantly, and the verbal sign system has a sequential orientation and presents time predominantly).

Knowledge of these text-picture relationships is particularly important in understanding the existent research and positioning the study within this context. The next chapter of the thesis discusses the methodology used to collect and analyse the data and the theoretical frameworks used to interpret how children cognitively, semiotically, and poetically engaged with six different text-picture relationships in the study.

**CHAPTER**  
**3**  
*Methodology*  
**Introduction**

*'I am not here to speak the Truth. I am here just to give you a method to perceive it'*

*– Of Mystics & Mistakes (Vasudev, 2012)*

In this chapter, a method will be provided to try and perceive the truth, rather than prematurely speak of it. It is, however, important to note that there are many different types of truths. There is an empirical truth and a subjective truth, also known as a convenient truth. A subjective truth is based on a person's perspectives, feelings, and opinions. It is implied by their attitude and position, without much thought of the implications that those attitudes elicit (Overvold, 1973). An empirical truth, in contrast, is based on rigorous testing and experimentation which does not serve an immediate need but encompasses a future value. This latter truth is steeped in epistemological beliefs that guide the theoretical assumptions researchers make about phenomena in their discipline (Fleck, 1979; Kuhn, 2012; Lincoln, Lynham, & Guba, 2011; Orlikowski & Baroudi, 1991). In education these epistemological beliefs are guided by theories in constructivism, phenomenology, and grounded theory—all of which are the premise of a qualitative approach to research. This approach will be used in the study to reveal a deeper insight into the lived experience of the child through the structure of consciousness and the interpretation of phenomena within this structure which is a recurring theme that binds the human race and is the premise of qualitative research.

There are many methods within a qualitative approach to research. The most common when working with children is an art-based method. Researchers such as Bruner (1990), Vygotsky (1978), and Gardner (1991) have successfully used this method to capture what words alone cannot convey. It is particularly effective as the arts are children's first literacies (McArdle & Wright, 2014) as children learn to draw, sing and dance (Kress, 1997) before they learn to read and write. In addition to art-based methods, interviews with children have also been frequently used to acquire knowledge about a wide range of topics (Faux et al., 1988; Kotzer, 1990). Due to their effectiveness, both these methods are used in the study to capture the subjective experiences of the child (Kvale, 1996), as it is lived, felt, and undergone.

## **Ethics**

Prior to commencing the research with children approval was obtained from the VU Human Research Ethics Committee (VUHREC), and a current working with children check was obtained from the Department of Education and Early Childhood Development (DEECD). Consent was also given by parents or guardians and assent by children as there were risks involved with children participating in the study. These risks are more extensively depicted below in meeting the requirements of the National Statement on Ethical Conduct in Human Research (NSECHR).

- Power differential in relationships where children may be manipulated, coerced, and/or induced to respond in a specific way
- Hidden or suppressed feelings or memories may emerge causing emotional distress, feelings of embarrassment, which may impact upon self-esteem
- Participants may worry about what they have shared
- If sitting for a long time the child may feel discomfort or stiffness

The above risks were managed in the study with a plan which ensured that children's safety and wellbeing preceded over any research. The plan consisted of monitoring children's wellbeing in relation to the above risks identified and stopping immediately in the instance that there were adverse reactions by avoiding their reoccurrence or by allowing children to discontinue from the research. The imbalance in power was addressed by reassuring children that they didn't have to answer every question posed by the researcher and that there were no right or wrong answers. Issues of privacy and confidentiality were managed by avoiding direct identifiers, such as names of students by using pseudonyms. Participants were also informed about the anticipated means for distributing the research and disposing of the data.

### **Sample Size**

Once ethics was obtained the sample size was carefully considered in relation to how many participants were required to address the problems that warranted questioning (Blair & Conrad, 2011). The answer to this question was eighteen participants from two comprehensive state schools. This number was suitable as a smaller number may have missed substantial problems, while a larger number may have revealed additional problems, which needed to be addressed. The most apt year level within this number comprised children between the age of six to nine years old who were in grades one, two, and three. These year levels were carefully chosen to more or less capture the relationship between text and illustrations as equals. If children younger than grade one participated, then the text might have been lost due to the prevailing illustrations which carry the narrative forward. Conversely, if children older than grade three participated, then the illustrations would predominantly be absent or overlooked due to the reader's fluency.

In addition to considering the sample size 'every cognitive interview pretest designer must also decide how many interviews need to be conducted' (2011, p. 636). The answer to this question again will vary depending on the aims of the study. The appropriate number for this study was six interviews per child as there were six text-picture relationships to be investigated.

**Table 2 Sample Size**

<b>Participants</b>	<b>Number</b>	<b>Background</b>	<b>Sessions</b>
<b>Children</b>	Year 1 x 3	nine children from two different comprehensive state schools	x six
	Year 2 x 3		
	Year 3 x 3		

## **Method**

The method used in the study to acquire data about children's cognitive, semiotic, and poetic engagement with six different text picture relationships consisted of children reading six picture books and being asked about them using Chambers' (1993) Tell Me strategy. Children were encouraged to 1) Share enthusiasms – what they liked or disliked; 2) Share puzzles – what they found difficult to understand; 3) Share connections – what patterns they made through relationships, language, motifs, events, symbols.

Once children completed their interviews they were asked to respond to the texts they read with an activity of their choice. Giving children this autonomy was important as 'Children's role in the research process is often limited to a passive role as subject, recipient or object of data rather than as active contributor' (Gillett-Swan, 2018), as most research is on children, as opposed to with children (Pope et al., 2017). Children's choice of activities revealed how they exercised their choices, which types of choices they made, what knowledge they possessed, and how willing they were to think independently. If children could not think

of an activity they were given a list of book suggestions which were solely used for the purpose of meeting the ethics requirements and ensuring that children did not feel stressed or overwhelmed if they couldn't think of an activity. Once children completed their activity they were asked about it using several open-ended questions which allowed them to expand on their ideas, while providing a better sense of their thinking.

## **Thematic Analysis**

Children's participation in the study was analysed using thematic analysis. More specifically Lorelli S. Nowell's et al. (2017) six-phase method of deductive analysis was used. The method consisted of a reflective and recursive approach to analysis that identified important themes (Javadi & Zare, 2016) that developed over time and revealed rich and multifaceted insights (Braun & Clarke, 2006) into how children cognitively, semiotically and poetically engage with different text-picture relationships.

### **Phase 1: Familiarization with data**

The first stage of thematic analysis involved the researcher familiarizing themselves with the pre-existing themes to be investigated in the study relating to children's cognitive, semiotic, and poetic engagement with different text-picture relationships. This stage consisted of the researcher reading intensively, thinking reflectively, and asking questions about the data.

### **Phase 2: Generating Initial Codes**

The second stage of analysis consisted of the researcher systematically working through each child's dataset and generating cognitive, semiotic, and poetic codes pertaining to the research. While the researcher engaged with the data as a faithful witness, the interpretations were subjective due to the dichotomies of voice, which battled between objectivity and subjectivity, description and interpretation, and the researcher's voice versus the participant's voice. This

bias was, however, honoured in the study, as it was the only conscious means of extracting and disseminating data from one structure of consciousness (participant) to another (researcher).

### **Phase 3: Searching for Themes**

The third stage of analysis involved the researcher drawing on thematic patterns that emerged in the study from the codes established and comparing and contrasting them (Ibrahim, 2012) in relation to each other and the questions posed by the research. This process resulted in bringing together each child's individual experience and capturing it as a meaningful whole.

### **Phase 4: Reviewing Themes**

The fourth stage of the data analysis process consisted of refining existent themes that emerged in the study. During this time, it became apparent that some themes did not have sufficient data to support them as the data was too diverse. In such an instance the themes were disregarded as the researcher had to ensure that the themes were specific enough to be distinct, but broad enough to capture a set of ideas contained in the data. By the end of this stage the researcher had a good understanding of the different themes, how they fit together, and how they told the overall story (Braun & Clarke, 2006).

### **Phase 5: Defining and Naming Themes**

The fifth stage of analysis depicted the themes which went beyond ambiguous words and sentences (Ibrahim, 2012) to naming and defining themes that revealed important insights (Castleberry & Nolen, 2018) into children's cognitive, semiotic, and poetic engagement with different text-picture relationships investigated in the study.

## **Phase 6: Producing the Report**

The final stage of the data analysis process consisted of fully established themes that provided a detailed, coherent, and logical account of the data (Braun & Clarke, 2006). The themes spawned unexpected insights whilst raising questions in the context of the study and more extensively in the field of education and literature.

### **Picture Analysis**

Many researchers, educators, psychologists have used picture analysis (Theron et al., 2011) to acquire rich and multifaceted data about children's voices (Schratz & Steiner-Löffler, 1998; Barraza 1999) in social, emotional, physical, and intellectual development (Farokhi & Hashemi, 2011). Picture analysis has also been used to contribute to pedagogical decision making in schools (Woolner et al., 2007) by interpreting visual data as a kind of text (Horn 1998; Lodge 2007; Galman, 2009) that facilitates the process of analysis. While the method is particularly effective in accessing 'those elusive hard-to-put-into-words aspects of knowledge that might otherwise remain hidden or ignored' (Weber, 2008, p. 44), drawings on their own are ambiguous and subjective as they can be misunderstood (Woolner et al., 2010) due to their polysemic nature (Prosser, 2007), as affirmed by Horn (1998, p. 227) who maintains that 'not all visual language is instantaneously understandable.' Walker (2008) subsequently contends that verbal input needs to be accompanied by visual data for its content and meaning to be understood.

To understand children's drawings in the study more effectively interviews (Kutrovátz, 2017) were used as a secondary source to provide a deeper insight into the visual methods. They were also used to stimulate communication, clarify children's thought process, and reveal a deep insight into their understanding. In ensuring consistency between the two methods, comparisons were made (Bland, 2012). The most prominent and repeating features in

children's interviews and art-based activities were identified using thematic and picture analysis which revealed rich and multifaceted data about children's data.

## **Cognitive Theoretical Framework**

Children's data was assessed in the study according to three theoretical frameworks. The first of these was cognitive theory, which was assessed according to Anderson and Krathwohl (2001) adapted version of Bloom's (1956) *Taxonomy of the Cognitive Domain*. The original taxonomy was intended to provide teachers, administrators, and research professionals with a framework for discussing evaluation problems and achieving educational goals (Bloom, 1994, p. 10). In the study Anderson and Krathwohl (2001) adapted taxonomy is also intended to be used as a framework to understand children's cognitive engagement whilst interacting with different text-picture relationships and plan for instructional activities which target specific learning outcomes.

It is important to note that while the original cognitive processes in this taxonomy were aligned with a cumulative hierarchy, that increased in complexity (Kreitzer & Madausa, 1994), the present taxonomy does not assume that each category is a prerequisite for mastering the cognitive processes before it. As such every cognitive process children engaged with in the study was assessed individually as an independent process, free from a hierarchy of dependency or the mastery of lower levels of cognition leading to higher, more complex categories. The multiple dimensions in the taxonomy and subsequent categories within each were also not examine in the study due to the scope and size of the research. The cognitive processes investigated in the study are outlined in the table below. They feature exemplar activities from *Where the Wild Things Are* (Sendak, 1963) which demonstrate which types of activities may depict children's engagement with each cognitive process.

**Table 3 Anderson and Krathwohl (2001) *Taxonomy of the Cognitive Domain***

<p><b>1) <u>Remember:</u></b> Retrieving relevant knowledge from long-term memory. 1.1 Recognizing 1.2 Recalling <b>Recount what <i>Where the Wild Things Are</i> (1963) is about.</b></p>
<p><b>2) <u>Understand:</u></b> Determining the meaning of instructional messages. Including oral and graphic communication. 2.1 Interpreting, 2.2 Exemplifying, 2.3 Classifying, 2.4 Summarizing, 2.5 Inferring, 2.6 Comparing, 2.7 Explaining <b>Summarize why Max wasn't given supper.</b></p>
<p><b>3) <u>Apply:</u></b> Carrying out or using a procedure in a given situation. 3.1 Executing, 3.2 Implementing <b>Construct an alternative event which could have occurred in the story.</b></p>
<p><b>4) <u>Analyze:</u></b> Breaking material into its constituent parts and detecting how the parts relate to one another and to an overall structure or purpose. 4.1 Differentiating, 4.2 Organizing, 4.3 attributing <b>Consider one's own experience compared with that of Max.</b></p>
<p><b>5) <u>Evaluate:</u></b> Making judgments based on criteria and standards through checking and critiquing. 5.1 Checking, 5.2 Critiquing <b>Assess whether the wild things were in fact wild.</b></p>
<p><b>6) <u>Create:</u></b> Putting elements together to form a novel, coherent whole or making an original product. 6.1 Generating, 6.2 Planning <b>Draw one's own wild things.</b></p>

## Memory

The first cognitive process in Anderson and Krathwohl's (2001) *Taxonomy of the Cognitive Domain* is memory. Memory may be defined as 'the process of maintaining information over time' (Matlin, 2005, p. 503). It consists of three components including: the *central executive*, which acts as the supervisory system that controls and regulates cognitive processes; the *phonological loop*, which deals with auditory and semantic information; and the visuo-spatial sketchpad, which is responsible for visual information such as the recollection of a journey, or the visualisation of a scene (Baddeley & Hitch, 1974). This model of memory enabled children to encode, process, and retrieve both short-term and long-term memory.

In the study short-term memory was assessed in response to children retaining information after it was read (Goode & Roediger, 2008) and applying this information in their work or interviews. While long-term memory was examined in relation to the persistent retention of information and skills that were grouped into the below four categories of memory.

### **Semantic Memory**

Semantic memory is the encyclopaedic memory (of world knowledge) accumulated by a person throughout their lifetime. It encompasses the memory of particular objects, facts, or events (Tulving, 1972). The process of retrieval may demand minor or more arduous effort, depending on different variables such as the currency of encoding information, its connections, the frequency of accessing it, and the depth of processing in the mind. In the study this type of memory was assessed according to children's factual knowledge of the texts they engaged with.

## **Episodic Memory**

Episodic memory is about the recollection of events in one's past (Tulving, 1972). It typically requires the deepest level of conscious thought. It differs from semantic memory, as it comprises personal facts or experiences, in contrast to semantic memory, which consists of general factual knowledge. A semantic interpretation of a dog encapsulates what the dog looks like, whilst an episodic memory embodies the dog as a pet. This type of memory is encoded through various pathways including visual, auditory, spatial, olfactory, linguistic, and emotional knowledge (Rubin, 2006). In the study it was examined according to children's recollection of past events.

## **Autobiographical Memory**

Autobiographical memory consists of the recollection of events that have occurred in our personal life during a particular place and time.

The components that contribute to the emergence of autobiographical memory include basic memory systems, the acquisition of complex spoken or signed language, narrative comprehension and production, memory talk with parents and others, style of parent talk, temporal understanding, representation of self, person perspective, and psychological understanding. (Nelson & Finch, 2004, p. 486)

Autobiographical memory was investigated in the study in relation to children's recollection of personal experiences that occurred at a specific time and place.

## **Procedural Memory**

Procedural memory is the memory of how to perform a task. It is often automatic as it is activated through repetition and practice which is so deeply embedded in the consciousness that the process of performing a task almost becomes unconscious (Roediger & Yamashiro, 2019). An example of procedural memory is tying one's shoelaces or making one's breakfast

which occurs automatically through practice. This type of memory was assessed in the study according to children’s performed knowledge of an activity.

Weaknesses in both short-term and long-term memory were attributed to storage capacity, or decay in memory that occurs due to the passage of time or the interference of other events which compete during the retrieval process (Tomlinsona et al., 2009). Knowledge of these weaknesses revealed the factors which impeded upon children’s memory and the activities which could be used to eliminate or strengthen memory through applicable education and pedagogy.

**Table 4 Aspects of Memory to be Investigated in the Study**

<b>Types of Memory</b>
<b>Short-Term Memory</b>
Recalls micro and/or macro aspects of the text
<b>Long-Term Memory</b>
<i>Encyclopaedic Memory</i>
Recalls encyclopaedic knowledge accumulated throughout one’s lifetime
<i>Episodic Memory</i>
Recalls personal events lived throughout one’s life
<i>Procedural Memory</i>
Performs a concept-related activity
<i>Autobiographical Memory</i>
Recollects knowledge from one’s personal life
<b>Issues in Memory (Decay)</b>
Storage capacity
Passage in time
Interference of events

## Comprehension

The second cognitive process in Anderson and Krathwohl's (2001) *Taxonomy of the Cognitive Domain* is comprehension. Comprehension has been investigated from several different perspectives. Rolf A. Zwaan and Gabriel A. Radvansky (1998) investigated comprehension through a situational model that creates imagery in the 'mind's eye' and contributes to successful reading comprehension. Anne Schüler, Jana Arndt, and Katharina Scheiter (2015) investigated whether text and pictures result in a single mental representation, or in two interconnected mental representations. Alexander Eitel and Katharina Scheiter (2014) investigated whether the sequencing of the text before the picture or the picture before the text was most effective for learning outcomes. In the study comprehension was examined in relation to children's engagement with low and high levels of reading comprehension.

Lower levels of reading comprehension were assessed according to children reading and translating the units of language behind a sentence: In order to understand a sentence, the child had to 'visually process the individual words, identify and access their phonological, orthographic, and semantic representations, and connect these representations to form an understanding of the underlying meaning of the sentence' (Kendeou et al., 2014, p. 10). Children's inability to understand a sentence will result in an incoherent piece of information which becomes a set of marks on a page, only ever becoming a text when the reader understands them (Rosenblatt, 1986). If the reader however does not understand these marks, then their lower levels of comprehension will significantly be affected as they won't be able to comprehend a text as they won't have the means to read it.

Higher levels of comprehension were assessed in the study according to children's ability to make deeper inferences about a text. To do this children had to engage with automatic inferencing which Richard Thurlow and van Paul den Broek aptly exemplify (1997, p. 165) when they ask you to 'Try to *not* think about an elephant. Not very easy, is it? The very mention of the word makes you think about it. You can't stop yourself; it's automatic.' This process of inferencing will involve children filling in textual gaps to ascertain a deeper understanding of the text. In the below exemplar provided by Thurlow and van den Broek pertaining to Toby shaking an empty piggy bank, skilled readers should be able to understand that despite the sentence not mentioning the words 'money' or 'buy', the absence of a sound means that Toby has no money to buy a present.

Toby wanted to get Chris a present for his birthday.

He went to his piggy bank.

He shook it. There was no sound. (1997, p. 165)

Other factors which comprehension may be inhabited by in the study which are not necessarily cognitive based include the reader's aesthetic stance, where they disregard the significance and/or the purpose of the reading and get lost in the imaginary world of the story, neglecting to make deeper inferences about the text and its underlying meaning (Rosenblatt, 1988). The reader's background knowledge, culture, and customs may also affect their interpretation of the text, creating a different perspective and standard of coherence. The reader's lack of experience with contemporary and postmodern texts may also create resistance in their reading (Freire, 1985; Sipe & McGuire, 2006) due to their disapproval of a text or their confusion of textual devices in the story, such as multiple storylines, diegetic narrative levels, and non-linear narrative structures. This resistance to reading (Freire, 1985) is, however, an important stance for the reader to adopt as it will enable them to think autonomously, disrupt

the storyline, and understand the world better (ibid). It will also provide teachers with ‘a window onto how children are experiencing reading and how they are experiencing life’ (Sipe & McGuire, 2006, p. 6). While these factors won’t be assessed in the study, they will be carefully considered in determining whether children’s comprehension of a text is cognitive based or text related.

**Table 5 Aspects of Comprehension to be Investigated in the Study**

<b>Comprehension</b>
<b>Lower Levels of Comprehension</b>
Decodes and understands the meaning of words and sentences
Recalls the main aspects of a text
<b>Issues in Lower Levels of Comprehension</b>
Is incapable of decoding and translating the units of language behind words and sentences
Fails to recall the main aspects of a text
<b>Higher Levels of Comprehension</b>
Makes deeper inferences about the text’s underlying meaning
<b>Issues in Higher Levels of Comprehension</b>
Difficulties in making inferences which lead to a deeper understanding of the text

## Application

The third cognitive process in Anderson and Krathwohl's (2001) *Taxonomy of the Cognitive Domain* is application. Application has largely gone unexplored, as it is a complex process which is interwoven with other cognitive processes. One of these processes is concept formation which can be defined as 'the search for and listing of attributes that can be used to distinguish exemplars from non-exemplars of various categories' (Bruner, Goodnow, & Austin, 1967, p. 159). The other aspect of application involves the synthesis process which consists of using existing knowledge to create new knowledge (Lundstrom et al., 2015).

In the research application will be assessed according to both of these cognitive processes. Concept formation will be assessed according to children's ability to distinguish between concept-related categories and non-concept related categories which are classified according to their distinguishing features. And the process of synthesis will be assessed according to children combining elements of knowledge to create new knowledge or to extend their knowledge. Weaknesses with application will be attributed to children's limited knowledge of distinct categories, their classification, and their inability to re-apply knowledge. It is important to distinguish between these two categories of application as they will affect children differently and as such they will require different types of pedagogy to cater for them.

**Table 6 Aspects of Application to be Investigated in the Study**

<b>Application</b>
Knowledge of distinct categories and their properties
Knowledge of how to synthesize and re-apply knowledge
<b>Issues in Application</b>
Failure to identify different types of categories and their underlying properties
Failure to synthesize and re-apply knowledge

## Analysis

Like application, analysis is a cognitive process which has largely gone unexplored, as it is often related to higher order thinking processes associated with an adult's capacity. As a result, there is no criteria to assess children's engagement with the cognitive process of analysis. Due to its absence Jeffery Leek's (2013) six archetypical processes of scientific data analyses will be used in the study to examine children's engagement. These are more extensively depicted below. Their order coincides with the level of difficulty within the hierarchy, ranging from the simplest forms of analysis to the most difficult. They include:

1. Descriptive analysis involving children quantitatively describing the main or relevant features of a text;
2. Exploratory analysis consisting of children examining information in the text and making connections with previously known or unknown relationships;
3. Inferential analysis involving children making inferences about particular events, ideas, or subjects within the text;
4. Predictive analysis consisting of children investigating current and historical facts to make predictions about future events;
5. Causal analysis involving children exploring what happens to one variable when you change another; and
6. Mechanistic analysis comprising of children identifying the exact changes in variables that lead to changes in other variables.

Lower levels of analysis in the study will be attributed to difficulties in memory, comprehension, while higher levels will be associated with children’s inability to think critically or analytically. Knowledge of these weaknesses, along with others in Leek’s (2013) hierarchy of analyses are important to consider as they will reveal the level of complexity within children’s thinking and how it may be strengthened through applicable pedagogy which assists children to progress further in the hierarchy.

**Table 7 Aspects of Analysis to be Investigated in the Study**

<b>Analysis</b>
<i><b>Descriptive Analysis</b></i> Quantitatively describes an aspect of the text
<i><b>Exploratory Analysis</b></i> Explores connections with previously known or unknown relationships
<i><b>Inferential Analysis</b></i> Makes inferences from existing knowledge
<i><b>Predictive Analysis</b></i> Makes predictions about future outcomes
<i><b>Causal Analysis</b></i> Explores what happens to one variable when you change another
<i><b>Mechanistic Analysis</b></i> Understands the exact changes in variables that lead to changes in other variables
<b>Issues in Analysis</b>
Impaired memory
Weaknesses in comprehension and inferencing
Difficulties in thinking critically and analytically

## Evaluation

Evaluation is another cognitive process which has largely gone unexplored, due to the difficulties associated with understanding the underlying factors that govern the evaluative process and the means of measuring it. In the study this evaluative process will be examined according to the premise of making a decision which derives from inductive or deductive reasoning. Inductive reasoning more specifically will involve bottom-up logic where a conclusion is formed based on a set of observations or generalizations assumed to be true (Molnár, Greiff, & Csapó, 2013). In this study it will be assessed according to children drawing on these observations and generalizations to reach a conclusion. Even if all the observations are true, inductive reasoning allows for the child to reach false conclusions, as demonstrated in the following statement: *Harold is old, Harold is grey, Harold is therefore a grandfather*; not all grandfathers are, however, old, and grey. Factors which facilitate or impede inductive reasoning will include the child's recognition of cues (generalisations, observations) which are most valid for similarity-based reasoning (Goswami, 2011), as well as their ability to make connections between these cues and their argument.

In contrast, deductive reasoning consists of top-down logic that derives from conclusions or facts known or assumed to be true. An example of deductive reasoning includes the following statement about birds: *All birds have feathers, sparrows have feathers, therefore sparrows are birds*. Factors which impede upon such reasoning includes a conflict in syllogism, which is constructed with two premises and one logical conclusion. A conflict occurs when belief and logic are pitted against each other. An example includes the following statement: 'All elephants are hay eaters. All hay eaters are light. All elephants are light.' The conclusion is deductively valid, but it is unbelievable. Hence, 'the child must inhibit real-world knowledge about elephants being heavy in order to judge the syllogism as valid' (Goswami, 2011, p. 414). Difficulties in deductive reasoning as such may be attributed to the child's

inability to distinguish between real and false world knowledge, which may result in false deductions being made.

**Table 8 Aspects of Evaluation to be Investigated in the Study**

<b>Evaluation</b>
<b><i>Inductive Reasoning</i></b> Forms a hypothesis based on a set of observations or generalizations assumed to be true
<b><i>Deductive Reasoning</i></b> Forms a hypothesis based on a set of facts or rules known to be true
<b>Issues in Inductive and Deductive Reasoning</b>
Recognition of cues (general or factual) which are most valid for similarity-based reasoning
Failure to distinguish between real and false world knowledge

### **Creativity**

Creativity is the last cognitive process in Anderson and Krathwohl's (2001) *Taxonomy of the Cognitive Domain*. Like most of the other cognitive processes examined in the study it is also difficult to assess creativity due to questions about what creativity is. Some people believe that it 'is like a song in the heart that comes out in a person's voice' (Dimock, 1986, p. 3). Others see it as a temperament that is cultivated by a process of stimuli, motivation, and one's environment.

While we can paint a vivid picture of what creativity is, we cannot use the same brushstroke to measure it. There are several problems associated with moderating its validity and attributing ratings to work, as they lack legitimacy due to each individual's subjectivity. There are also problems with distinguishing between the important factors to rate (Runco, 1989) and establishing the extent of creativity within these factors. Given these difficulties the study will not 'test' creativity *per se*. It will assess creativity using an open-ended approach to analysis which does not deduce the expansive and open nature of creativity to a numerical

number but acknowledges its many forms that will be assessed in the research according to Torrance's (2008) Tests of Creative Thinking (TTCT).

Prior to evaluating these creative factors, it is important to note the dichotomy that exists between creativity and schools. Schools are concerned with order and structure represented by bells, timetables, uniforms, and rules, in contrast to creativity, which is concerned with breaking rules, challenging assumptions, and taking issue with convention (Humes, 2005). The absence of creativity as such may not be attributed to the child in the study, but the institutional barriers, which restrict their creativity and autonomy. The thesis will attempt to loosen these reins through the recommendations made in the report for participating schools in the study, which aims to maximize children's autonomy, while inspiring their creative potential.

**Table 9 Aspects of Creativity to be Investigated in the Study**

<b>Creativity</b>
<i>Fluency</i> The number of interpretable, meaningful, and relevant responses produced
<i>Elaboration</i> The amount of detailed and elaborate ideas generated
<i>Originality</i> The rarity of infrequent, uncommon, or unique concepts created
<i>Abstractness of Titles</i> Going beyond labelling by abstracting creative ideas from thought
<i>Resistance to Premature Closure</i> The ability to keep an 'open mind' when considering and processing a variety of information
<b>Issues in Creativity</b>
Inability to take risks and challenge existing rules and conventions

## **Semiotic Theoretical Framework**

While cognitive theory is a particularly fitting framework for the investigation of children's engagement with picture books, on its own it is a limited approach to research as knowledge of signs and symbols is meaningless without the semiotic means to interpret them. Equally cognition devoid of a signifying system to articulate meaning is futile. As such, cognitive theory will inform semiotic theory (Bizup & Kintgen, 1993). It will reveal how children think and how they communicate their cognitive understanding through a signifying system of communicative behaviour that consists of signs and symbols.

These signs and symbols will be assessed according to two semiotic categories in the study. The first semiotic category will depict how children communicate their cognitive understanding of each individual text-picture relationship through visual, verbal, oral, physical, or synthesized forms of communication. The second semiotic category will depict the dominant form of communication children choose to engage with. This may include 1) the icon— denoting likeness or similarity; 2) the index—pointing to the signifier that correlates with the signified; and 3) the symbolic—referring to signs that are of a social convention:

The iconic sign refers to objects it denotes primarily by similarity. The portrait of a man, for example, is a resemblance or likeness. The indexical sign shares an existential relation to an object, having a quality in common with the object...The symbol refers to an object by a law, general ideas representing a general object. Words, sentences, and books exemplify symbols which denote a kind of thing. (Golden & Gerber, 1990, p. 205)

Despite these distinct classifications, the same object may be interpreted in more than one way (Sherman, 2017). For instance, the object of a crown may be interpreted as an icon, index, or symbol. It may be an icon in the aesthetic sense of jewels and ornaments. It may be indexical by the sovereignty of kings and queens, and it may be symbolic through a class system imposed by its iconic existence. In the study, the iconic will more specifically relate to children’s pictorial drawings which are likened to objects in the texts they engage with. The symbolic will refer to the text itself, which encompasses the letters and numbers children use to convey meaning. And the indexical will be the bridge between signifier and the signified representing the cause and effect. These semiotic categories are more extensively depicted in the tables below.

**Table 10 Semiotic Category 1**

<b>The Child’s Communicative Exchange with Individual Texts</b>				
<b>Visual</b> communicates knowledge using pictures	<b>Verbal</b> communicates knowledge using words	<b>Oral</b> communicates knowledge using oral speech	<b>Physical</b> communicates knowledge using physical communication	<b>Synthesized</b> communicates knowledge using a combination of communicative exchanges

**Table 11 Semiotic Category 2**

<b>The Child’s Overall Communicative Exchange</b>		
<b>Iconic</b> Sees knowledge in pictures	<b>Symbolic</b> Sees knowledge in letters or numbers	<b>Index</b> See knowledge through the signifier and signified

## Verbal Poetic Theoretical Framework

While semiotic theory will depict children’s chosen method of expression in the study, poetic theory will more specifically ask the question: ‘What makes a verbal message a work of art?’ (Jakobson, 1960, p. 1). The answer will encompass a text’s form and content which will be investigated in the study. Content will more specifically refer to what a text says through figurative language, sound techniques, structure, irony, and register. And form will reveal how it is said through action, character, idea, storyline, vision, and plot. The two, according to Terry Eagleton (2007), are not mutually exclusive as we do not see a distinction between form and content; similarly, as we do not see a separation between the dance and the dancer, the narrative and the narration, the evening star, and the morning star. The only difference between the two is the conceptual distinction: apart from that, the two exist within the same one (Eagleton, 2007). Their unity in the research will depict children’s poetic engagement and understanding of different text-picture relationships.

**Table 12 Verbal Poetic Devices to be Investigated**

<b>Verbal Devices</b>					
<i>Figurative Language</i>					
Simile	Metaphor	Synecdoche	Metonymy	Personification	Apostrophe
Symbol	Allegory	Imagery	Motif	Charactonym	Paradox
<i>Sound Techniques</i>					
Rhyme	Rhythm	Assonance	Consonance	Onomatopoeia	Alliteration
<i>Structure</i>					
Formal Structure	Plot	Foreshadowing	Flashback/ Flashforward	Frame story	Storyline
Allusion					
<i>Irony</i>					
Vernal	Dramatic	Situational			
<i>Register</i>					

Diction	Syntax	Voice	Tone		
Character's Voice		Third-Person Subjective Voice		Third-Person Objective Voice	

### Visual Poetics Theoretical Framework

In addition to verbal poetics, it is important to investigate visual poetics in the study as it has parallels to picture books (Druker, 2008). These parallels relate to how text articulates meaning through a symphony of colour, shape, typefaces, and an array of different arrangement. And how illustrations convey meaning through artistic strategies such as line, shape, colour, and texture and how they create meaning through the synthesis of art and text (Bohn, 2011). Together, they will form the basis of the synergistic relationship between text and illustrations—what Sipe (1998, p. 98) calls synergy: ‘the production of two or more agents, substances, etc., of a combined effect greater than the sum of their separate effects.’

**Table 13 Visual Poetic Devices to be Investigated**

Visual Devices			
Line	Shape	Colour	Texture

## **Relationships and Picture Books to be Investigated in the Study**

Children's poetic, semiotic, and cognitive engagement in the study was examined in relation to the below picture books. These picture books not only represented the dynamic within each text-picture relationship, but they also catered for children's learning needs as they were aimed at a moderate reading level which addressed both emerging and fluent readers. The texts also accounted for children's interests as most were popular and well celebrated picture books that had won awards, which children were expected to enjoy.

### **Symmetrical Relationship**

In the *Symmetrical Relationship* the text and illustrations mirror each other's meaning. In the study this relationship was represented by *John Brown, Rose and the Midnight Cat* (Wagner, 1977). This was a particularly apt text as the symmetry within this relationship was featured throughout the text, in contrast to some other picture books, which were considered for the study whose symmetry was featured on a few pages of the text.

### **Extend, Enhance, Elaborate, Amplify, Clarify Relationship**

In the *Extend, Enhance, Elaborate, Amplify, Clarify Relationship* the illustrations extend the story by providing additional information that is omitted by the text. In the study this relationship was represented by *Where the Wild Things Are* (Sendak, 1963), as the extension, enhancement, elaboration, amplification, and clarification in the text was so major that it could not be overlooked, unlike other picture books that were considered whose enhancement was so minor that it almost went unnoticed.

### **Text Carries Primary Narrative, Illustration is Selective Relationship**

In the *Text Carries Primary Narrative, Illustration is Selective Relationship* the story is predominantly told through the text, as the illustrations focalize one aspect of the text. This relationship was represented in the study by *The Happy Owls* (Piatti, 1964), as it focalized only one aspect of the text, in contrast to other picture books that focalized several aspects of a text and as such did not accurately represent the text-picture relationship.

### **Illustration Carries all the Narrative Relationship**

In the *Illustration Carries all the Narrative Relationship* the story is solely told through illustrations. This relationship was represented in the study by *The Boy, the Bear, the Baron, the Bard* (Rogers, 2004), as it encompassed a singular mode of communication with a more sophisticated storyline which could simultaneously cater for multiple comprehension levels.

### **Counterpoint Relationship**

In the *Counterpoint Relationship* text and illustrations tell two different stories from two different perspectives. This relationship was represented in the study by *Rosie's Walk* (Hutchins, 1968). It was an apt choice as the text was distinct from the *Contradiction Relationship*, as it told two different stories, as opposed to two contradictory stories, which was an important distinction to make as the two were not the same.

### **Contradiction Relationship**

In the *Contradiction Relationship* the text and illustrations oppose each other. This relationship was represented in the study by *Come Away from the Water, Shirley* (Birmingham, 1977). It is distinct from the *Counterpoint Relationship* as it inhabits two different views as opposed to two contradictory views. This was important to differentiate between, as the two relationships could be seen as the same one.



## CHAPTER

### 4

### *Findings*

### Introduction

*'The learner always begins by finding fault, but the scholar sees the positive merit in everything'*

– *Hegel's Philosophy of Right* (Hegel, 1945)

Irrespective of children's strengths or weaknesses the study found positive merit in the findings, due to the abundance of knowledge acquired about children's cognitive, semiotic, and poetic engagement with different text-picture relationships. This knowledge reveals that children are competent and active agents in their learning, who not only possess remarkable abilities to engage with more complex cognitive processes from Anderson and Krathwohl's (2001) *Taxonomy of the Cognitive Domain*, but they have the capability to express themselves using a variety of semiotic systems. This capability is more extensively presented in the thesis through a vertical-horizontal format, synonymous with a harlequin tapestry. The vertical axis is woven by eighteen case studies that derive from children's interviews and work samples and the horizontal findings derive from children's case studies. Both these axes converged to create a vivid and vibrant harlequin tapestry of children's rich and multifaceted engagement with different text-picture relationships, as depicted by the thematic patterns below.

#### **Cognitive Patterns**

The cognitive patterns in the study reveal the mental processes children engaged with from Anderson and Krathwohl's (2001) *Taxonomy of the Cognitive Domain*, including memory, comprehension, application, analysis, evaluation, creativity, as well as the cognitive processes of metacognition and problem solving which were not processes that were part of the study but thematically arose.

## **Relationship Patterns**

The text-picture relationship patterns depict children's engagement with six text-picture relationships. They include the *Symmetrical Relationship*, *Extend*, *Enhance*, *Elaborate*, *Amplify*, *Clarify Relationship*, *Illustration Carries all Narrative Relationship*, *Text Carries Primary Narrative Illustration is Selective Relationship*, *Counterpoint Relationship*, and *Contradictory Relationship*.

## **Narrative Patterns**

Narrative patterns describe the different types of narrative structures identified in the picture books investigated in the study. Each of these narrative structures have been aligned with a carnival ride, which is a metaphor used to provide a better visualisation of each narrative structure's movement. These narrative structures include a linear narrative structure (ghost train), zigzag narrative structure (roller coaster ride), circular narrative structure (ferris wheel), flat/spatial narrative structure (bumper cars), gravitational narrative structure (roller coaster ride), oscillating narrative structure (pendulum ride), open text narrative structure (jumping frog ride), and the retrograde narrative structure (ejection seat/reverse bungee). A typology of these narrative structures is more extensively depicted in the report addressed to participating schools in the study which is attached in the appendix section of the thesis.

## **Semiotic Patterns**

Semiotic patterns illustrate how visual and verbal signs and symbols are processed and understood by children through a signifying system of visual, verbal, oral, physical, or synthesized forms of communication.

## Poetic Patterns

Poetic patterns depict children's engagement with visual and verbal aspects of a text. Verbal patterns more specifically reveal the elements which govern a text's form and content such as figurative language, sound techniques, structure, irony, and register—and how these poetic structures are understood and implemented in children's work. While visual patterns reveal how a text's visual elements—such as line, shape, colour, texture—are understood and whether they are copied or original expressions in children's work.

## Data Coding and Analysis

Prior to discussing these thematic patterns, it is important to describe the process of data coding and analysis which led to them. Data coding and data analysis are not the same but the two are part of the process (Basit, 2003). In the study data coding consisted of separating children's interviews and their work samples into cognitive, semiotic, and poetic categories (Guetzkow, 1950). While data analysis involved drawing conclusions (Castleberry & Nolen, 2018) from these cognitive, semiotic, and poetic patterns.

The cognitive patterns in the study derived from Anderson and Krathwohl's (2001) *Taxonomy of the Cognitive Domain*. They included memory, comprehension, application, analysis, evaluation, and creativity. More specifically children's engagement with memory was assessed in relation to children remembering scenes or events from the picture books they engaged with, comprehension was examined in response to children's understanding of the storyline or aspects of it, application was examined in relation to children applying their previous knowledge in their book responses, analysis was assessed according to children's description, exploration, inferential or prediction of a text, evaluation was examined according to judgements made about the characters in the text or the text itself, creativity was evaluated based on fluency, elaboration, originality, abstractness, and resistance to premature closure.

Metacognition and problem solving were cognitive processes which were not part of the study but thematically arose due to children's consistent engagement with them. Metacognition arose due to children identifying questions they did not know the answer to and problem solving emerged due to children identifying and solving textual or character problems.

Children's engagement with these cognitive processes was evaluated low or high based on the number of occasions children engaged with them. Three engagements were considered a standard pass, more than three were considered a high pass. Children's level of engagement, however, was not recorded in the study, as the aim was to ascertain a general overview of whether children could competently engage with each cognitive process in Anderson and Krathwohl's (2001) *Taxonomy of the Cognitive Domain* whilst interacting with different text-picture relationships, as opposed to how competent children were.

Children's semiotic engagement in the study was assessed according to the signs and symbols they used to communicate their understanding of each text-picture relationship and the dominant form of communication they chose to engage with whilst expressing this understanding.

Children's engagement with verbal poetics was examined in the study in relation to their use and understanding of figurative language, sound techniques, structure, irony, and register. And their engagement with visual poetics was assessed according to their knowledge and application of artistic elements such as line, shape, colour, texture.

While it was possible to code children's cognitive, semiotic, and poetic engagement electronically through NVivo (Basit, 2003), the decision was made to manually mark children's engagement with a tick. The ticks in each cognitive, semiotic, and poetic category were then added according to majority or marginal participation. Majority participation revealed the highest numbers of engagement, while marginal participation depicted the lowest numbers of engagement. The polarity between the two captured the contrasting themes as a meaningful whole, which added to the overall story. This coding process is depicted below.

**Table 14 Cognitive Coding**

Relationship	Cognitive Function							
	A Memory	B Comprehend	C Apply	D Analyse	E Evaluate	F Create	G Problem Solve	H Meta-cognate
<b>The Boy, the Bear, the Baron, the Bard</b> <i>Illustration Carries all the Narrative</i>	✓✓✓✓✓✓ ✓✓✓✓✓✓ ✓✓✓✓✓✓ 18	✓✓✓✓✓✓ ✓✓✓✓✓✓ ✓✓✓✓✓✓ 18	✓✓✓✓✓✓ ✓✓✓✓✓✓ ✓✓✓✓✓✓ 14	✓✓✓✓✓✓ ✓✓✓✓✓✓ ✓✓✓✓✓✓ 17	✓✓✓✓✓✓ ✓✓✓✓✓✓ ✓✓✓✓✓✓ 18	✓✓✓✓✓✓ ✓✓✓✓✓✓ ✓✓✓✓✓✓ 15	✓✓✓✓✓✓ ✓✓✓✓✓✓ ✓✓✓✓✓✓ 10	✓✓✓✓✓✓ ✓✓✓✓✓✓ ✓✓✓✓✓✓ 9
<b>Rosie's Walk</b> <i>Counterpoint</i>	✓✓✓✓✓✓ ✓✓✓✓✓✓ ✓✓✓✓✓✓ 18	✓✓✓✓✓✓ ✓✓✓✓✓✓ ✓✓✓✓✓✓ 18	✓✓✓✓✓✓ ✓✓✓✓✓✓ ✓✓✓✓✓✓ 15	✓✓✓✓✓✓ ✓✓✓✓✓✓ ✓✓✓✓✓✓ 17	✓✓✓✓✓✓ ✓✓✓✓✓✓ ✓✓✓✓✓✓ 16	✓✓✓✓✓✓ ✓✓✓✓✓✓ ✓✓✓✓✓✓ 12	✓✓✓✓✓✓ ✓✓✓✓✓✓ ✓✓✓✓✓✓ 9	✓✓✓✓✓✓ ✓✓✓✓✓✓ ✓✓✓✓✓✓ 4
<b>Where the Wild Things Are</b> <i>Enhance, Extend, Amplify, Clarify</i>	✓✓✓✓✓✓ ✓✓✓✓✓✓ ✓✓✓✓✓✓ 18	✓✓✓✓✓✓ ✓✓✓✓✓✓ ✓✓✓✓✓✓ 16	✓✓✓✓✓✓ ✓✓✓✓✓✓ ✓✓✓✓✓✓ 14	✓✓✓✓✓✓ ✓✓✓✓✓✓ ✓✓✓✓✓✓ 14	✓✓✓✓✓✓ ✓✓✓✓✓✓ ✓✓✓✓✓✓ 18	✓✓✓✓✓✓ ✓✓✓✓✓✓ ✓✓✓✓✓✓ 8	✓✓✓✓✓✓ ✓✓✓✓✓✓ ✓✓✓✓✓✓ 5	✓✓✓✓✓✓ ✓✓✓✓✓✓ ✓✓✓✓✓✓ 9
<b>John Brown, Rose and the Midnight Cat</b> <i>Symmetrical</i>	✓✓✓✓✓✓ ✓✓✓✓✓✓ ✓✓✓✓✓✓ 17	✓✓✓✓✓✓ ✓✓✓✓✓✓ ✓✓✓✓✓✓ 16	✓✓✓✓✓✓ ✓✓✓✓✓✓ ✓✓✓✓✓✓ 10	✓✓✓✓✓✓ ✓✓✓✓✓✓ ✓✓✓✓✓✓ 16	✓✓✓✓✓✓ ✓✓✓✓✓✓ ✓✓✓✓✓✓ 17	✓✓✓✓✓✓ ✓✓✓✓✓✓ ✓✓✓✓✓✓ 12	✓✓✓✓✓✓ ✓✓✓✓✓✓ ✓✓✓✓✓✓ 5	✓✓✓✓✓✓ ✓✓✓✓✓✓ ✓✓✓✓✓✓ 5
<b>Come Away from the Water, Shirley</b> <i>Contradiction</i>	✓✓✓✓✓✓ ✓✓✓✓✓✓ ✓✓✓✓✓✓ 15	✓✓✓✓✓✓ ✓✓✓✓✓✓ ✓✓✓✓✓✓ 13	✓✓✓✓✓✓ ✓✓✓✓✓✓ ✓✓✓✓✓✓ 13	✓✓✓✓✓✓ ✓✓✓✓✓✓ ✓✓✓✓✓✓ 13	✓✓✓✓✓✓ ✓✓✓✓✓✓ ✓✓✓✓✓✓ 14	✓✓✓✓✓✓ ✓✓✓✓✓✓ ✓✓✓✓✓✓ 11	✓✓✓✓✓✓ ✓✓✓✓✓✓ ✓✓✓✓✓✓ 7	✓✓✓✓✓✓ ✓✓✓✓✓✓ ✓✓✓✓✓✓ 7
<b>The Happy Owls</b> <i>Text Carries Primary Narrative</i>	✓✓✓✓✓✓ ✓✓✓✓✓✓ ✓✓✓✓✓✓ 14	✓✓✓✓✓✓ ✓✓✓✓✓✓ ✓✓✓✓✓✓ 10	✓✓✓✓✓✓ ✓✓✓✓✓✓ ✓✓✓✓✓✓ 13	✓✓✓✓✓✓ ✓✓✓✓✓✓ ✓✓✓✓✓✓ 12	✓✓✓✓✓✓ ✓✓✓✓✓✓ ✓✓✓✓✓✓ 13	✓✓✓✓✓✓ ✓✓✓✓✓✓ ✓✓✓✓✓✓ 10	✓✓✓✓✓✓ ✓✓✓✓✓✓ ✓✓✓✓✓✓ 5	✓✓✓✓✓✓ ✓✓✓✓✓✓ ✓✓✓✓✓✓ 7

**Table 15 Semiotic Coding**

Relationship	Semiotic Engagement					
	Picture Only	Text Only	Both	Physical	Talk	Other
<b>The Boy, the Bear, the Baron, the Bard</b> <i>Illustration Carries all the Narrative</i>	✓ ✓ 2	✓ ✓✓✓✓ 6	✓✓✓✓✓✓ ✓✓✓✓✓✓ ✓ 10			
<b>Rosie's Walk</b> <i>Counterpoint</i>	✓✓✓ 3	✓✓ ✓✓✓✓ ✓✓ 8	✓ ✓✓ ✓✓✓ 6		✓talk 1	
<b>Where the Wild Things Are</b> <i>Enhance, Extend, Amplify, Clarify</i>	✓ 1	✓✓ ✓✓✓✓ ✓✓✓✓ 8	✓✓✓✓✓✓ ✓✓✓✓✓✓ ✓✓ 9			
<b>John Brown, Rose and the Midnight Cat</b> <i>Symmetrical</i>	✓✓✓ 3	✓✓ ✓✓ ✓✓ 5	✓✓ ✓✓✓✓ ✓✓✓✓ 10			
<b>Come Away from the Water, Shirley</b> <i>Contradiction</i>	✓ 1	✓ ✓✓ ✓✓✓ 6	✓✓✓✓✓✓ ✓✓✓✓✓✓ ✓ 9	✓model ✓model 2		
<b>The Happy Owls</b> <i>Text Carries Narrative</i>	✓✓ ✓✓ 4	✓✓ ✓✓ ✓✓ 4	✓✓ ✓✓✓✓ ✓✓ 8		✓talk ✓talk 2	

**Table 16 Poetic Coding**

Relationship	Verbal Engagement				Visual Engagement	
	Imagery	Motif	Personification	Symbolism	Original	Copied
<b>The Boy, the Bear, the Baron, the Bard</b> <i>Illustration</i> <i>Carries all the Narrative</i>				✓heart ✓spectre ✓heart  <b>3</b>	✓✓✓✓✓✓ ✓✓✓✓✓✓ ✓✓✓✓✓✓  <b>17</b>	✓ copied boy          <b>1</b>
<b>Rosie's Walk</b> <i>Counterpoint</i>	✓adjective       <b>1</b>	✓ song about going for a walk       <b>1</b>		✓heart       <b>1</b>	✓✓✓✓✓✓ ✓✓✓✓✓✓ ✓✓✓✓✓✓  <b>17</b>	✓ same colour scheme and scene          <b>1</b>
<b>Where the Wild Things Are</b> <i>Enhance, Extend, Amplify, Clarify</i>			✓slinkies       <b>1</b>	✓crown ✓sceptre ✓heart ✓crown   <b>4</b>	✓✓✓✓✓✓ ✓✓✓✓✓✓ ✓✓✓✓✓✓  <b>18</b>	          <b>0</b>
<b>John Brown, Rose and the Midnight Cat</b> <i>Symmetrical</i>		✓ song about jealousy       <b>1</b>	✓ evil cat       <b>1</b>	✓heart       <b>1</b>	✓✓✓✓✓✓ ✓✓✓✓✓✓ ✓✓✓✓✓✓  <b>18</b>	          <b>0</b>
<b>Come Away from the Water, Shirley</b> <i>Contradiction</i>				✓ flag ✓ thumbs up      <b>2</b>	✓✓✓✓✓✓ ✓✓✓✓✓✓ ✓✓✓✓✓✓  <b>17</b>	✓ copied front cover          <b>1</b>
<b>The Happy Owls</b> <i>Text Carries Narrative</i>	✓ seasons       <b>1</b>	✓ seasons ✓ song about seasons       <b>2</b>		✓heart ✓crown      <b>2</b>	✓✓✓✓✓✓ ✓✓✓✓✓✓ ✓✓✓✓✓✓  <b>18</b>	          <b>0</b>



**Grade 1**



**Grade 2**



**Grade 3**

The cognitive findings reveal that most children who interacted with the different text-picture relationships, engaged with all the cognitive processes examined in Anderson and Krathwohl's *Taxonomy of the Cognitive Domain* (2001). The most comprehensively understood text-picture relationships included the *Illustration Carries all the Narrative Relationship* represented by *The Boy, the Bear, the Baron, the Bard* (2004), and the *Counterpoint Relationship* represented by *Rosie's Walk* (1967). All eighteen children who participated in the study had complete memory and comprehension of these two text-picture relationships.

**Table 17 Cognitive Findings**

<b>Text-Picture Relationships</b>	<b>Memorise</b>	<b>Comprehend</b>	<b>Apply</b>	<b>Analyse</b>	<b>Evaluate</b>	<b>Create</b>	<b>Meta-cognate</b>	<b>Problem Solve</b>	<b>Total</b>
<i>Illustration Carries all the Narrative</i>	<b>18</b>	<b>18</b>	14	17	18	15	9	10	<b>104</b>
<i>Counterpoint</i>	<b>18</b>	<b>18</b>	15	16	16	12	4	9	<b>96</b>
<i>Enhance, Extend, Amplify, Clarify</i>	18	16	14	14	18	8	9	5	<b>94</b>
<i>Symmetrical</i>	17	16	10	16	17	12	5	5	<b>81</b>
<i>Contradiction</i>	15	13	13	13	14	11	7	7	<b>75</b>
<i>Text Carries Narrative</i>	14	10	13	12	13	10	7	5	<b>69</b>

Most children in the study expressed their understanding of the different text-picture relationships they engaged with using a variety of semiotic systems. The most popular of these was the synthesized form of communication. Out of 108 work samples, 52 had incorporated both text and illustrations in their work.

**Table 18 Semiotic Findings**

<b>Text-Picture Relationship</b>	<b>Picture Only</b>	<b>Text Only</b>	<b>Both</b>	<b>Other</b>
<i>Illustration Carries all the Narrative</i>	2	6	10	
<i>Counterpoint</i>	3	8	6	1 (talk)
<i>Enhance, Extend, Amplify, Clarify</i>	1	8	9	
<i>Symmetrical</i>	3	5	10	
<i>Contradiction</i>	1	6	9	2 (models)
<i>Text Carries Narrative</i>	4	4	8	2 (talks)
<b>Total</b>	<b>14</b>	<b>37</b>	<b>52</b>	<b>5</b>

Despite children engaging with several semiotic systems, they rarely ever engaged with verbal poetics in the study. Out of 108 work samples 20 indicated verbal engagement. Out of these 20, 13 were copied from the texts children engaged with (as indicated by the blue numbers below).

**Table 19 Verbal Poetic Findings**

<b>Text-Picture Relationship</b>	<b>Imagery</b>	<b>Motif</b>	<b>Personification</b>	<b>Symbol</b>
<i>Illustration Carries all the Narrative</i>	0	0	0	3 (2 original & 1 copied)
<i>Counterpoint</i>	1	1	0	1
<i>Enhance, Extend, Amplify, Clarify</i>	0	0	1	4 (1 original & 3 copied)
<i>Symmetrical</i>	0	1	1	1
<i>Contradiction</i>	0	0	0	2 (1 original & 1 copied)
<i>Text Carries Narrative</i>	1	1	0	2 (1 original & 1 copied)
<b>Total</b>	<b>2</b>	<b>3</b>	<b>2</b>	<b>13</b>
<b>Sub Total</b>				<b>20</b>

 Copied Expression = 13

Children also rarely ever spoke about or copied the visual poetics from the texts they engaged with. Out of 108 work samples only three indicated some engagement with the visual poetics in the text, as the rest were original expressions.

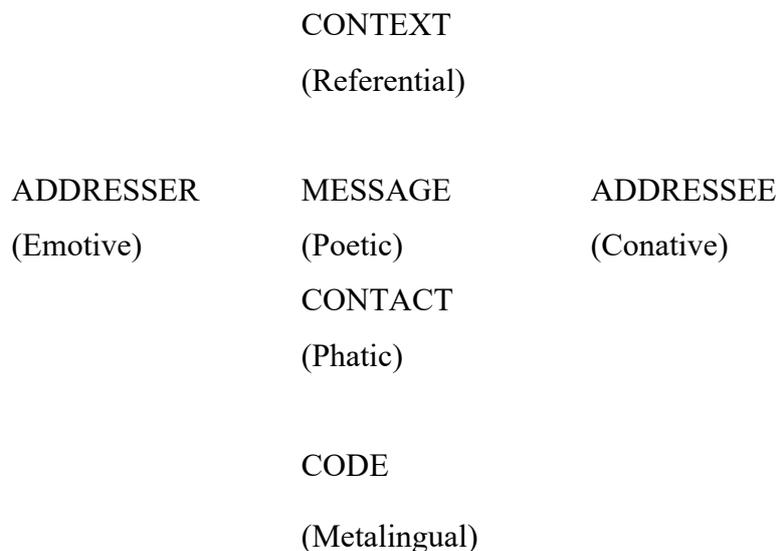
**Table 20 Visual Poetic Findings**

<b>Text-Picture Relationship</b>	<b>Original Expression</b>	<b>Copied Expression</b>
<i>Illustration Carries all the Narrative</i>	17	1
<i>Counterpoint</i>	17	1
<i>Enhance, Extend, Amplify, Clarify</i>	18	0
<i>Symmetrical</i>	18	0
<i>Contradiction</i>	17	1
<i>Text Carries Primary Narrative,</i>	18	0
<i>Illustration is Selective</i>		
<b>Total</b>	<b>105</b>	<b>3</b>

## *Vertical Findings* Ways of Communicating

Prior to delving into the vertical findings (children’s case studies), it is important to understand the transaction that occurs between the reader and the text. According to Roman Jakobson (1960), there are six communicative exchanges that occur during the reading process. They include the ADDRESSER sending a MESSAGE to the ADDRESSEE; the addressee giving the message CONTEXT; encoding and understanding the message, as a verbal CODE; and making CONTACT between the addresser (child) and the addressee (author) (Jakobson, 1960). This process is exemplified in the diagram below:

**Figure 1 Communicative Exchange Between the Addresser and Addressee**



During this communicative exchange, the EMOTIVE function of language according to Jakobson ‘tends to produce an impression of a certain emotion, whether true or feigned’ (1990, p. 4), which may be presented by interjections that are distinguished by their syntax and sound patterns. The POETIC function is never reduced to poetry, as it may be applied in everyday language using a number of different poetic devices such as paronomasia, which

Jakobson (1960, p. 6) illustrates by asking: ‘Why do you always say Joan and Margery yet never Margery and Joan? Do you prefer Joan to her twin sister?’ ‘Not at all, it just sounds smoother.’ As Jakobson observes ‘In a sequence of two coordinate names, so far as no problems of rank interfere, the precedence of the shorter name suits the speaker, unaccountably for him, as a well-ordered shape for the message’ (1960, p. 6). The REFERENTIAL function of language in this instance gives context to a situation, object, or mental state by providing relevant information. The CONATIVE function commands vocative or imperative acts which may occur directly by asking someone to: ‘Go and answer the door’ or indirectly by stating that: ‘The doorbell rang.’ The PHATIC function serves to establish, to prolong, or to discontinue the channels of communication, which Jakobson (1960, p. 5) illustrates using Dorothy Parker’s character in ‘Here We Are’: ‘Well!’ the young man said. ‘Well!’ she said. ‘Well, here we are’ he said. ‘Here we are’ she said, ‘Aren’t we?’ ‘I should say we were’ he said, ‘Eeyop! Here we are.’ ‘Well!’ she said. ‘Well!’ he said, ‘well.’ The METALINGUAL function establishes a mutual understanding between the addresser and the addressee.

Iser Wolfgang describes the transaction between the reader and text using analogy of two poles: the ‘artistic’ and ‘aesthetic’ poles. The ‘artistic’ pole is the text which is created by the author and the ‘aesthetic’ pole is ‘the realization accomplished by the reader’ (Iser, 1972, p. 274). The two poles cannot exist exclusively as reading is an active process that requires both the text and the reader’s interpretation of the text to fill in the unwritten ‘gaps’. It is through the convergence of the two poles (the text and the reader) that meaning is created. Rosenblatt (1978) makes a similar distinction between the two poles when she describes the reading transaction as a two-way process involving ‘a particular individual and a particular text, happening at a particular time, under particular circumstances, in a particular social and cultural setting, and as part of the ongoing life of the individual and the group’ (Rosenblatt, 1985, p. 100). Each act of reading in the study will consequently be influenced by each child’s experience and circumstances which coincide with the below factors (Brooke, 2008).

- Past experiences of the world (positive, negative, or mixed)
- Existent knowledge of the proposed literary texts
- First language
- Literary level and proficiency
- Learning impairment or disability
- Different responses to referents such as images, feelings, attitudes, associations, and ideas as John Fowles acknowledges
- Gender
- Present personality and developmental stage
- Preoccupation and fixation

As each child's circumstances will influence the reading we can conclude that each reading bears no definitive truth; rather, multiple truths which are captured at a particular moment in time, in a particular setting; inciting multiple ways of reading and thinking. It is however important to note that while multiple truths will arise through the different lines of inquiry and interpretation the general conclusions will be fixed. As Iser (1972, p. 287) explains: 'In the same way, two people gazing at the night sky may both be looking at the same collection of stars, but one will see the image of a plough, and the other will make out a dipper. The "stars" in a literary text are fixed; the lines that join them are variable.' These lines will inevitably incite multiple ways of reading and thinking in the study: Was Shirley battling with pirates or her parents? Was the fox trying to trap Rosie or was Rosie trying to trick the fox? Was the Baron responsible for tripping over the Boy's ball or was the Boy accountable for shattering the window? Was John Brown devious for tipping over the milk? Or was Rose manipulative for pretending to be sick? These are all questions that will arise in the study, along with others, which will be answered using different ways of reading and thinking as the thesis title suggests.

## Ways of Participating

Children were extremely motivated to participate in the research. The demand was so great that a grade 3 student forged his mother's signature to try and participate in the study. It is unclear why children were so eager, but assumptions can be made. Perhaps, they loved picture books, or they just wanted to escape the classroom. Despite children's eagerness to have experiences outside the classroom, it became evident that they had many encounters out of it when they spoke about their knowledge of the world. Some of which pertained to their understanding of the darker and less palatable aspects in life. Roman had knowledge of dreams when he recalled a violent biblical scene of Jesus' crucifixion. Brody had an insight into historical events when he spoke about a historic torture machine he had encountered during his family's travels. And Sandie had an understanding of real-life dangers when she spoke about her mother's frightening experience of being stalked.

Children's knowledge of these more sinister subjects is undoubtedly a contested topic in literature, education, developmental psychology, and popular culture (Garlen, 2019) as there is a call for censorship due to children's innocence. Many argue that children are too young to deal with more difficult concepts (Robinson, 2013) emotionally and cognitively. While this may be the case, the study found that life had a way of exposing children to the less palatable and more sinister aspects of their existence through their knowledge of mortality, history, religion, and dreams. This may be because 'the lines that separate the lifestyles of even very young children from adults are blurring' (Olfman, 2009, p. 1). The rise of social media inevitably blurs these lines even further as children are immersed in a culture where knowledge is a force that every individual is bound by.

## Children's Case Studies

The first school to participate in the study is located in the South Western Metropolitan Region of Victoria in Australia. A high proportion of pupils come from families where English is a second language. The school believes that all students should be encouraged to develop their full potential in all aspects of life, in order to succeed during secondary education and beyond.

### Abdul

#### *Come Away from the Water, Shirley (1977)*

The school's beliefs were supported by the first student who participated in the study, a grade 3 boy named Abdul whose teacher described him as a bright student who was in danger of squandering his potential, due to his lack of commitment to his studies. Abdul demonstrated this potential when he read *Come Away from the Water, Shirley (1977)*, and engaged with several complex cognitive processes including metacognition, inferential analysis and problem solving. He engaged with metacognition when he inferred the difficulties of reading a *Contradiction Relationship*: 'It was actually hard because Shirley wasn't even talking. The parents were only talking. So, you didn't get Shirley's point of view.' He engaged with inferential analysis when he inferred that Shirley was fantasising through his connection to the text: 'I've played make-believe before, like Shirley. It's fun.' And he engaged with problem solving when he abandoned his original idea of building a model of a boat, which did not work, in favour of a pop-up fish, which did work: 'The boat didn't turn out the way I imagined, so I had to change my idea. I got this piece of paper and I made it into like a spring shape. And then I stuck the fish on top and I made a jumping fish.'

### ***The Boy, the Bear, the Baron, the Bard (2004)***

Abdul continued to demonstrate his potential when he authored the wordless picture book *The Boy, the Bear, the Baron, the Bard* (2004), and inferred the difficulties of engaging with such a format: 'It's hard because there's no words.' He resolved this dilemma by interviewing the Bear and asking him questions which were not revealed in the text: 'Why aren't you in your cave?' and 'How did you get in the cage?' Abdul asked these questions based on the reasoning that a bear's natural habitat is a cave, the bear was not in a cave, he was in a cage, so how then did the bear get in a cage? And why wasn't he in his natural habitat?

### ***Where the Wild Things Are (1963)***

Abdul once again displayed high levels of cognitive engagement when he read *Where the Wild Things Are* (1963) and made a magazine collage about the story which featured the words: 'Dream. Bed. Fantasy. New. Overnight'. His understanding of these words was further supported when he explained how each word coincided with the story: 'Dream connects to his dream. Bed. He forgot to eat supper and he went to bed. Fantasy. He is in his own fantasy. New. He has a new experience. Overnight. He stayed overnight in the forest.'

### ***Rosie's Walk (1967)***

Abdul continued to engage with deeper cognitive processes when he read *Rosie's Walk* (1967) and added a new character to the text named Bando: 'Bando is a sheep who also gets attacked by the fox.' The inclusion of Bando, a plausible character who encounters a plausible event, demonstrated Abdul's engagement with deductive reasoning, as he deduced that foxes attack sheep, Bando is a sheep, therefore Bando is someone who also gets attacked by the fox.

### ***John Brown, Rose and the Midnight Cat (1977)***

Abdul once again engaged with deeper inferencing when he read *John Brown, Rose and the Midnight Cat* (1977), and evaluated which characters in the text he liked and disliked, based on the judgements he made about their actions: ‘I liked Rose because she is a kind, caring woman who wanted to let the cat in, as it didn’t have any home, and I didn’t like John Brown because he was being greedy.’

### ***The Happy Owls (1964)***

Abdul continued to evaluate which characters he liked and disliked in the text *The Happy Owls* (1964) when he did a 5-minute talk about the text and spoke about the different types of animals in the text and their different ways of life: ‘I liked the owls because they were peaceful, and I disliked the barnyard fowl because they fight.’ Abdul once again made these judgements based on the character’s actions, which he posited against a set of morals deemed acceptable or unacceptable.

### **Semiotics/Poetics**

Abdul communicated his understanding of the different text-picture relationships he engaged with in the study in a variety of different ways. He communicated verbally when he interviewed the Bear from *The Boy, the Bear, the Baron, the Bard* (2004), and when he did a character analysis for *John Brown, Rose and the Midnight Cat* (1977). He communicated physically when he made a pop-up fish for *Come Away from the Water, Shirley* (1977), and when he cut out magazine words to describe the events in *Where the Wild Things Are* (1963). And he communicated orally when he did a 5-minute talk about *The Happy Owls* (1964), and visually when he added Bando the sheep in *Rosie’s Walk* (1967).

## **Tabatha**

### ***The Boy, the Bear, the Baron, the Bard (2004)***

Tabatha was a grade 3 student who was an analytical thinker who often engaged with problem solving. This was particularly evident in the study when she authored the wordless picture book *The Boy, the Bear, the Baron, the Bard* (2004) and solved the absence of text by cutting out magazine words to compensate for their absence: 'I chose this activity because there were no words in the book and it's not always easy to understand what's going on without words.' Tabatha continued to engage with problem solving when she questioned how the Boy travelled back in time: 'I liked how the Boy went back in time, it was really cool how he did it, but I still don't know how.' Upon further reflection she resolved this confusion by making deeper inferences about the clock in the text and its underlying meaning: 'I think the clock made him go back in time because I saw it glowing on a couple of pictures.'

### ***Come Away from the Water, Shirley (1977)***

Tabatha continued to engage with problem solving when she read *Come Away from the Water, Shirley* (1977), and identified the contradiction between the words and pictures: 'The words said the warnings and the picture did the opposite thing.' Tabatha also identified the single point of view in the text: 'It really didn't tell me what happened to the parents, it just told me what happened to Shirley.' She resolved both these problems by interviewing Shirley's parents and asking them several questions about the contradictions and ambiguities in the text.

### ***Where the Wild Things Are (1963)***

Tabatha continued to think analytically when she read the text *Where the Wild Things Are* (1963) and wondered how Max's bedroom turned into a forest: 'I don't understand how his bedroom grew into a forest, that's the only thing I don't know.' Tabatha was confused as she reasoned that bedrooms are for sleeping, bedrooms may change in appearance over time, but they cannot grow into forests. So how then did Max's bedroom grow into a forest? She resolved this predicament when she considered Max's wolf-pyjamas and made a connection to the dream sequence: 'I think, Max put his pyjamas on, went to sleep and dreamt of the wild things.' Like Max, Tabatha, had also encountered her own crazy things:

Once me and my cousin were playing king and queen and she was the queen of all crazy things. Her whole palace was full of crazy things. Crazy things everywhere. On the roofs there were streamers with snakes on them, she calls them slinkies, also the chairs had wrapping paper with candy on top. We had so much fun. We were laughing all day.

### ***Rosie's Walk (1967)***

Tabatha once again engaged analytically with the text *Rosie's Walk* (1967) when she observed the characters' body language and made deeper inferences about their motives:

I looked at their bodies and the expression on their faces and I could tell that the fox was cheeky, hungry, sneaky, clumsy, loud, crazy, wild, selfish, and careless and that Rosie was nice, quiet, hungry, carefree, selfish, cheeky, smart, and sneaky, as she knows the fox is following her, but she doesn't care.

Tabatha continued to make deeper inferences about the characters when she was asked if the fox could be nice and she reasoned that it was possible: 'Maybe when it's ate its own dinner it won't feel cranky. Because I know when my cousins don't eat, they always get cranky.' Tabatha reached this conclusion by reasoning that both humans and animals need to eat to survive. If they do not, they will either have to kill or starve to death. If, however, they do eat, they can be nice as they will not have to kill.

### ***John Brown, Rose and the Midnight (1977)***

Tabatha once again engaged analytically with the text *John Brown, Rose and the Midnight Cat* (1977), when she compared and contrasted John Brown with Rose:

John Brown is a dog, and he doesn't like the midnight cat, he does cheeky things like spilling the milk. And Rose, she's human, she loves the midnight cat, and she does kind things, like giving the cat milk. They both care for each other, they like sitting under the pear tree in summer, and by the fire in winter. They spend winter and summer together.

Tabatha evaluated which scene she liked and disliked in the text based on the character's actions, which she posited against a set of morals deemed acceptable or unacceptable. Tabatha used these morals to determine that her favourite scene was 'when John Brown helped Rose when she was sick and let the midnight cat in' and her least favourite scene was 'when John Brown tipped over the milk and didn't let the midnight cat in.'

### ***The Happy Owls (1964)***

Tabatha engaged with deliberate-based creativity when she read *The Happy Owls* (1964) and reapplied her knowledge of the interview questions (which encompassed what she liked and disliked about the text) into her textual response: 'I liked the owls' story because they weren't fighting with the other animals. I disliked the other animals because they didn't like the owls' story and they were all being rude.'

### **Semiotics/Poetics**

Tabatha predominantly communicated verbally throughout her engagement with the different text-picture relationships in the study, as she did not like to draw. She communicated verbally when she compared and contrasted the characters in *John Brown, Rose and the Midnight Cat* (1977), when she analysed the characters in *Rosie's Walk* (1967), when she wrote about the characters she liked and disliked in *The Happy Owls* (1964), when she interviewed Shirley's parents in *Come Away from the Water, Shirley* (1977), and when she shared her connection to *Where the Wild Things Are* (1963), using personification to describe the crazy things and symbolism to depict her status as queen. Tabatha altered her communication when she cut out magazine words to create a collage for *The Boy, the Bear, the Baron, the Bard* (2004).

## **Amy**

### ***Come Away from the Water, Shirley (1977)***

Amy was a polite grade 1 student who was small in stature but big on manners. While she put a lot of effort into her work, she still struggled with memory and comprehension, possibly because most of the texts she engaged with were above her reading and comprehension level. This was particularly evident in the study when she read *Come Away from the Water, Shirley* (1977) and failed to recollect or understand any aspect of the text. Despite failing to do so, Amy was still, however, able to produce a textual response by copying the front cover of the text.

### ***John Brown, Rose and the Midnight Cat (1977)***

Amy once again struggled with memory and comprehension when she read *John Brown, Rose and the Midnight Cat* (1977) as she could not recollect or comprehend any aspects of the text such as Rose putting out milk for the midnight cat, John Brown tipping out the milk, John Brown drawing a line in the sand, or Rose jumping into bed. Despite failing to do so, Amy was still, however, able to produce a textual response by copying a page from the text.

### ***The Happy Owls (1964)***

Amy continued to struggle with memory and comprehension when she read *The Happy Owls* (1964) and failed to recollect or comprehend any aspects of the text. This was possibly because of the story's allegorical, non-linear and interwoven nature, which aligned happiness with peace and the love of nature, and unhappiness with fighting and a disregard for the beauty that abounds and astounds. The text-picture relationship also would have confounded her understanding, as the text was primary, and the illustrations were selective, and as such almost redundant as they only represented one aspect of the text.

### ***Where the Wild Things Are (1963)***

Amy's comprehension of *Where the Wild Things Are* (1963) marginally improved, as she was able to remember one scene from the text: 'I like when Max was a funny king of all the wild things. I liked it because you can boss people.' While she was able to make an inference about Max's status as king, she did, however, encounter general comprehension problems, which were particularly evident through her own admission: 'it was hard trying to solve the problem of the story.'

### ***Rosie's Walk (1967)***

Amy's memory and comprehension continued to improve when she read *Rosie's Walk* (1967) and spoke about several scenes in the text: 'I drew the bees following the fox because the fox tried to eat the chicken. And I drew the chicken going home in time to eat dinner while the bees followed the fox home.' Amy's comprehension potentially improved as the text was consistent with her reading and comprehension level.

### ***The Boy, the Bear, the Baron, the Bard (2004)***

Amy's memory and comprehension considerably improved when she authored the wordless picture book *The Boy, the Bear, the Baron, the Bard* (2004), and accurately interpreted each of the scenes in the text. She also understood the law of cause and effect when she discussed what happened in the scene after the Boy had hit the window with his ball: 'BOOM, BOOM, CRASH!!!...there was a lot of noise.' Amy also understood the response that ensued after the incident: 'Ah I am going to get into trouble, said the Boy.'

## **Semiotics/Poetics**

Amy incorporated illustrations in all her book responses. She generally used grey lead and faint pastel coloured gel pens, which added to the beauty and aesthetics of her illustrations. Amy engaged with this expression when she drew two scenes from *Rosie's Walk* (1967), one featuring Rosie getting home safely and the other of the fox being chased home by a colony of bees. She continued to engage with this expression when she drew the characters from *The Happy Owls* (1964), the characters from *John Brown, Rose and the Midnight Cat* (1977), and the characters from *Come Away from the Water Shirley* (1977). Amy added words to her work when she wrote about the Boy breaking the window in *The Boy, the Bear, the Baron, the Bard* (2004), and when she wrote about her favourite scene in *Where the Wild Things Are* (1963), using the symbolism of a crown and a sceptre held by Max.

## **Bethany**

### ***John Brown, Rose and the Midnight Cat* (1977)**

Bethany was a mature grade 2 student who often reflected on her life and made self-to-text connections. She did this when she read *John Brown, Rose and the Midnight Cat* (1977), and spoke about her connection to the text: 'I use to have a dog and then I wanted a rabbit, but I couldn't get it. My dad changed his mind and then I got a rabbit.' Bethany continued to make self-to-text connections when she spoke about her upcoming birthday and decided to only invite Rose to her party. Rose's inclusion and John Brown and the midnight cat's exclusion depicted how children used their personal agency to decide who to welcome and who to reject, who to include and who to exclude.

### ***The Happy Owls (1964)***

Bethany continued to make self-to-text connections when she read *The Happy Owls* (1964) and spoke about her connection to the text: 'Yesterday when my sister and I went to Highpoint to buy earrings for my dad, my sister kept annoying me for no reason, and I don't even know why.' As a result of her personal experience, Bethany disliked when: 'the chickens were fighting and annoying the owls.' She did, however, like: 'when the owls were happy and they were trying to tell everyone about their happiness.'

### ***Where the Wild Things Are (1963)***

Bethany once again made self-to-text connections when she read *Where the Wild Things Are* (1963) and spoke about her experience of ruling the roost: 'Once I was pretending to be Cinderella and my little sisters were the bad sisters and I told them what to do.' Despite her experience of sovereignty, Bethany did, however, disapprove of Max's behaviour: 'I disliked the part when Max said to his mum that he will eat her up.' As a result of her disdain, she wrote a letter to Max's exasperated mother vowing to teach him a lesson: 'Dear Max's mum, I am sorry Max was teasing you, I will teach him a lesson when he comes to school. You are in big trouble Mister. From Bethany.'

### ***Rosie's Walk (1967)***

Bethany continued to make self-to-text connections when she read *Rosie's Walk* (1967) and discussed her experience of owning chickens: 'I have chickens and my little sister tried to chase them but they got back home in time.' Whilst Bethany's experience of owning chickens was innocent, she did, however, understand the threatening situation Rosie found herself in when she offered her assistance: 'Rosie, Rosie, Rosie, if the fox comes to get you, call my number. My number is 2201693. I hope you call me.'

### ***The Boy, the Bear, the Baron, the Bard (2004)***

Bethany engaged with deeper inferencing when she authored the wordless picture book *The Boy, the Bear, the Baron, the Bard* (2004) and metacognitively deduced the difficulties of authoring the wordless format: 'It was hard to understand some of the pictures because there's no words.' She was not wrong, as she misunderstood why the Baron was chasing the Boy: 'The king was chasing the Boy because he was actually trying to play soccer with the Boy, but the Boy didn't believe him, so he kept running away.' Bethany potentially misinterpreted this incident as she overlooked the scene where the Baron tripped over the Boy's ball and as a result held him accountable.

### ***Come Away from the Water, Shirley (1977)***

Bethany continued to engage with deeper inferencing when she read *Come Away from the Water, Shirley* (1977) and quickly discerned the non-symmetrical nature of the text-picture relationship: 'The pirate was making her go on the plank but it didn't say that.' She also made deeper inferences about the text when she questioned why Shirley would dive into an ocean brimming with sharks: 'Why would Shirley go sliding into the ocean when there's sharks and she'll get eaten? Bethany reached this conclusion by reasoning that sharks eat people, Shirley is a person, so why then is Shirley swimming with sharks when she will get eaten? Given the dangerous situation Shirley found herself in, Bethany disliked the scene when: 'The pirate was making her go on the plank.' She did, however, like the scene when the family 'arrived at the beach.'

## **Semiotics/Poetics**

Bethany incorporated illustrations and love hearts in all her activities. She mostly used bold text colour and gel pens to draw bold outlines of illustrations rather than colouring inside of them. She applied this artistic expression when she made a missing poster for *The Happy Owls* (1964), a postcard for *Come Away from the Water, Shirley* (1977), a party invitation for Rose in *John Brown, Rose and the Midnight Cat* (1977), a letter for Max's mum in *Where the Wild Things Are* (1963), a pop-up card for *The Boy, the Bear, the Baron, the Bard* (2004), and an offer of help she sent to Rosie in *Rosie's Walk* (1967).

## **Justin**

### ***John Brown, Rose and the Midnight Cat (1977)***

Justin was a mathematically gifted grade 1 student who completed work one year above his year level. Throughout his engagement with different text-picture relationships he displayed a strong sense of morality. This was particularly evident in the study when he read *John Brown, Rose and the Midnight Cat* (1977) and evaluated which characters he liked and disliked in the text based on their actions which he posited against a set of morals deemed acceptable or unacceptable. Justin consequently liked 'when the grandma put the milk out for the cat' but he 'didn't like when the dog said to the midnight cat we don't need you cat.' As John Brown did not adhere to Justin's morals, he evicted him from Rose's house and exiled him to a one hour and 15-minute walk, before he reached his new owner's home who was ironically an old man.

### ***Rosie's Walk (1967)***

Justin continued to display a strong sense of morality when he read *Rosie's Walk* (1967) and evaluated which characters he liked and disliked in the text based on their actions, which he once again posited against a set of morals deemed acceptable or unacceptable: 'I didn't like the fox because he was sneaking up to the chicken ready to pounce, but I liked when the chicken got back home in time because she was safe.' When Justin was asked if he thought the fox could catch the chicken, he said that it was possible, based on the reasoning that foxes eat chickens, the fox is behind Rosie, therefore the fox could catch Rosie. Justin continued to engage with deeper inferencing when he described Rosie and the fox using adjectives in his activity: 'Fox, sneaky, two red, white and black ears, four red and black legs, orange fur, black triangles, white tail. Hen, fat, sleepy, nice, two yellow feet, red fur, orange nose, orange and yellow tail.'

### ***The Happy Owls (1964)***

Justin once again evaluated the characters in *The Happy Owls* (1964), based on their actions, which he posited against a set of morals deemed acceptable or unacceptable: 'I liked when the two owls were telling their story, but I didn't like when the peacocks, chickens, and ducks at the end said quack. That wasn't good because they were actually being rude.' Despite identifying these scenes, Justin, however, overlooked the moral of the story because he predominantly spoke about the seasons, which was a secondary interwoven theme in the story. In contrast to the moral which aligned happiness with the love of seasons and life and unhappiness with a disregard for the beauty of nature and the life that abounds and astounds.

### ***The Boy, the Bear, the Baron, the Bard (2004)***

Justin continued to evaluate what he liked and disliked about the wordless picture book *The Boy, the Bear, The Baron, the Bard* (2004) based on the character's actions: 'I disliked the part when the Baron was chasing the Boy, the Bear and the Bard, but I liked the part when the Boy went home after the chase.' Justin's comprehension of the wordless picture book was supported through the map he drew which featured several landmarks that the characters had visited during the chase including: 'Big boat, small boat, castle, dungeon, cage, stadium, house, theatre.'

### ***Come Away from the Water, Shirley (1977)***

Justin once again evaluated what he liked and disliked about *Come Away from the Water, Shirley* (1977) based on the character's actions which he posited against a set of morals deemed acceptable or unacceptable: 'I disliked when the pirate held the sword at Shirley because it was extremely dangerous, but I liked when Shirley sailed the boat across the sea because it was extremely relaxing.'

### ***Where the Wild Things Are (1963)***

Justin continued to evaluate what he liked and disliked about *Where the Wild Things Are* (1963) based on the characters actions: 'I didn't like when the monsters were showing their claws to Max, but I did like when Max gave up and went home.' It seemed that the enhance, extend, amplify, clarify text-picture relationship or perhaps the ingenuity of the text itself stirred Justin's emotions and spurred his imagination, prompting him to create a poster warning children against running away from home for fear of being eaten by monsters: 'Never run away from your family because monsters can eat you up.'

## **Semiotics/Poetics**

Justin communicated his understanding of the different text-picture relationships he engaged with in the study both visually and verbally. He engaged with both forms of communication when he changed the ending of *John Brown, Rose and the Midnight Cat* (1977), made a poster for *Where the Wild Things Are* (1963) warning children against running away from home, drew a map for *The Boy, the Bear, the Baron, the Bard* (2004), and wrote a story about *The Happy Owls* (1964), which included the motif of the seasons, the alliteration of the bees and bumble bees buzzing, the simile of summer as glorious, the sunshine as warm, and the imagery of the trees nodding their leafy crowns. Justin refrained from using illustrations when he wrote about what he liked and disliked in *Come Away from the Water, Shirley* (1977) and used adjectives to describe the characters in *Rosie's Walk* (1967). When he was asked why he had not drawn illustrations in these activities, he reasoned that it would not be fair to draw pictures anywhere, as he did not have enough room on either side of his columns.

## **Phillip**

### ***Come Away from the Water, Shirley* (1977)**

Phillip was a reliable grade 3 student who showed skill and dexterity throughout his engagement with the different picture books in the study. His dexterity was particularly evident when he read *Come Away from the Water, Shirley* (1977) and made a model of Shirley's boat which not only demonstrated his skill, but also his knowledge of the parts that make a boat and how they come together: 'I got some paper and I made a ship base where you stand. I cut out some strips and sticky taped them on the outer side of the boat and then I made a flag and a cylinder shape for the flag to go in as well as a seat and some paddles.' Phillip simultaneously engaged with deductive reasoning when he was asked why he had not written on the boat and he discussed the law of cause and effect: 'If I write on the boat, and it flips over, it will look bad.' Phillip correspondingly reasoned that the sea is volatile, due to this volatility the sea

could cause the boat to capsize, if the boat capsized then the text would look bad as it would be unrecognisable.

### ***The Happy Owls (1964)***

Phillip continued to display his dexterity when he read *The Happy Owls* (1964) and wrote a song about the seasons:

The happy owls went to the seasons, its snowy. The happy owls went to the seasons; it was flowery spring. The happy owls went to the seasons; it was hot summer. The happy owls went to the seasons; it was leafy autumn. The happy owls went to the seasons, well this is the end and see you again.

Despite his impressive song writing skills, Phillip, did however encounter some comprehension problems with the text because he solely focused on the seasons, rather than the two distinct animals and their two distinct ways of life. This was potentially because of the story's allegorical, non-linear, and interwoven nature, which aligned happiness with peace and the love of nature and unhappiness with fighting and a disregard for the beauty that abounds and astounds. The text-picture relationship also would not have offered any support to Phillip because the text was primary and the illustrations were selective and almost redundant because they only represented one aspect of the text.

### ***The Boy, the Bear, the Baron, the Bard (2004)***

Phillip continued to demonstrate his dexterity when he drew a map of the wordless picture book *The Boy, the Bear, the Baron, the Bard* (2004) and included various locations visited by the characters in the text including the houses, the castles, the boats, and the colosseum. His recollection of the colosseum, moreover, depicted his engagement with semantic memory, the encyclopaedic memory of knowledge accumulated throughout one's lifetime.

### ***John Brown, Rose and the Midnight Cat (1977)***

Phillip once again demonstrated his dexterity when he read *John Brown, Rose and the Midnight Cat* (1977) and made a missing poster for the midnight cat who personified an evil cat-like monster that changed colours during different times of the day. Due to the cat's speciality, Phillip offered an inflated reward for its return, which was approximately thirteen times more than the cat's original cost. While this reward could be seen as excessive, it could equally be justified due to the midnight cat's specialty and the owner's emotive attachment to it.

### ***Rosie's Walk (1967)***

Phillip demonstrated his cognitive flexibility when he read *Rosie's Walk* (1967) and solved the problem of the text's short format by cutting out words from a magazine to extend the length of the story. Despite solving this problem, he did not make a connection between the problem and the solution because he solely spoke about the solution rather than identifying the problem: 'I think that I can find other words to use.'

### ***Where the Wild Things Are (1963)***

Phillip continued to engage with problem solving when he read *Where the Wild Things Are* (1963) and decided to interview the wild things as their point of view was absent in the text: 'How did Max control you guys? How much do you weigh? Where do you sleep? Which island do you live on? How old are you?' It seemed that students with higher levels of comprehension were not only able to identify textual problems and solve them, but they were also able to use their semantic memory to ask questions which they had previous knowledge of. This was evident in the study when Phillip asked the wild things about their age, weight, sleeping arrangement, and residency.

## **Semiotics/Poetics**

Phillip communicated his understanding of the different text-picture relationships he engaged with in the study in various ways due to his skill and dexterity. He communicated verbally when he interviewed the characters from *Where the Wild Things Are* (1963) and wrote a song about *The Happy Owls* (1964) using the motif of the seasons, the structure of a song, and the additive/subtractive rhyme: 'Well this is the end and see you again.' He communicated visually when he drew a map of the places the characters visited in *The Boy, the Bear, the Baron, the Bard* (2004) and made a missing poster of the midnight cat in *John Brown, Rose and the Midnight Cat* (1977) who personified an evil cat-like monster that inhabited the symbolism of horns, claws and clenched teeth. And he communicated physically when he cut out magazine words to compensate for the short format of *Rosie's Walk* (1967) and made the boat for Shirley to travel on in *Come Away from the Water, Shirley* (1977).

## **Roman**

### ***Come Away from the Water, Shirley* (1977)**

Roman was a restless grade 2 student who often found it difficult to concentrate on his work because he encountered many lapses in memory. This was particularly evident in the study when he read *Come Away from the Water, Shirley* (1977) and had no recollection of the text apart from: 'Shirley fighting by herself.' While the scene was inconsistent with the text, it was however plausible if Roman inferred that Shirley was fantasising and as such the pirates were an analogy for Shirley fighting with herself or her parents.

### ***Where the Wild Things Are (1963)***

Roman continued to encounter lapses in memory and concentration when he read *Where the Wild Things Are* (1963) and struggled to formulate a coherent response. This was particularly evident when he was asked why he had chosen to interview the wild things and said: ‘Because you can talk about what was it and what was how did he do it? How did he make it? How did he get there?’ When Roman, however, wrote down his interview questions and read them out, he expressed himself much more coherently: ‘How old are you, Max?’ ‘How did you get there?’ ‘Where did you get these clothes from?’ ‘How did you become the king?’ ‘How did you make the forest?’

### ***The Boy, the Bear, the Baron, the Bard (2004)***

Despite encountering lapses in concentration when authoring the wordless picture book, *The Boy, the Bear, the Baron, the Bard* (2004), Roman could still engage with predictive analysis when he guessed what would happen to the imprisoned Bard if he was to remain imprisoned for a long time: ‘It will get boring.’ Roman resolved this problem by writing to the Bard and offering him a queen to marry who could potentially pardon his bad jokes and save him from a life of imprisonment.

### ***Rosie’s Walk (1967)***

Despite once again continuing to encounter lapses in concentration, Roman displayed sound levels of memory and comprehension when he read *Rosie’s Walk* (1967) and quickly discerned the fox’s intentions: ‘The fox was trying to eat the hen.’ Roman obstructed the fox from doing so by adding a new character to the text named DJ Mark who: ‘was going to be friends with Rosie and attack the fox,’ sparing Rosie from becoming a red-hot dinner.

### ***The Happy Owls (1964)***

Although Roman continued to encounter lapses in concentration when reading *The Happy Owls* (1964), he was still able to discern the allegorical, indirect, and interwoven nature of the text when he described the animals' behaviour and likened it to his experience of dealing with a group of rowdy boys who reminded him of the barnyard fowl. As a result of his personal experience, Roman disliked: 'The peacocks and the other birds because they were mean and they were saying nonsense' but he did like the owls as they were happy and peaceful like him.

### ***John Brown, Rose and the Midnight Cat (1977)***

Due to Roman's short interview responses and his activity, it was difficult to discern the extent of his understanding of *John Brown, Rose and the Midnight Cat* (1977). The little information he provided was, however, correct. He was right about John Brown being nice at the end of the story. His reasoning behind taking the midnight cat to the movies was also sound, as he deduced that cats are quiet, so too are movie theatres (with the exception of the movie, the sporadic oohs and ahs and laughter), and as such the cat would be the perfect companion to take to the movies.

### **Semiotics/Poetics**

Roman generally communicated his understanding of the different text-picture relationships he engaged with in the study both visually and verbally. He communicated verbally when he interviewed Max from *Where the Wild Things Are* (1963), wrote a letter to the imprisoned Bard in the *Boy, the Bear, the Baron, the Bard* (2004), and decided to go to the movies with the midnight cat from *John Brown, Rose and the Midnight Cat* (1977). He included illustrations in his work when he made a for sale poster for *Come Away from the Water, Shirley* (1977), and added the character DJ Mark to *Rosie's Walk* (1967) who would spare Rosie from

becoming a red-hot dinner. He altered his communication when he did a five-minute talk about *The Happy Owls* (1964).

## **Sandie**

### ***John Brown, Rose and the Midnight Cat (1977)***

Sandie was a friendly grade 2 student who had the mentality of a teenager and the foresight of an adult. This was particularly evident in the study when she read *John Brown, Rose and the Midnight Cat* (1977), and dismissed Rose's health woes: 'And it was like Rose tricked him when she said that's the only thing that will make me happy so he can let the cat in.' Sandie continued to think perceptively when she wondered why John Brown would draw a line in the sand and simultaneously answered her own question when she thought more deeply about a line's symbolic meaning: 'I was like thinking why he would draw a line around the house, and then I am like maybe that's where the limit is for the cat to come.' Sandie reached this conclusion by reasoning that lines are boundaries, boundaries are limits, limits cannot be crossed.

### ***Come Away from the Water, Shirley (1977)***

Sandie continued to think perceptively when she read *Come Away from the Water, Shirley* (1977) and inferred the text's underlying humour and irony:

Some of its like really funny...I like when um... the parents are like you're not bringing any of that seaweed home are you? That was the funny part. And um I liked it when they said don't stroke that dog Shirley, you don't know where he's been, and your father might have a game with you when he has had a little rest. Mind you don't get any of that filthy tar on your nice new shoes. That's funny.

Sandie's understanding of the text was supported when she spoke about her connection to it: 'My mum said don't get your dress dirty or you'll be sent to your bedroom for five years' and when she interviewed Shirley's parents and asked them questions: 'Why didn't you let her throw rocks in the water?' and 'Why did you not let her bring a bucket of seaweed home with her so she can remember the beach?' Sandie correspondingly reasoned that people go to the beach to have fun and build memories, some people have fun by throwing rocks in the water or collecting seaweed, so why did you not let Shirley throw rocks in the water or bring a bucket of seaweed home which would become a lasting memory.

### ***Rosie's Walk (1967)***

Sandie continued to think perceptively when she read *Rosie's Walk* (1967) and quickly discerned the threatening situation Rosie found herself in, due to her connection to the text:

This has happened to my mum before, when she was walking down the street and this guy just started following her...a complete stranger, and then he left a letter in the mailbox saying that you smiled at me in the shops. Christian something. My brother went online and searched his name, he's had court AVOS, so my brother blocked my mum from the Internet, so he can't contact her or see anything about her when he searches her.

Despite the text's child-friendly storyline—foxes eating chickens, and its friendly format—bright colours and familiar animals, Sandie's reading was much more threatening due to her emotional connection to the text and the subsequent inferences she made about the walker, the stalker, and the potential danger that lies in between. Due to her personal connection to the text Sandie disliked the scene when Rosie found herself in danger: 'I disliked when the fox was following Rosie, everywhere she went' but she did like the scene when Rosie was safe: 'I liked when she was walking around, and she got back home in time for dinner.' Despite her personal connection to the text, Sandie was unaffected emotionally, as she wrote a catchy song

about Rosie loving to walk: ‘Rosie loves to walk yeah, Rosie loves to walk yeah, Rosie likes to walk without being disturbed yeah yeah yeah, yeah yeah yeah. Rosie loves to walk yeah, Rosie loves to walk yeah, Rosie loves walking around the farm safe yeah yeah yeah.’

### ***Where the Wild Things Are (1963)***

Sandie continued to make connections to the text *Where the Wild Things Are* (1963) when she spoke about her personal experience: ‘So when Max spoke to his mother rudely, I’ve done that before, and I got like sent to time out, and I fell asleep. My mum took a photo of me, and then she showed me, and I am like are you serious.’ Sandie seemed to have learnt from her lesson, as she disliked the scene when Max was being mischievous: ‘I didn’t like when Max said to his mum that he’s going to eat her up’ but she did like the scene when Max was a courageous king of all the wild things. She also liked adding a wild pet zebra for Max to play with in the story, which was an apt addition to the text, as it fitted with the theme of the wild things. As Sandie observed: ‘I thought if I did a wild zebra it would kind of like fit in with the book because the title is *Where the Wild Things Are*.’ Despite Sandie’s understanding of the text, there was, however, some confusion about the dream sequence which several students in the study misunderstood, including those with high levels of comprehension: ‘I was confused by the story, was it about like wild things, or was it about a boy in his room?’ When Sandie was however prompted to think more deeply, she was able to infer that the story was about a boy having a dream.

### ***The Boy, the Bear, the Baron, the Bard (2004)***

While Sandie demonstrated sound levels of memory and comprehension when authoring the wordless picture book, *The Boy, the Bear, the Baron, the Bard* (2004), she was confused with the time and setting of the text: 'I thought it was like hard to understand why were they laughing on like this page and they all look really weird.' This was possibly due to her lack of exposure to historic texts and eras, which is understandable given her young age. The absence of words would have also confounded her understanding. Nonetheless Sandie was still able to resolve the problem of the wordless format by choosing to cut out magazine words to compensate for their absence. When Sandie was, however, asked why she had chosen the activity, she did not seem particularly conscious of the problem she had solved: 'Well I thought that maybe I could like write a couple of things and draw a picture of what there was in the book.'

### ***The Happy Owls (1964)***

Sandie demonstrated sound cognitive engagement when she read *The Happy Owls* (1964) and retold the story using all the relevant aspects of a picture book including a title, a blurb, and a dedication to 'Nade my happy owl.' Her understanding was further supported when she made a connection to the text: 'someone has fought with me, and I am just like I don't want to know you, if you're going to fight with me, and be rude to me so I just walked away.'

## **Semiotics/Poetics**

Sandie communicated her understanding of the different text-picture relationships she engaged with in the study both visually and verbally. She communicated verbally when she interviewed Shirley's parents from *Come Away from the Water, Shirley* (1977) and wrote an original song about *Rosie's Walk* (1967), using the lyrical structure of a song and the motif of Rosie loving to walk. She added illustrations to her work when she drew a pet zebra for Max to play with in *Where the Wild Things Are* (1963), made a missing poster for the midnight cat in *John Brown, Rose and the Midnight Cat* (1977), and retold the story of *The Happy Owls* (1964). She altered her communication when she cut out magazine words and made a collage for *The Boy, the Bear, the Baron, the Bard* (2004).

## **Vivienne**

### ***The Happy Owls* (1964)**

Vivienne was a shy grade 2 student who always tried her best, despite at times encountering comprehension problems. This was evident in the study when she read *The Happy Owls* (1964), and had no comprehension of the text, except for her recollection of one of its characters which she drew: 'I drew an owl, a sun, three clouds, three bushes, and a tree.' It became apparent throughout the study that when children struggled to understand a text they still found a way to produce a textual response often by drawing a picture of the characters and/or the setting if it is obvious.

### ***Come Away from the Water, Shirley (1977)***

Despite recalling several scenes from *Come Away from the Water, Shirley* (1977), Vivienne could not make inferences from them to create a coherent understanding of the text: 'I don't understand the book because I don't know where Shirley was. I don't know who the other characters are. I don't know why the dog was in the boat on the front cover with Shirley. And I don't know why the characters are jumping off the ship.'

### ***Where the Wild Things Are (1963)***

Despite engaging with metacognition, Vivienne once again struggled with comprehension when she read *Where the Wild Things Are* (1963), as she did not have comprehension of several scenes in the text:

Max why were you being naughty? Max why were you wearing a wolf suit? Max why were you being mean and chasing the dog? Max how did your bedroom turn into a forest? Max where did you get your boat? Max who bought the boat into your bedroom and decided to turn it into a forest?

Like several children in the study, Vivienne potentially struggled with this text due to the dream sequence which was ambiguous as it was not explicitly stated.

### ***John Brown, Rose and the Midnight Cat (1977)***

Vivienne's comprehension improved when she read *John Brown, Rose and the Midnight Cat* (1977) and recalled her favourite scenes from the text: 'My favourite part of the book was when Rose gave a bowl of milk to the midnight cat when John Brown wasn't looking.' My other favourite part of the book was when Rose and John Brown were sitting under the pear tree.' While Vivienne had a better understanding of the text, it was unclear whether she understood the underlying themes of the story such as the tenor of loneliness that wafted through the page as John Brown and Rose sat underneath the pear tree, or the sense of selfishness that shone through as John Brown emptied the bowl of milk.

### ***Rosie's Walk (1967)***

Vivienne's comprehension continued to improve when she read *Rosie's Walk* (1967), potentially because of the text's simplicity. This enabled her to confidently engage with deeper cognitive processes including exploratory analysis which she engaged with when she made a self-to-text connection: 'I have been on a walk with my family' and deliberate-based creativity which she engaged with when she solved the textual problem of the short format by retelling the story in a more elaborate and interesting way using adjectives: 'Rosie the hen went for a walk across the pool yard, around the relaxing pond, over the tall haystack, past the yellow mill, through the hard fence, under the massive beehives and got home in time for dinner.'

### ***The Boy, the Bear, the Baron, the Bard (2004)***

Vivienne's memory and comprehension improved significantly when she authored the wordless picture book *The Boy, the Bear, the Baron, the Bard* (2004). Her memory was evident when she recalled her favourite scene from the text: 'I liked the part when the Boy kicked his ball through the window, climbed in, walked through the curtains and into the stadium.' Her comprehension was apparent when she realised that the Baron had the last laugh because he had possession of the Boy's ball. Vivienne's understanding of the text was further supported when she retold the story using the same visual and sequential structure from the text in her comic strip. It seemed that children with lower levels of comprehension generally replicated the visual thinking in a wordless picture book by responding to the text in a visual way, while children with higher levels of comprehension were spurred to probe deeper and think wider by asking questions which were not revealed in the text.

### **Semiotics/Poetics**

Vivienne communicated her understanding of the different text-picture relationships she engaged with in the study both visually and verbally. Her drawings were aesthetically beautiful representations which looked like their natural semblance. Vivienne engaged with this artistic expression when she drew the characters in *The Happy Owls* (1964), and retold the story of *The Boy, the Bear, the Baron, the Bard* (2004) in a comic strip. She altered her communication when she wrote about what she liked in *John Brown, Rose and the Midnight Cat* (1977), interviewed Max from *Where the Wild Things Are* (1963), and described what she did not understand about *Come away from the water, Shirley* (1977). Vivienne incorporated poetics in her work when she included imagery in her story of *Rosie's Walk* (1967) which she retold in a much more elaborate and interesting way.

The second school to participate in the study is located in the Western Metropolitan Region of Victoria in Australia. It has a long history dating back to the 1800s, with much of children's ancestry descending from England, Australia, Ireland, and New Zealand. More recently students derive from Italian, Greek and Vietnamese backgrounds. The school has envisioned that its students move into the world as confident and creative learners who become active and successful citizens within their community.

## **Dawn**

### ***John Brown, Rose, and the Midnight Cat (1977)***

Dawn was a grade 2 student who was a prime example of the confident and creative learners the school strived to build. She loved singing, performing, and one dreamed of becoming a pop star. Her love of music was particularly evident when she read *John Brown, Rose and the Midnight Cat* (1977) and wrote a song about the text titled jealousy:

John Brown Rose loved each other, but then the midnight cat came. John Brown and Rose loved each other, but then the midnight cat came. John Brown it's not nice to be jealous, but I get what you are feeling, cause I have an older sister and I'm always jealous of her. She's getting this and that, that and this, this and that. What about me. It's called jealousy. What about jealousy. What about jealousy. What about meeee.

Dawn continued to engage creatively with the text when she evaluated the constructs of line, shape, and colour, as aspects she liked the best because of their authenticity: 'I liked all the details in the pictures and how they made it look real.'

### ***Come Away from the Water, Shirley (1977)***

Dawn also engaged creatively with the text *Come Away from the Water, Shirley (1977)* when she gave Shirley a makeover based on the inferences she made about her personality: ‘Shirley is very, very creative and I think that’s what her parents are making her wear and it doesn’t fit her personality at all.’ Dawn transformed Shirley’s appearance by giving her: ‘gold hair and a ponytail, a pink t-shirt with a brown skull, a multi-coloured skirt that had sparkly blue, gold, sparkly pink, and very soft baby pink and brown on it, and brown shoes with sparkly pink laces.’

### ***The Happy Owls (1964)***

Dawn once again engaged creatively with the text *The Happy Owls (1964)* by drawing presents for the owls based on the inferences she made about their personality: ‘For owl one I drew a spy kit because in the front cover the first owl looks a bit mischievous, and for owl two I drew a Harry Potter book because in the cover the second owl looks like it likes to read.’ Dawn continued to make inferences about the characters when she assumed that the barnyard fowl would change their ways: ‘Since the owl had told them their story about happiness, I thought that all the other animals would get what they are saying and change.’ As the animals did not change, Dawn disliked the ending because it was not happy: ‘I think that they should have more of a proper ending, where the other animals start being happy.’

### ***The Boy, the Bear, the Baron, the Bard (2004)***

Dawn continued to demonstrate her creativity when she authored the wordless picture book *The Boy, the Bear, the Baron, the Bard* (2004) and made a reward certificate for the Boy, based on the inferences she made about the difficulties he endured and the strength of character that had emerged as a result: 'Presented to the Boy for being able to go through so many tough events. Responsibility. Confidence. Honesty. Hard Work.' Dawn also included a heart in the certificate and explained its implicit meaning: 'I feel like whenever I do certificates, I am always going to draw a heart in it. And that's the only picture that will need to be.'

### ***Where the Wild Things Are (1963)***

Dawn continued to engage creatively with the text *Where the Wild Things Are* (1963) when she cut out magazine pictures that resembled the wild things:

I cut out this mango and passionfruit popsicle made out of wild fruit. As well as this coffee cup that I am pretending is Max's dinner. And I have also cut out this paddle pop, the choc-mint paw print, it's got footprints on it that look like the footprints that belong to the wild things.

Dawn also engaged creatively with the text when she made a connection to it:

I had a dream where me and my friends were running away because we saw all these really creepy bodies lying around my backyard. And then I was commanding all of them to do stuff, and my friends were like she looks like a good commander and then they made me the queen.

Despite knowledge of the dream sequence, Dawn did, however, comment on its ambiguity: 'it's hard to understand whether it's a dream or fantasy unless at the end, they say something like and then he woke up.'

### ***Rosie's Walk (1967)***

Dawn was not only a creative thinker who produced artistic and innovative pieces of work, but she was also a student who was able to engage with a faculty of different cognitive processes such as problem solving. This was evident in the study when she read *Rosie's Walk (1967)* and resolved the short format of the text by writing a letter to Rosie and asking her several questions which were not revealed in the text:

Dear Rosie,

I've got a few questions for you. Why did you go on the walk? Did you know that the fox was following you? What's the name of the farm that you live on? What are those brown things on the tree? Hopefully you can answer all these questions. By the way, I really love that pinkie colour that you have on yourself.

Love Dawn.

It is becoming apparent throughout the study that when children with higher levels of comprehension like Dawn engaged with simpler texts they were often spurred to resolve the textual problems in them by probing deeper to compensate for their lack of complexity.

### **Semiotics/Poetics**

Dawn communicated her understanding of the different text-picture relationships she engaged with in the study both visually and verbally. She communicated visually when she revamped Shirley's clothes in *Come Away from the Water, Shirley (1977)*, and gifted *The Happy Owls (1964)* with a spy kit and a Harry Potter book. She communicated verbally when she addressed a letter to Rosie in *Rosie's Walk (1967)*, and wrote a song about *John Brown, Rose and the Midnight Cat (1977)* featuring the motif of jealousy. She communicated symbolically when she drew a heart in her reward certificate for the Boy in the wordless picture book *The Boy*,

*the Bear, the Baron, the Bard* (2004). Dawn altered her communication when she cut out magazine pictures and made a collage for *Where the Wild Things Are* (1963).

## **Andy**

### ***John Brown, Rose and the Midnight Cat (1977)***

Andy was a perceptive grade 1 student who often made predictions about the texts he engaged with which he occasionally drew the wrong conclusions about. This was evident in the study when he read *John Brown, Rose, and the Midnight Cat* (1977) and predicted why John Brown failed to acknowledge the midnight cat: 'I think John Brown is scared.' Andy jumped to the wrong conclusions again when he discussed what might happen to Rose because of her ill health: 'I think she might die.' Despite reaching the wrong conclusions, the predictions Andy made were valid, based on the surface meaning of the text and illustrations, and the premature interpretation of these.

### ***Come Away from the Water, Shirley (1977)***

Andy once again drew the wrong conclusions about *Come Away from the Water, Shirley* (1977) when he observed that:

It was kind of strange when Shirley's father was making stuff up, here he's like careful where you're throwing those stones you might hit someone. And she's not even throwing stones. And then here he's like don't bring that smelly seaweed home. And she's not even doing that.

Despite Andy's sound reasoning, he became confused as he didn't understand the text's irony which required him to not only mediate between the words and illustrations but go beyond either scope alone. This included a range of other skills such as background knowledge, an understanding of intention, and the ability to make inferences about a falsehood. Despite failing to infer the irony in the text, Andy could still deduce that Shirley was being mistreated: 'People weren't being nice to her, as they kept telling her off for no reason.' He compensated for Shirley's mistreatment by inviting her to his birthday party, where she would no doubt be included and treated nicely.

### ***The Boy, the Bear, the Baron, the Bard (2004)***

Andy's discernment improved when he authored the wordless picture book *The Boy, the Bear, the Baron, the Bard* (2004), and realised that the Baron had the last laugh because he had possession of the Boy's ball. This was a scene which was overlooked by all the children in the study except for Vivienne and Andy. It potentially went unnoticed as the Baron was ambiguously featured on the back cover of the book holding the Boy's ball in a painting. As soon as Andy noticed this scene he decided to change the ending of the story so that there was a happy ending: 'The little Boy gets his ball back and he never goes back in the theatre again.'

### ***The Happy Owls (1964)***

Andy continued to engage perceptively with *The Happy Owls* (1964) when he made inferences about the character's personality and used these inferences to decide who he would include and who he would exclude from his birthday celebrations. Andy invited the happy owls because he liked the story they told about happiness, and he didn't invite the noisy barnyard fowl because: 'the animals were being kind of mean.' Like most children in the study Andy assessed whether he liked or disliked a character according to their actions which he posited against a set of morals deemed acceptable or unacceptable. Andy used these morals as a

compass to decide who he liked and who he disliked who he would include and who he would exclude.

### ***Where the Wild Things Are (1963)***

Andy's understanding continued to improve when he read *Where the Wild Things Are* (1963) and made a reward certificate for Max, based on the inferences he made about Max's status as a respected king: 'Award for Max for being a good king of all the wild things. Keep up the good work from Andy.' Andy evaluated this scene as his favourite because Max got to be king and play with all the wild things.

### ***Rosie's Walk (1967)***

Andy's understanding of *Rosie's Walk* (1967) was particularly evident when he discussed the texts underlying humour and irony: 'I liked the part when Rosie was running away from the fox the most, and the flour went all over the fox, because it was really funny.' Like most children in the study Andy evaluated humour highly because it made him laugh.

### **Semiotics/Poetics**

Andy communicated his understanding of the different text-picture relationships he engaged with in the study both visually and verbally. He generally used bold text a colour to draw striking, caricature like semblances of the characters. He used this expression when he copied a before and after scene from *Rosie's Walk* (1967), and redesigned the clothes for the characters in *John Brown, Rose and the Midnight Cat* (1977). He added text to his work when he created a reward certificate for Max in *Where the Wild Things Are* (1963), changed the ending of *The Boy, the Bear, the Baron, the Bard* (2004), and invited the characters from *The Happy Owls* (1964), and the characters from *Come Away from the Water, Shirley* (1977) to his birthday party.

## **Annie**

### ***Come Away from the Water, Shirley (1977)***

Annie was a vivacious and vibrant grade 1 student who although struggled with reading was still able to engage with sound levels of comprehension. This was evident in the study when she read *Come Away from the Water, Shirley (1977)* and quickly discerned that Shirley's parents were oblivious to her absence: 'They didn't realize that Shirley wasn't on the beach. They didn't know that she was somewhere else, not on the beach.' Annie reached this conclusion by reasoning that you do not typically talk to yourself; if you do, then you are either mad or you are assuming that someone is there, just like Shirley's parents assumed that Shirley was there. When Annie was asked where Shirley was, she was also able to accurately recall all the places that Shirley had visited: 'In the book it said that she was lying on this boat near this pirate ship and then she got a treasure chest and went back.'

### ***The Happy Owls (1964)***

Despite struggling to read *The Happy Owls (1964)* independently, Annie continued to engage with sound levels of comprehension which were particularly evident when she recalled the main aspects of the text regarding the two types of animals and their distinct ways of life: 'The owls were peaceful and the hens were fighting.' She also understood the story within the story: 'The owls were telling the story of why they were always happy in the story.' While Annie had sound comprehension of the text, she did, however, overlook its moral. When she was asked if the story teaches you anything she replied: 'No'. Despite overlooking the moral, Annie was still able to engage with more complex cognitive processes such as inferential and predictive analysis as she was able to deduce that the happy owls needed time away from the barnyard fowl: 'They owls might want to have a more peaceful spot instead of them hearing all the noise when they go yackety-yak.' Annie reached this conclusion by reasoning that the

owls were peaceful, and the barnyard fowl were not, as a result the owls needed a peaceful environment away from all the barnyard racket.

### ***Where the Wild Things Are (1963)***

Although struggling to read *Where the Wild Things Are* (1963) independently, Annie demonstrated sound levels of memory and comprehension. Her memory was evident when she recalled several objects from the text: ‘I’ve drawn a tree where the river was, the bed with the table and the supper with some toys underneath it, and the tent belonging to the king of where the wild things are.’ And her comprehension was apparent when she discussed her connection to the text: ‘When I was eating dinner...um...I was being naughty...and then...um...my mum sent me up to bed without having dinner.’

### ***John Brown, Rose and the Midnight (1977)***

Annie once again displayed sound levels of memory and comprehension despite experiencing difficulties reading *John Brown, Rose and the Midnight Cat* (1977) independently. Her memory was evident when she recalled several scenes from the text: ‘John Brown was opening the door, and every time Rose wasn’t looking, he tipped over the milk.’ And her comprehension was apparent through the inferences she made about the midnight cat’s arrival: ‘it didn’t really have anyone to play with or didn’t have an owner or it was just wandering around and trying to find a house to live in.’

### ***The Boy, the Bear, the Baron, the Bard (2004)***

Even though Annie skipped scenes from the wordless picture book *The Boy, the Bear, the Baron, the Bard* (2004), she displayed sound levels of comprehension when she spoke about the text’s underlying humour: ‘The funny part was when um...the Baron was chasing the Boy, the Bear, and the Joker in the olden days.’ Annie facilitated the trios’ escape by adding another

character in her textual response named Max who held a sceptre in his hand and had the superpower to kill the Baron.

### ***Rosie's Walk (1967)***

In contrast to the other picture books in the study, Annie was able to read *Rosie's Walk* (1967) independently because it coincided with her reading level. She could also discern the text's underlying humour and irony: 'um...it was kind of a bit funny when the fox was doing silly things.' Her understanding of the text was further supported when she drew a before and after scene: 'I chose to do um...two pictures. One was of the fox walking past the mill...and the other one was of the flour falling on top of the fox.'

### **Semiotics/Poetics**

Annie predominantly communicated her understanding of the different text-picture relationships she engaged with in the study visually. She generally used bold texta colour to draw striking illustrations which were aesthetically interesting to look at. Annie engaged with this expression when she drew a holiday destination for *The Happy Owls* (1964), Rose's house in *John Brown, Rose and the Midnight Cat* (1977), a before and after picture for *Rosie's Walk* (1967), and several scenes from *Where the Wild Things Are* (1963). Annie added text to her illustrations when she wrote a letter to Shirley's mother in *Come Away from the Water, Shirley* (1977), asking her whether she realised that Shirley was not on the beach when she was talking to her. She also incorporated text when she added a character named Max to the wordless picture book *The Boy, the Bear, the Baron, the Bard* (2004) who held a sceptre in his hand and had the superpower to kill the Baron.

## **Alexia**

### ***Where the Wild Things Are (1963)***

Alexia was a friendly grade 3 student who often made deeper inferences about the characters in the texts she read and their circumstances. This was evident in the study when she read *Where the Wild Things Are* (1963) and inferred that: 'Max was missing his home and didn't want to be the king anymore.' She reached this conclusion by reasoning that Max used to live with his family, Max was now away from his family, Max was therefore missing his family and wanting to return home and relinquish his crown. Alexia continued to make deeper inferences about Max when she designed a tiger costume for him to wear, based on the inferences she made about his imagination taking him to other wild and wondrous places.

### ***The Boy, the Bear, the Baron, the Bard (2004)***

Alexia once again made deeper inferences about the characters in the wordless picture book *The Boy, the Bear, the Baron, the Bard* (2004) when she inferred the Boy's loneliness based on the reasoning that he lost the new friends he made. Alexia cured the Boy's loneliness by adding a new character to the text named Petey who would remain an enduring friend to the Boy: 'I decided to make a new friend for the Boy. He is also an animal that does the same as the Bear but doesn't go away.' Alexia continued to make deeper inferences about the text when she spoke about the difficulties of authoring a wordless picture book: 'sometimes you might not understand it.' Despite this potential difficulty, she did, however, understand the text and simultaneously enjoyed it because it gave her the autonomy to guess the story: 'I liked how you had to try to guess what was happening.'

### ***The Happy Owls (1964)***

Alexia made deeper inferences about *The Happy Owls* (1964) when she discerned the moral of the story: ‘the owls were always happy and it didn’t matter which season it was.’ She reached this conclusion by reasoning that some people are only happy when the sun comes out, but the owls were always happy, irrespective of the season.

### ***Come Away from the Water, Shirley (1977)***

Alexia once again engaged with deeper inferencing when she read *Come Away from the Water, Shirley* (1977) and inferred Shirley’s strength when she rewarded her with a certificate: ‘Rewarded to Shirley for bravery and adventure. Well done.’ Alexia continued to make deeper inferences about Shirley’s predicament when she discussed her connection to the text: ‘My sister is always telling me what to do and I am always saying to her do it yourself.’

### ***John Brown, Rose and the Midnight (1977)***

Alexia displayed sound cognitive engagement when she read *John Brown, Rose and the Midnight Cat* (1977) and made a connection to the text:

There was a couple of cats outside in our backyard and um...I didn’t want to get out of bed because I wanted to look at the cats outside my window. I kept asking for a cat. And then we finally adopted one. And we named her Gettina because we are Italian. That means little boy cat even though she is really big and she is a girl. So, she’s the complete opposite. But we call her Tino for short.

Her connection to the text moreover revealed her understanding of irony, which was particularly evident when she spoke about the disparity between her cat’s gender and size.

## **Semiotics/Poetics**

Alexia incorporated illustrations in all her book responses because she loved to draw. Her illustrations were sweet, exaggerated semblances of the characters they represented. She engaged with this expression when she made a missing poster for *Rosie's Walk* (1967), added a new character named Petey to the wordless picture book *The Boy, the Bear, the Baron, the Bard* (2004), made a party invitation for the characters in *John Brown, Rose and the Midnight Cat* (1977), drew a holiday destination for *The Happy Owls* (1964), and designed a tiger costume for Max in *Where the Wild Things Are* (1963). She altered her expression when she made a reward certificate for Shirley from *Come Away from the Water, Shirley* (1977), and used black felt pen to draw a pirate flag with the symbolism of a skeleton and a thumbs up.

## **Aria**

### ***Rosie's Walk* (1967)**

Aria was a serene grade 3 student who often related her life experiences to the texts she engaged with. This was particularly evident in the study when she read *Rosie's Walk* (1967) and made a self-to-text connection: 'I've gone on a walk. I've gone over a haystack, past a windmill, and over a fence, as me and my next-door neighbour have a ladder to each other's house so basically we can go over each other's fence.' Aria applied her connection to the text in her activity when she decided to spend some time with Rosie, based on the reasoning that Rosie was nice and they would both enjoy themselves, having previously participated in the same activities:

I chose to spend some time with Rosie. We would go on a walk because we both like walking around and exploring. And we have gone past a lot of things on a farm like a windmill, a fence, a pond, a yard, a haystack. Why? Because I thought that Rosie was a nice character and we both like going on walks.

### ***Come Away from the Water, Shirley (1977)***

Aria continued to relate her life experiences to the text *Come Away from the Water, Shirley* (1977) when she compared and contrasted Shirley with Matilda, a character from another text that she had read titled *Matilda* (1988):

Matilda talks back and Shirley doesn't. Matilda doesn't have a dog. Shirley does have a dog. Matilda has a brother. Shirley doesn't have a brother. I am just assuming this, but Matilda goes to school and Shirley doesn't. Matilda has powers and Shirley doesn't. They have brown hair and brown eyes. They like reading. They kind of act the same. They get told what to do. And they both have a book about them. Shirley has *Come Away from the Water Shirley* (1977), and Matilda has *Matilda* (1988).

Aria encountered some confusion when she assumed Shirley's father was her grandfather and when she thought the narrator's voice was her father's voice, when in fact it was her mother's voice. Her confusion possibly arose due to the text's contradictory relationship which created misunderstandings in the study, as children had to go beyond the scope of text and illustrations to understand the story as a whole.

### ***John Brown, Rose and the Midnight***

Aria continued to apply her life experiences to the text *John Brown, Rose and the Midnight Cat* (1977) when she decided to plan a holiday for John Brown and Rose to Bali, based on the reasoning that she had been to Bali before and that the characters would enjoy the destination, as it reflected their personality: 'I would take them to Bali because Bali is very calm and they are also very calm.' Aria continued to apply her life experience to the text when she spoke about watching a movie which had featured a similar scene to that of *John Brown, Rose and the Midnight Cat* (1977):

In one of the pages where John Brown draws a circle around the house...I can't remember which movie it was...but I think it was something like the chronicles. There was...um a grandpa who drew a circle around the house so that mushrooms would grow around it and the trolls wouldn't be able to go to the house because they didn't like mushrooms. So, it was like a barrier.

### ***Where the Wild Things Are (1963)***

Aria once again applied her life experience to the text *Where the Wild Things Are* (1963) when she wrote an acrostic poem about the characters which she had learnt about in class:

For the wild things I've got W, wild. I, intelligent. L, lie because near the end of the book it says don't go we love you king, but they wouldn't actually love him. Well, I don't actually know, but when you meet someone for the first time, and in the first hour you don't say I love you. D, Dumb, they're pretty dumb. For things T, talented. Because on one of the pages they were swinging off branches. H, humongous, I, intelligent. Because in the book they were hanging off trees and stuff and they were doing cool things. I couldn't think of another I. N, nice. They were nice to him; they weren't being mean to him. G, gigantic and S, silly. And then Max, M, Max, A, amazing and X, Xray, he may imagine having x-ray eyes and seeing through people's bodies.

Aria's assumption about the wild things not actually loving Max in the poem, moreover depicted her engagement with inductive reasoning, as she reasoned that love is a feeling, a feeling which grows over time, so how then could the wild things love Max when there was no time for love to grow?

### ***The Boy, the Bear, the Baron, the Bard (2004)***

Aria engaged with metacognition and problem solving when she authored the wordless picture book *The Boy, the Bear, the Baron, the Bard* (2004) and inferred the difficulties of not getting the character's point of view. She resolved this problem by interviewing the Bear and asking him several questions which were not revealed in the text:

Can you speak English? Can you understand people? Do you have a family of your own? Do you have a favourite colour? Do you wear clothes at home? Can you speak different languages? What do you do in your spare time? Do you play any sport? If you play sport what do you play? Do you like gardening?

Despite the absence of the Bear's point of view, Aria evaluated the wordless picture book as the one she liked the best, due to the autonomy it gave her: 'I liked that it didn't have words so that you could like make the story up and it's never wrong.'

### ***The Happy Owls (1964)***

While Aria engaged with sound comprehension throughout the study, she did, however, struggle with *The Happy Owls* (1964) which by her own admission was: 'quite tricky, as some of the sentences didn't make sense.' As a result, she was unable to decipher the moral of the story relating to the two animals and their two distinct ways of life. Despite not being able to identify the moral, Aria was still, however, able to discern more obvious aspects in the text such as the story within the story, which she evaluated as an aspect of the text that she liked the best because she understood it.

### **Semiotics/Poetics**

Aria communicated her understanding of the different text-picture relationships which she engaged with in the study both visually and verbally. Her illustrations were animated, cartoonlike expressions, which were interesting to look at. Aria engaged with this expression when she drew a holiday destination for *John Brown, Rose and the Midnight Cat* (1977), spent time with Rosie from *Rosie's Walk* (1967), and designed the bedroom of *The Happy Owls* (1964). Aria refrained from using illustrations when she interviewed the Bear from *The Bear, the Baron, the Bard* (2004), wrote an acrostic poem about *Where the Wild Things Are* (1963),

and drew a Venn diagram comparing and contrasting Matilda from *Matilda* (1988) and Shirley from *Come away from the water, Shirley* (1977).

## **Brody**

### ***Come Away from the Water, Shirley (1977)***

Brody was a mild-mannered grade 2 student who didn't particularly enjoy participating in school-related activities. This is potentially why he struggled with the text *Come Away from the Water, Shirley* (1977) and could not remember or comprehend any aspect of it. Despite encountering these difficulties, he still managed to create a missing poster for the dog in the story, who was not a primary character but one that lingered in the background. It is becoming apparent throughout the study that when children struggle to understand a text they will still find a way to link their level of understanding to the story, just as Brody did when he made a missing poster for the dog in the text.

### ***The Happy Owls (1964)***

Brody continued to struggle with memory and comprehension when he read *The Happy Owls* (1964), as he could not recall any aspect from the text apart from the owls which he drew. Like most children in the study, he struggled with the text due to its non-linear, allegorical, indirect and interwoven structure, in conjunction with the text-picture relationship which did not offer any support because the text was primary and illustrations were secondary.

### ***John Brown, Rose and the Midnight Cat (1977)***

Brody's memory and comprehension improved when he read *John Brown, Rose and the Midnight Cat* (1977), as he was able to recall his favourite scene from the text: 'My favourite part of the book was when John Brown knocked over the bowl of milk.' His understanding was also supported when he spoke about his connection to the text:

My uncle has one black and white staffy and one completely black staffy. But instead of being half black, half white, the black and white staffy is all black, but has the little white stripe on its belly. John Brown kind of reminds me of my uncle's dog because he has the same colours and he often is a little bit cheeky.

Brody's comprehension of the text was further supported when he spoke about the misleading nature of the text's title: 'I don't really like the title because it was ...um... a bit long and you can't really understand it that much until you start reading the book.' Despite his sound reasoning, it is unclear if Brody understood the prevailing themes in the story about possessiveness, remorsefulness, jealousy, and trickery, as he only discussed one scene from which he made several inferences. When he was asked whether he understood the story, his response also was not particularly persuasive: 'I kind of understand it.'

### ***Where the Wild Things Are (1963)***

Brody's memory and comprehension continued to improve when he read *Where the Wild Things Are* (1963) and described the wild things: 'wild, ugly, big but not too big, caring for Max, hairy, mischievous, wild and un-scary.' As a result of these unflattering descriptions, he evaluated the text as one he did not like reading: 'I just don't really like monsters and it's kind of got monster things.' While Brody was able to describe the monsters aptly, it is unclear if he understood the broader themes in the text, such as isolation, exploration, and imagination because he only spoke about the wild things, as opposed to the events which occurred in the text.

### ***Rosie's Walk (1964)***

Brody's memory and comprehension continued to improve when he read *Rosie's Walk* (1964), and retraced Rosie's steps in a map: 'She walked away from the barn, through the yard, around the pond, over the haystack, across the mill, through the fence, under the beehives and she made it back in time for dinner.' Brody's understanding of the text was further supported when he evaluated the text's humour and irony as what he liked the best: 'I liked the book because it had funny pictures in it. Everywhere the hen walked the fox followed, but the fox always ended up getting hurt or stuck.'

### ***The Boy, the Bear, the Baron, the Bard (2004)***

Not only did Brody's comprehension improve while authoring the wordless picture book *The Boy, the Bear, the Baron, the Bard* (2004), but so did his enthusiasm and enjoyment of the text, which through his own admission was due to the wordless format that gave him the autonomy to imagine the story without worrying if he was right or wrong: 'I liked that there were no words so I just could let my imagination run wild and go with what the pictures are. And I didn't really care if I got something wrong.' Brody's understanding of the text was further supported when he reasoned that the Boy had wrongfully freed the caged Bear because he did not have permission. This was an aspect of the text which was overlooked by all of the children in the study, as they had all attributed blame to the Baron for chasing the Boy. Brody continued to make deeper inferences about the characters in the text when he inferred that the Boy was not bad for freeing the Bear, but he had in fact done the wrong thing, as he did not have permission to free the Bear. He questioned the Boy's motives by writing a letter to the Boy and asking him why he had committed the misdemeanour: 'Why were you naughty letting out bears and bad jokers without permission?' He simultaneously engaged with irony and humour when he named the Boy Little Timothy, smirked, and asked: 'Who gives you the name little Timothy?'

## **Semiotics/Poetics**

Brody communicated his understanding of the different text-picture relationships he engaged with in the study both visually and verbally. He engaged with both forms of communication when he made a missing poster for the dog in *Come Away from the Water, Shirley* (1977), wrote about his favourite part in *John Brown, Rose and the Midnight Cat* (1977), made a map of *Rosie's Walk* (1967), and wrote about his lack of comprehension of *The Happy Owls* (1964). Brody refrained from using illustrations when he did a brainstorm for *Where the Wild Things Are* (1963), and wrote a letter to the Boy in *The Boy, the Bear, the Baron, the Bard* (2004). When he was asked why he had not included illustrations in his activities, his response was that he did not know whether or not he was allowed to draw pictures.

## **Brayden**

### ***Come Away from the Water, Shirley* (1977)**

Brayden was a polite grade 3 student who generally displayed sound levels of cognitive engagement when he engaged with the different text-picture relationships in the study. His understanding of *Come Away from the Water, Shirley* (1977) was evident when he inferred the text's underlying humour: 'Her parents were not watching, which was a bit funny. And it was a bit funny that her mum was asking the dad if he wanted a drink.' Brayden's understanding of the text was further supported when he described Shirley as brave for having fought with pirates, based on the reasoning that pirates are dangerous, people don't approach pirates, Shirley is a person who not only approached the pirates but fought with them, therefore Shirley is brave.

### ***John Brown, Rose and the Midnight Cat (1977)***

Brayden continued to demonstrate sound levels of cognitive engagement when he read *John Brown, Rose and the Midnight Cat* (1977) and recollected much of the story in his interview:

At the beginning Rose thought she saw a cat in a tree and um... John Brown said I don't see any cat...Rose was feeling sick. So, John Brown went to open the door to let the midnight cat in because he thought that Rose wanted it in. At the end they all sat next to the fire. Rose sat on the chair, the midnight cat sat on the arm, and John Brown sat on the carpet.

His understanding of the text was further supported when he spoke about John Brown's misleading behaviour, which he inferred was in vain because he thought that the midnight cat could make Rose happy: 'John Brown was sort of tricking that the midnight cat wasn't there as he didn't want the midnight cat to come in, but the cat can make people happy.' Brayden reached this conclusion by reasoning that people who own cats are happy; therefore, the midnight cat can make Rose happy.

### ***Rosie's Walk (1967)***

Brayden continued to display sound levels of comprehension when he read *Rosie's Walk* (1967) and spoke about the text's underlying humour: 'The fox was having a bit of a hard time. And there were a few funny things in there.' His understanding of the text was further supported when he spoke about his connection to it: 'I used to have chickens and they were walking around the house and stuff' and did a five-minute talk about what he liked and disliked about the text: 'I liked that it was sort of related to me and that it showed different places. I disliked that it was pretty easy and that it wasn't that interesting.'

### ***Where the Wild Things Are (1963)***

Brayden once again displayed sound cognitive engagement when he read *Where the Wild Things Are* (1963) and applied his previous knowledge of an acrostic poem to describe the wild things:

T is for terrifying, H, is for horrible, E, is for excited, W, is for weird, I, is for inside the forest, L, is for looking grumpy, D, is for douche bags, T, is for terrifying, H, is for horrible again, I, is for inside the forest again, N, is for naughty, G, is for grizzly, and S, is for sleepy.

His understanding of the text was further supported when he evaluated the scene when Max's bedroom turns into a forest as the one he liked the best as he thought 'it was cool.'

### ***The Boy, the Bear, the Baron, the Bard (2004)***

Brayden engaged with several cognitive processes whilst authoring the wordless picture book *The Boy, the Bear, the Baron, the Bard* (2004). He engaged with analysis when he identified the moral of the story: 'It sort of taught you to be brave and take risks.' He reflected metacognitively when he discussed his newfound knowledge and applied it in his book response: 'I learnt about some famous people back in Roman times and what a Roman clock looked like.' And he reasoned inductively when he thought that the Boy lived within proximity to the theatre in order to have kicked the ball inside.

### ***The Happy Owls (1964)***

Despite engaging with memory when reading *The Happy Owls* (1964), Brayden's comprehension of the text was not supported, as the words he cut out from a magazine solely depicted his recollection of the text rather than his comprehension: 'Two. The two happy owls. Seasonal. The owls were talking about sleeping in winter and waking up in spring. Rose. As in the flowers in spring. Fresh. The fresh flowers in spring.'

## **Semiotics/Poetics**

Brayden predominantly communicated his understanding of the different text-picture relationships he engaged with in the study verbally. His reason for not including illustrations in his work varied. In some instances, he said that he did not have enough room on his page, and in others that he did not know what to draw or where to put it. He communicated verbally when he discussed what he liked and disliked in *Come Away from the Water, Shirley* (1977), spoke about what he learned from *The Boy, the Bear, the Baron, the Bard* (2004), and wrote an acrostic poem about *Where the Wild Things Are* (1963). He altered his communication when he cut out magazine words for *The Happy Owls* (1964), did a five-minute talk about *Rosie's Walk* (1967), and incorporated illustrations in his comic strip about *John Brown, Rose and the Midnight Cat* (1977).

## **Edi**

### ***John Brown, Rose and the Midnight Cat (1977)***

Edi was an empathetic grade 1 student who spoke about being different, and often solved the character's problems in the text. This was particularly evident when he read *John Brown, Rose and the Midnight Cat* (1977), inferred Rose's loneliness and decided to cure it by introducing her to a French husband named Otto who could keep her company.

### ***The Happy Owls (1964)***

Edi continued to empathise with the characters in *The Happy Owls* (1964) through his personal connection to the text: 'I know what it is like to be different. The owls were different from all the other animals in the story' as well as his experience with his sister: 'The animals remind me of my sister annoying me. And my mum and dad just watching channel nine news.'

### ***Come Away from the Water, Shirley (1977)***

Edi once again demonstrated his compassionate nature when he drew a bright red apple for Shirley to eat in the text *Come Away from the Water, Shirley (1977)* so that she would not get hungry at the beach. Edi reached this conclusion by reasoning that when you go to the beach you usually swim, when you swim you expend energy, when you expend energy you get hungry. Using this rationale Edi solved the problem of Shirley's imminent hunger.

### ***The Boy, the Bear, the Baron, the Bard (2004)***

Edi once again demonstrated his empathetic nature when he spoke about the difficulties associated with authoring the wordless picture book *The Boy, the Bear, the Baron, the Bard (2004)*: 'It would be hard for some children to read the book as there are no words in it.' Despite these potential difficulties, Edi did not encounter such problems because he understood the text. This was evident when he discussed wanting to spend some time with the Boy playing video games. His decision was made based on the reasoning that most boys (although not all) enjoy playing video games, Edi was a boy, so too was the boy, both of whom would probably enjoy playing video games together.

### ***Where the Wild Things Are (1963)***

Edi demonstrated sound cognitive engagement of *Where the Wild Things Are (1963)* when he quantitatively and descriptively described the wild things:

Human. One of them have human feet. Chicken feet. Big nose. Weird. Because they were getting scared. Big and fat. Stinky. Because of their feet they probably haven't showered. Sharp teeth. Black and brown. Goofy. And nice. Because they weren't eating him.

Edi reached the latter conclusion, based on the reasoning that monsters eat people, Max was a person, who the wild things didn't eat, why? Because they were nice.

### ***Rosie's Walk (1967)***

Edi demonstrated his cognitive flexibility when he read *Rosie's Walk* (1967) and decided to resolve the short format of the text by writing a letter to the author asking her to make it longer:

Dear Pat Hutchins,

Why is your book so short and easy? I would like you to make it longer.

From Edi

It became apparent throughout the study that picture books with sparse text encouraged students with higher levels of comprehension to compensate for the scarcity. Just as Edi did by writing a letter to Pat Hutchins and asking her to make *Rosie's Walk* (1967) longer.

### **Semiotics/Poetics**

Edi expressed his understanding of the different text-picture relationships he engaged with in the study both visually and verbally. He predominantly used deep, rich text colour, which made his illustrations appear striking against the light-coloured paper he drew them on. Edi engaged with this expression when he drew a bright red apple for Shirley to eat in *Come Away from the Water, Shirley* (1977), copied the Boy from *The Bear, The Baron, the Bard* (2004), and drew a French husband named Otto for Rose in *John Brown, Rose and the Midnight Cat* (1977). He refrained from using illustrations when he did a brainstorm for *Where the Wild Things Are* (1963), wrote to the author of *Rosie's Walk* (1967), and discussed being different for *The Happy Owls* (1964).

## **Julie**

### ***John Brown, Rose and the Midnight Cat (1977)***

Julie was a friendly grade 2 student who enjoyed chatting about her life and relating her family experiences to the texts she engaged with in the study. She did this when she read *John Brown, Rose and the Midnight Cat (1977)* and shared her connection to the text: ‘I wanted only me and my mum to be together, so I pushed my brother out of the way.’ Julie’s connection to the text moreover demonstrated her understanding of the dynamic between Rose, John Brown, and the midnight cat, which was synonymous with her relationship with her mum and her brother.

### ***Rosie’s Walk (1967)***

Julie continued to make connections to *Rosie’s Walk (1967)* through her family’s experiences: ‘I ate dinner. And my brother has acted like a chicken before.’ Her understanding of the text was further supported through her word search which featured several words from the text: ‘Rosie, Hen, Across, Around, Mill, Flour, Fence, and Dinner’, which she arranged vertical, horizontal, forward, and backward alignment.

### ***The Boy, the Bear, the Baron, the Bard (2004)***

Julie demonstrated her understanding of the wordless picture book *The Boy, the Bear, the Baron, the Bard (2004)*, through her family’s experiences: ‘My bother has broken a window with his soccer ball.’ Julie’s understanding of the text was further supported when she added an apt character to the story with a fitting role: ‘I named her princess Charlotte, she’s the queen’s daughter, she always has fun and goes to parties.’ Despite her sound understanding of the text, there was, however, some confusion in relation to why the Boy was being chased by the Baron as Julie thought: ‘Maybe the Baron needed to capture the Boy because he got the

ball.’ Like many other children in the study, Julie overlooked the scene where the Baron tripped over the Boy’s ball and as a result held him accountable.

### ***Where the Wild Things Are (1963)***

Julie once again demonstrated her cognitive understanding of *Where the Wild Things Are* (1963) through her family’s experiences. This was evident in the study when she likened her little sister’s behaviour to that of Max: ‘My little sister, she has acted really funny before.’ Julie’s understanding of the text was further supported when she retold the story in an interesting and elaborate way:

Nash made himself a pirate suit. ‘It’s dinner’ said his mum. ‘No!’ said Nash, ‘Yes’ said his mum. Nash’s room turned into an island, and it grew and grew. He found a boat, it said Nash on it. He sailed away from the island and came across pirates. The pirates said terrible things to him. He ignored them and showed them a trick. They said, ‘You are the king.’ Nash told them to go to sleep. Nash wanted to see his mum again. So, he sailed back home where his dinner was waiting for him.

### ***Come Away from the Water, Shirley (1977)***

Julie demonstrated sound cognitive engagement when she read *Come Away from the Water, Shirley* (1977) and spoke about her favourite characters: ‘Shirley’s parents were my favourite because they were very funny when they kept reminding her what to do.’ Despite her sound understanding of the text, there was, however, some confusion about who was narrating the story, as Julie assumed that both parents were speaking when it was in fact the mother who was warning Shirley, not the father.

### ***The Happy Owls (1964)***

Julie struggled with comprehension when reading *The Happy Owls* (1964), which was particularly evident through her own admission: ‘It’s kind of hard. I didn’t understand it.’

Despite her confession, Julie was still able to produce a textual response when she wrote a letter to the author and more generally spoke about liking the text, as opposed to writing about its content:

Dear Celestino Piatti,

You are a very good author. Why did you want to make this book? My favourite characters are the two owls.

From Julie

It became apparent throughout the study that children could still produce a textual response, by focusing on an activity, as opposed to the content of a text. This may explain how students 'hide' in the classroom and fall behind; by repeating what they do know and avoiding what they do not know.

### **Semiotics/Poetics**

With the exception of a word search Julie created for *Rosie's Walk* (1967), she included illustrations in all her book responses. She predominantly mixed gold and silver gel pens with bold texta colour and highlighters which added to the dreamlike aesthetics of her illustrations. Julie engaged with this expression when she illustrated Shirley's father in *Come Away from the Water, Shirley* (1977), drew the owls from *The Happy Owls* (1964), redesigned the clothes for the characters in *John Brown, Rose and the Midnight Cat* (1977), and wrote and illustrated a story about *Where the Wild Things Are* (1963). Julie included the poetic device of symbolism when she drew a royal character named Charlotte, adorned with a crown for *The Boy, the Bear, the Baron, the Bard* (2004).

*Horizontal Findings*  
**Cognitive Patterns**  
**Memory**

The first cognitive process investigated in Anderson and Krathwohl's (2001) *Taxonomy of the Cognitive Domain* was memory. 'One of the important concepts to understand about working memory is that it is limited in capacity, which means that we cannot store and manipulate endless amounts of information' (Henry, 2012, p. 2). This was particularly evident in the context of short-term memory as not all children could recount all the scenes from the text. The factors which impeded upon memory consisted of children's storage capacity or lapses in time or events which interfered with the information stored in the memory (Cowan, 2014). The factors which aided memory was children's ability to understand words and sentences (Gomulicki, 1956; Trabasso & Sperry, 1985), and comprehend a text's narrative structure. Texts which inhabited simple language and had a straightforward narrative structure such as *Rosie's Walk* (1967), were consequently more memorable. While texts such as *The Happy Owls* (1964), were least memorable due to their poetic, allegorical, and indirect narrative structure which confused children.

In contrast to short-term memory, long-term memory refers to the storage of information over an extended period. In the study it was assessed according to children's engagement with four different types of memory including semantic memory, episodic memory, autobiographical memory, and procedural memory. Children's engagement with semantic memory, more specifically, consisted of them recollecting textual facts and concepts (Tulving, 1972). This knowledge was aided by the fact that semantic knowledge is represented by concepts, which relate taxonomically or thematically (Favarotto et al., 2014). That's why children who had knowledge of concepts in the study, also had knowledge of the texts, and children who didn't have knowledge of concepts, also didn't have knowledge of the texts they engaged with.

Children also engaged with episodic memory by drawing on their personal knowledge of what occurred at a given time and place (Tulving, 1972; Nelson & Fivush, 2004). This type of recollection consisted of ‘the specific awareness of self in the experience—the feeling that ‘I was there, I did that’ (Nelson & Fivush, 2004, p. 487). Children were, however, more likely to encounter weaknesses with this type of memory as they were susceptible to forgetting the details concerning such experiences. As affirmed by Endel Tulving (2002, p. 5) ‘episodic memory is a recently evolved, late-developing, and early-deteriorating past-oriented memory system, more vulnerable than other memory systems to neuronal dysfunction, and probably unique to humans.’

While episodic memory is part of autobiographical memory, autobiographical memory more distinctively relates to one's own personal history. According to Katherine Nelson and Robyn Fivush (2004) it develops through knowledge of language and narrative, discussions with adults, temporal understanding, and knowledge of the self and others (ibid). In the study it manifested through children’s recollection of personal events that they had directly experienced (such as their birthdays) rather than having knowledge of more general occurrences. Like episodic memory it required children to have knowledge of two states of consciousness (Damasio, 1999), one that existed in the past and the other that existed in the future (Perner, 2000). Children’s past consciousness, moreover, gave rise to their memory of shared experiences which occurred with classmates, parents, siblings, and teachers (Nelson & Fivush, 2004). Weaknesses in autobiographical memory could not be detected in the study as it was impossible for the researcher to distinguish between true or false memories children were recalling.

Children’s engagement with procedural memory consisted of them using their finely tuned motor skills to complete a task. This type of memory improved with incremental learning (Bauer & Dugan, 2020) as it was strengthened through practice. Weaknesses in procedural memory consequently related to a lack of practice in performing a task.

## Comprehension

Comprehension was the second cognitive process investigated in Anderson and Krathwohl's (2001) *Taxonomy of the Cognitive Domain*. It is a complex process as it involves two skills: decoding (words and sentences) and linguistic comprehension (understanding their meaning) (Hoover & Gough, 1990). More specifically reading was assessed in the study according to children parsing and blending various phonetic sounds, while comprehension was examined in relation to children thinking about the deeper meaning of the words and making overall connections (Kendeou et al., 2014).

Weaknesses in lower levels of comprehension were affected by children's reading ability which was heavily impacted by their inability to decode words (Perfetti, 1985) and read them fluently. Comprehension for these children, as a result, was a much more laborious, punishing process, as they not only had to alternate between decoding the words, but they had to make meaning of them which left little or no capacity for the attention-demanding process of comprehension (Pikulski & Chard, 2005). Children who encounter such problems would benefit from more reader-friendly texts (Armbruste & Anderson, 1988) that inhabit simple language and a straight-forward linear narrative structure that can be followed with clarity. As Annemarie Sullivan Palincsar and Ann L. Brown (1984, p. 118) affirm 'Comprehension will be enhanced to the text that the texts are well written, that is, they follow a familiar structure and their syntax, style, clarity of presentation, and coherence reach an acceptable level.'

Weaknesses in higher levels of comprehension manifested in the study through children reading independently but not having comprehension of the texts they read due to weaknesses in inferencing (Oakhill, Cain, & Bryant, 2004). These weaknesses were attributed to several factors including children failing to make connections in the text (Long, Seely, & Oppy, 1994), children not identifying and filling conceptual gaps (Oakhill, Yuill, & Donaldson, 1990), or children lacking background knowledge to make inferences (Cook, Limber, & O'Brien, 2001).

This background knowledge includes both content knowledge (e.g., when a ball hits a window, the window is likely to break) and knowledge about text structures (e.g., narratives usually begin with a setting and problem and end with some resolution; different types of informational texts have different structures. (van den Broek et al., 2014, p. 12).

Children who were unable to engage with each of these skills consequently constructed weaker representations in the study and failed to comprehend a text on a deeper level.

### **Application**

The third cognitive process examined in Anderson and Krathwohl's (2001) *Taxonomy of the Cognitive Domain* was application. In the study it manifested through lower and higher levels. Lower levels of application consisted of younger children engaging with the basic conventions of language (the alphabet) to express their understanding of a text as opposed to engaging with concept related activities. This finding is supported by cognitive development which maintains that children's ability to learn concepts is constrained by their stage of cognitive development (Brainerd, 1977). This was particularly evident in the study as younger children (who had not yet cognitively matured) could not engage with concept learning as they could not synthesize knowledge of a text with knowledge of an activity. This raised questions about when to teach children about concepts. According to Jean Piaget (1970, p. 30) 'teaching children concepts that they have not acquired in their spontaneous development . . . is completely useless.' This is because learning a concept requires cognitive structures to build on (Inhelder, Sinclair & Bovet, 1974). If these cognitive structures are not present, then the learning process cannot be activated (Strauss, 1972).

Ironically if children had knowledge of a concept related activity, they could still produce a response despite having little or no comprehension of a text. This was evident in the study when Julie wrote a letter to the author of *The Happy Owls* (1964), by focusing on the art of letter writing, as opposed to mentioning any specific details in the text:

Dear Celestino Piatti,

You are a very good author. Why did you want to make this book? My favourite characters are the two owls.

From Julie

When Julie was, however, asked whether she understood the text, she replied that she didn't as it was too hard to make sense of. This is potentially how children 'hide' in classrooms, and eventually fall through the cracks, by repeating what they know without having comprehension of what they don't know. Over time the gap in knowledge enlarges before children not only fall through the cracks but fail through the education system. This has implications for teachers who are not only expected to teach children but identify these hidden areas of weakness within a curriculum which is outcome centered as opposed to student-centred, as it focuses on achieving student outcomes rather than identifying the challenges that prevent children from meeting their potential (Palumbo & Sanacor, 2009). Adjustments need to be made to the curriculum to identify these weaknesses in knowledge early on and strengthen them with applicable pedagogy so that children do not fall further behind in their education.

Higher levels of application manifested in the study by synthesising knowledge of a concept with knowledge of a text. Grade 3 student Aria did this when she used her existent knowledge of adjectives to describe the characters in *Where the Wild Things Are* (1963):

For the wild things I've got W, wild. I, intelligent. L, lie because near the end of the story it says don't go, we love you king, but they wouldn't actually, love him. Well, I don't actually know, but when you meet someone for the first time, you don't say I love you. D, Dumb, they're pretty dumb. For things I've got T, talented. Because on one of the pages they were swinging off branches. H, humongous, I, intelligent. Because in the book they were hanging off trees and they were doing cool things. I couldn't think of another I. N, nice. They were nice to him; they weren't being mean to him. G, gigantic and S, silly. And then for Max, I've got M, A, for amazing and X, X-ray, he may imagine having x-ray eyes and seeing through people's bodies.

It became apparent in the study that older children were more likely to engage with the synthesis process as they were able to combine their existing knowledge and their prior knowledge to create new knowledge (Lundstrom et al., 2015). Children's engagement with this process indicated that they were able to employ more complex cognitive processes which were necessary in life (Johnson, 2009) and vital in developing effective writing and communication skills (Lundstrom et al., 2015).

## Analysis

The fourth cognitive process examined in Anderson and Krathwohl's (2001) *Taxonomy of the Cognitive Domain* was analysis. In English Studies, analysis can be defined as a reading skill (Jackson, 2010); 'a third-level reading skill, after elementary (essential literacy) and inspectional (prereading, skimming, etc.) reading' (Adler & Van Doren, 1972). This definition and level of analysis was consistent with children's engagement in the study as it went beyond having essential literary skills to engaging with more in-depth forms of analysis. They included descriptive analysis which children engaged with when they described the characters in the text, exploratory analysis which children engaged with when they explored and made self-to-text connections, and predictive analysis, which children engaged with when they made inferences about the characters in the text and what would happen to them.

Weaknesses in analysis manifested in the study due to difficulties in comprehension and inferencing. As a result, children with lower levels of comprehension encountered the most difficulty with the analysis of more complex texts as they could not make deeper inferences about them (Kendeou et al., 2014). This was because analysis is comprehension based not reading centered. There were, however, instances where these children could still engage with analysis despite not having full comprehension of the text. This was possible when children micro-analysed one vivid scene or page from the text, as opposed to the overriding themes. This was evident when Amy spoke about the difficulty of understanding the underlying story of *Where the Wild Things Are* (1963): 'It was hard trying to solve the problem of the story.' Despite this difficulty, Amy was still able to micro-analyse and understand the scene when Max became king: 'I like when Max was a funny king of all the wild things. I liked it because you can boss people.' This has implications for teachers as children can hide their level of understanding by micro-analysing one aspect or vivid scene from a text without having an overall understanding. It is important for teachers to distinguish

between these two forms of analysis and ask children to discuss the overall themes in a text as opposed to enquiring about their favourite part which may result in children discussing the only part they understand.

### **Evaluation**

The fifth cognitive process examined in Anderson and Krathwohl's (2001) *Taxonomy of the Cognitive Domain* was evaluation. Like many of the other cognitive processes investigated in the study, evaluation was difficult to assess as it was a higher order cognitive process (Scriven, 2007) that consisted of many other cognitive processes. Children engaged with the evaluative process when they judged which characters they liked and disliked in the texts they read. They did this by positing their actions against a set of morals, deemed acceptable or unacceptable. Children used these morals to decide whether they liked or disliked a character. Their judgements were consistent with several other studies that have found that children understand and believe in doing the right thing (Johansson et al., 2014; Killen, 1991; Brownlee et al., 2019; Smetana, 1995), describing it as caring for others and following rules and conventions (Johansson et al., 2014).

Children consequently loved the morally conscious characters. In the study they included Rose from *John Brown, Rose and the Midnight Cat* (1977) for being kind and giving milk to the midnight cat; *The Happy Owls* (1964) for being peaceful and sharing their story about happiness; the Boy from *The Boy, the Bear, the Baron, the Bard* (2004) for being courageous; and Shirley, from *Come Away from the Water, Shirley* (1977) for being adventurous. The most loathed characters included the Baron from *The Boy, the Bear, the Baron, the Bard* (2004) for chasing the Boy and the bickering barnyard fowl from *The Happy Owls* (1964) for being rude and unhappy. The most morally ambiguous characters in the study included John Brown from *John Brown, Rose and the Midnight Cat* (1977) who was both loved for letting the midnight cat in and simultaneously loathed for not letting the midnight

cat in; Shirley's parents from *Come Away from the Water, Shirley* (1977) who were loved for the irony and humour they brought to the text, but simultaneously loathed for bossing Shirley around; Max from *Where the Wild Things Are* (1963) who was loved for becoming king but abhorred for wanting to eat his mum.

Children related better to younger characters such as the Boy from *The Boy, the Bear, the Baron, the Bard* (2004) and Shirley from *Come Away from the Water, Shirley* (1977) due to their experience of childhood and the restrictions imposed by it. Shirley fought against these restrictions through her imagination which was a powerful 'defence mechanism against the world of adults' (Bradford, 1994, p. 226). The disparity in this world was particularly evident through the actions of the adults and the child. 'Shirley's mother and father are static figures engaged in nothing livelier than knitting and the reading of newspapers' (ibid, p. 205). In contrast to Shirley's depiction with the pirates which 'epitomizes the superior power of the child's energy and determination over the ineptitude of adults, despite their physical size and their access to accoutrements of power (the pirate ship and an array of weapons)' (ibid, pp. 225–226).

Children could equally relate to characters who were different to them but had experienced the same circumstances. This was evident in the study when Sandie identified with *Rosie's Walk* (1967) in a much more sinister way because of her mother's experience of being stalked and the inferences she made about the walker, the stalker, and the potential danger that lies in between:

This has happened to my mum before, when she was walking down the street and this guy just started following her...a complete stranger, and then he left a letter in the mailbox saying that you smiled at me in the shops. Christian something. My brother went online and did a search on him, he's had court AVOS, so my brother blocked my mum from the Internet, so he can't contact her or see anything about her when he does a search on her online.

Children engaged with the evaluative process by reasoning inductively or deductively in the study. More specifically inductive reasoning consisted of children forming a hypothesis based on a set of observations or generalizations assumed to be true (Molnár, Greiff & Csapó, 2013). Brayden engaged with inductive reasoning when he read *Come Away from the Water, Shirley* (1977), and described Shirley as brave for having fought with pirates. Brayden reached this conclusion based on the generalisations that pirates are dangerous, and that people don't approach them, Shirley is a person who not only approached the pirates but fought with them. Therefore, Shirley is brave. Children's engagement with inductive reasoning indicated that they had the capacity to engage with higher-order cognitive thinking (Csapó, 1997), synonymous with an adult's capability, which consisted of problem solving (Gentner, 1989), knowledge acquisition, application (Bisanz, Bisanz, & Korpan, 1994; Hamers, de Koning, & Sijtsma, 2000), and analogical reasoning (Goswami, 1991). Despite children's engagement with inductive reasoning, it is not a skill that is fully acknowledged in schools (Csapó, 1997), potentially because it is not an integral part of the curriculum. It can, however, be implemented more explicitly through instruction (Klauer & Phye, 2008), so that it is not only a 'by-product' of teaching ordinary school material, but it is a cognitive process which is used in knowledge acquisition and application (Hamers, de Koning, & Sijtsma, 2000).

While children's ability to reason deductively has been a debatable issue (Moshman & Franks, 1986), several children engaged with deductive reasoning in the study when they made judgements that derived from logical facts or regularities known to be valid (Shye, 1998). Bethany reasoned deductively when she questioned why Shirley would dive into an ocean brimming with sharks when the dangers were obvious. Bethany reasoned that sharks eat people, Shirley is a person, so why then did Shirley go swimming with sharks when she'll get eaten? This deductive process would have caused Bethany to search for alternative models in which the conclusion drawn was false. When no model could be found, then the conclusion was considered valid.

Issues in evaluation manifested when children could not evaluate a text as they did not have memory and comprehension of it. Like other cognitive processes in the study, children could evade the evaluative process by making general statements about whether or not they liked a text as opposed to specifically demonstrating their overall knowledge. This was exemplified in the study by Amy who evaluated her reading and spelling, as opposed to the text *John Brown, Rose and the Midnight Cat* (1977): ‘I liked it because it was too easy for me to read. I didn’t like that it was a bit hard to spell midnight cat.’ When Amy was asked more specific questions about the text she did not know the answer to them. This once again suggests that children can hide their level of understanding. This has implications for teachers, as children’s weaknesses may be overlooked and enlarged over time due to the ambiguities within their responses. It is consequently important for teachers to uncover the different ways that children may ‘hide’ their level of understanding with apt testing and address these gaps in knowledge with applicable pedagogy so that children do not fall behind in their learning.

### **Creativity**

The last cognitive process in Anderson and Krathwohl’s (2001) *Taxonomy of the Cognitive Domain* was creativity. Creativity can be defined as:

the process of becoming sensitive to problems, deficiencies, gaps in knowledge, missing elements, disharmonies, and so on; identifying the difficulty; searching for solutions, making guesses, or formulating hypotheses about the deficiencies: testing and retesting these hypotheses and possibly modifying and retesting them; and finally communicating the results. (Torrance, 1965, pp. 663–664)

In the study it was assessed according to Torrance's (2008) criteria of creativity which included factors such as fluency, frequency, elaboration, originality, abstractness, and resistance to premature thinking. Out of these factors originality was the most common as it readily manifested in children's unique pieces of art. This type of creativity was spurred by children's emotions (Dietrich, 2004). It was demonstrated by children who were imaginative and creative thinkers who loved to participate in the creative arts. Dawn engaged with emotion-based creativity when she wrote a song about *John Brown, Rose, and the Midnight Cat* (1977), titled jealousy:

John Brown and Rose loved each other, but then the midnight cat came. John Brown and Rose loved each other, but then the midnight cat came. John Brown it's not nice to be jealous, but I get what you are feeling, cause I have an older sister and I'm always jealous of her. She's getting this and that, that and this, this and that. What about me. It's called jealousy. What about jealousy. What about jealousy. What about meeee.

Dawn also engaged with emotion-based creativity when she empathised with the Boy's arduous journey in *The Boy, the Bear, the Baron, the Bard* (2004) and decided to reward him with a certificate for triumphing over all the challenges he encountered in the text: 'Presented to the Boy for being able to go through so many tough events. Responsibility. Confidence. Honesty. Hard Work.'

In addition to engaging with emotion-based creativity children also engaged with deliberate-based creativity (Dietrich, 2004). It manifested in the study when children creatively and deliberately solved a problem. The underlying premise of this type of creativity was metacognition (Jia, Lia, & Cao, 2019), as an awareness of a problem was necessary in order for children to solve it through the acquisition of knowledge and the transfer of skills. This type of creativity was demonstrated by children who engaged with high levels of memory and comprehension, possessed a lot of knowledge, and had an awareness of any deficits in a text. Tabatha engaged with deliberate-based creativity when she compensated for the absence

of text in the wordless picture book *The Boy, the Bear, the Baron, the Bard* (2004), by cutting out words from a magazine to coincide with the illustrations. She also engaged with deliberate based creativity when she solved the problem pertaining to the lack of background knowledge about Shirley's parents in *Come Away from the Water, Shirley* (1977), by interviewing them. This type of creativity gives rise to the concept of 'creative metacognition' which needs to be explored further in schools so that children have an awareness of when, where, how, and why they should be creative (Feldhusen & Goh, 1995; Kaufman & Beghetto, 2013).

Irrespective of the creativity that did emerge, schools did not seem to value it in relation to children taking risks and thinking independently. This was particularly evident in the study as more than 100 of the 108 work samples derived from a list of suggested book response ideas, which children relied on when they had to choose their activities. Children potentially used these activities as they were not accustomed to thinking independently as 'being creative often involves breaking rules, challenging assumptions, taking issue with convention, questioning tradition. By contrast, schools are concerned with order and structure, represented by such things as bells, timetables, uniforms, assemblies, rules' (Humes, 2005). This dichotomy between conformity and autonomy inevitably suppressed creativity and deterred children from thinking independently and choosing their own activities. Schools must relinquish some of this control, in not only allowing children to think independently, but also in developing their interdisciplinary cognitive processes such as comprehension which is a cognitive process which is the by-product of creativity.

## Metacognition

Metacognition was not a cognitive process in Anderson and Krathwohl's (2001) *Taxonomy of the Cognitive Domain*, but thematically arose because all children (including those with low and high levels of comprehension) engaged with it by regulating their cognitive awareness (Schraw, 2002). This was potentially because metacognition was embedded in the theory of the mind, which develops before the age of one (Flavell, 2000), and continues to develop with children at the age of four applying mental procedures such as 'knowing', 'thinking', and 'remembering' (Schneider & Lockl, 2002).

Children with lower levels of comprehension more specifically engaged with metacognition by identifying areas of weakness in their learning but not having the capacity to solve them. This was evident in the study when Julie observed that *The Happy Owls* (1964) was: 'kind of hard. I didn't understand it,' but she was unable to resolve the comprehension problem she faced. In contrast, children with higher levels of comprehension engaged with metacognition by reflecting on their learning (Woolfolk, 1998), identifying weaknesses (Bereiter & Scardamalia, 1987), and solving them (Gourgey, 2010). This was possible because of children's self-regulation which enabled them to engage with several learning processes (Pillow, 2008), and use the most appropriate strategies to solve them (Glaser & Chi, 1988). As exemplified by Dawn who solved the short format of *Rosie's Walk* (1967) by writing a letter to Rosie and asking her several questions, which weren't revealed in the text:

Dear Rosie,

I've got a few questions for you. Why did you go on the walk? Did you know that the fox was following you? What's the name of the farm that you live on? What are those brown things on the tree? Hopefully you can answer all these questions. By the way, I really love that pinkie colour that you have on yourself.

Love Dawn.

## Problem Solving

Like metacognition, problem solving was not a cognitive process in Anderson and Krathwohl's (2001) *Taxonomy of the Cognitive Domain*, but thematically arose because of its reoccurrence. It consisted of children identifying a problem, (Rossman, 1931; Osborn, 1963; Parnes, 1967; Gordon, 1961; Prince, 1968; de Bono, 1973; Vargui, 1977), coming up with possible solutions (Rossman, 1931; Osborn, 1963; Parnes, 1967; de Bono, 1973, Vargui, 1977), considering the consequences of these solutions (Osborn, 1963; Parnes 1967; Gordon, 1961; Prince, 1968; Wallas, 1926; Vargui, 1977), and choosing the best solution (Rossman, 1931; Gordon, 1961; Prince, 1968).

Children engaged with this cognitive process when they solved the textual problems in a variety of different ways. Vivienne solved the short format of *Rosie's Walk* (1967) by adding descriptive adjectives to the story that evoked sensory details which made the story much more elaborate and interesting:

Rosie the hen went for a walk across the pool yard, around the relaxing pond, over the tall haystack, past the yellow mill, through the hard fence, under the massive beehives and got home in time for dinner.

Phillip solved the absence of a characters' point of view by interviewing the wild things from *Where the Wild Things Are* (1963) and asking them several questions which were not revealed in the text: 'How did Max control you guys?' 'How much do you weigh?' 'Where do you sleep?' 'Which island do you live on?' 'How old are you?' Both Phillip and Vivienne engaged with the problem-solving process by 'looking for answers, trying out some possibilities, and finding out whether or not they work' (Britz & Richard, 1992, p. 12) through a process of investigation, exploration, and experimentation (ibid).

Children also engaged with problem-solving when they solved the character's problems. This was perhaps a predisposition which was spurred by children's empathy and compassion towards the characters and their circumstances in the texts they read. Edi cured Rose's loneliness in *John Brown Rose, and the Midnight Cat* (1977) by setting her up with a French husband named Otto. Roman offered a queen to the imprisoned Bard from *The Boy, the Bear, the Baron, the Bard* (2004) who could pardon his bad jokes and excuse him from execution. Alexia added a character named Petey to *The Boy, the Bear, the Baron, the Bard* (2004) who could be a lasting friend to the Boy who 'doesn't go away'. Annie employed a hitman named Max who had the superpowers to kill the Baron from *The Boy, the Bear, the Baron, the Bard* (2004) should he need to be quietly disposed of. Fortunately, he didn't have to, as Andy saved the day by changing the ending of the story *The Boy, the Bear, the Baron, the Bard* (2004) and ensuring a happy ending, which children above all else valued in a story.

Despite children valuing a happy ending there is, however, an argument over which ending should prevail in a picture book. Many argue that sad endings are likely to have a depressive effect on children and as such children's picture books 'must not leave the child-reader in despair. And although what evokes happiness varies from child to child.... A poetics for children requires a delicate rendering of hope and honesty' (Natov, 2002, p. 220). Others argue 'that children, even infants, have a right to know some of the less palatable facts about the world they live in' (Tucker, 2006, p. 208), for 'a culture that does not admit the existence of occasional depression among children or their books seems not so much healthy as having something to both fear and hide' (ibid). Kevin Brooks the winner of the prestigious Carnegie Medal (a literary award annually rewarded to an outstanding English-language book for children or young adults) also supports this view by maintaining that children do not need their books to have 'patronizing' happy endings but instead they need to be 'immersed' in the difficult parts of life in understanding that life is not always 'all right in the end' (*The Telegraph*, 2019). While there is validity in both these arguments, it was particularly evident

in the study that children did need a happy ending, which should be respected without hurrying them along into the grey areas of life that will inevitably come by their own admission. This view was supported by Dawn in the study who disliked the end of *The Happy Owls* (1964) and suggested that it should have a happy ending: ‘I think that they should have more of a proper ending where like all the other animals start being happy.’

In addition to examining children’s engagement with the above cognitive processes from Anderson and Krathwohl’s (2001) *Taxonomy of the Cognitive Domain* children’s engagement with the below text-picture relationships was also investigated.

## **Relationship Patterns**

### **Symmetrical Relationship**

The *Symmetrical Relationship* according to most theorists reviewed in the literature review was the most effective in children’s memory and comprehension due to the supportive function of illustrations to text (Guttmann, Levin, & Pressley, 1977; Lesgold et al., 1975; Levie & Lentz, 1982), which is strengthened in the mind when information is visually and verbally encoded. Once as an illustration and once as text (Paivio, 1986). This however was not the case in the study as the symmetrical relationship represented by *John Brown, Rose and the Midnight Cat* (1977) was not the most comprehensive. While the reasons for its incomplete comprehension are difficult to discern, assumptions can be made about the children who did not cognitively engage with the text.

The first child was Amy, a grade 1 student, who struggled with reading and had no memory or comprehension of the text. The second child was Brody, a grade 2 student who although did not struggle with reading, he did encounter difficulties with memory and comprehension. The common denominator which inhabited both these children's understanding was their comprehension, which was affected due to their inability to make inferences (Long, Seely & Oppy, 1997), identify the main themes in the text, integrate them, and answer questions about them (Oakhill, Yuill, & Donaldson, 1990). This was potentially because children failed to construct an accurate model of the story (Long, Seely & Oppy, 1997) in their mind's eye, which is a crucial aspect of successful reading comprehension (Zwaan & Radvansky, 1998).

The other factor which may have contributed to Amy's and Brody's incomplete comprehension of the *Symmetrical Relationship* may have been the very factor that theorists argue contributes to their understanding: the *Symmetrical Relationship*. While text and illustrations communicate symmetrically, they are never symmetrical (Lewis, 2001), as they communicate differently. Text communicates temporal, sequential information by moving the reader forward in time through a series of sequential, chronological moments. Illustrations, in contrast, communicate spatial, atemporal knowledge (Nodelman, 1990) by coercing the reader to stop and stare. As the two communicate differently, the symmetrical relationship may have placed special processing demands on children, who not only had to process visual and verbal information, which were experienced differently, but they also had to integrate the two forms of communication dually, which is a complex process.

### **Extend, Enhance, Elaborate, Amplify, Clarify Relationship**

All eighteen participating children in the study had complete memory of the *Extend, Enhance, Elaborate, Amplify, Clarify Relationship*, represented by the text *Where the Wild Things Are* (1963). Sixteen of these children also had comprehension of it. It seemed that this type of relationship, or perhaps the ingenuity of the text itself, stirred children's emotions and stimulated their creativity, as several children engaged with the text imaginatively. Sandie added a wild pet zebra for Max to play with, which complemented the wild theme of the text; as she observed: 'I thought if I did a wild zebra it would kind of like fit in with the book because the title is *Where the Wild Things Are*.' Dawn recalled a wild dream she once had:

I had a dream where me and my friends were running away because we saw all these really creepy bodies lying around my backyard. And then I was commanding all of them to do stuff, and my friends were like she looks like a good commander and then they made me the queen.

Tabatha, similarly, remembered a fantasy sequence:

Once me and my cousin were playing king and queen and she was the queen of all crazy things. Her whole palace was full of crazy things. Crazy things everywhere. On the roofs there were streamers with snakes on them, she calls them slinkies, also the chairs had wrapping paper with candy on top. We had so much fun. We were laughing all day.

Justin, the youngest of the group, was emotionally stirred when he became fearful of encountering the wild things and decided to make a poster warning children against running away from home, for fear of encountering them: 'Never run away from your family because monsters can eat you up.'

Despite the imagination this type of text inspired, several children, including those with high levels of comprehension, did encounter difficulties with understanding the dream sequence in the text. Children often wondered how Max's room transformed into a forest. This raised questions about children's knowledge of dreams and their ability to distinguish between the physical and nonphysical world. 'Traditional views of young children's understanding of dreams are that they are 'conceptually confused or ignorant about the subjective nature of dreams' (Woolley & Wellman, 1992). This view is supported by Piaget (1929, p. 88) who claimed that:

the child is a realist and a realist because he has not yet grasped the distinction between subject and object and the internal nature of thought. Obviously, therefore, he will be confronted by grave difficulties when he attempts to explain the most subjective of all phenomena-dreams.

Recent studies of children's understanding of the mind, however, contradict this view as preschool children have been shown to be knowledgeable about dreams as they understand the fictional nature and they are also able to distinguish between fantasy and reality. While it seems evident that children's understanding of dreams is sophisticated (Woolley & Wellman, 1992), the reason why children had difficulties understanding the dream sequence in the text *Where the Wild Things Are* (1963) was potentially because there was no clear distinction or sign to point to the transition from the real world to the fantasy as Dawn explained in the study: 'it's hard to understand whether it's a dream or fantasy unless at the end, they say something like and then he woke up.'

### **Illustration Carries all the Narrative Relationship**

The *Illustration Carries all the Narrative Relationship* represented by the wordless picture book *The Boy, the Bear, the Baron, the Bard* (2004) was one of the most understood texts in the study with all eighteen participating children, including those with lower levels having comprehension. This was potentially because comprehension begins with pictures (Serafini, 2014), as opposed to words, which children are effectively exposed to as soon as they are born through visual perception.

Not only was the wordless picture book the most comprehensively understood text in the study but it was also the most enjoyable because it gave children the autonomy to make up the narrative without worrying if they were wrong or right. As Brody explained: ‘I liked that there were no words so I just could let my imagination run wild and go with what the pictures said. And I don’t really care if I got something wrong.’

It was perhaps due to this autonomy that several scenes from the text were misinterpreted, including why the Baron was chasing the Boy. Bethany thought that maybe: ‘the king was chasing the Boy because he was actually trying to play soccer with the Boy, but the Boy didn’t believe him, so he kept running away.’ Bethany had overlooked the scene where the Baron had tripped over the Boy’s ball and held him accountable. Sandie was also completely oblivious to the time travel which had occurred in the text due to her lack of historical knowledge: ‘I thought it was hard to understand like why were they laughing on like this page and they all look really weird.’ All the children in the study except for Andy and Vivienne were also oblivious to the ending of the story because it was featured in a painting on the back cover which children overlooked as most anticipated that a story ends on the last page, not on the back cover. As a result, children failed to realise that the Baron had the last laugh as he had possession of the Boy’s ball.

These misunderstandings potentially arose because wordless picture books necessitate different decoding requirements than ordinary picture books (Brilliant, 1984) such as filling in iconotextual gaps, recognising the sequence and connections that must be made between illustrations, drawing on conclusions about these connections, and recognizing that there are often multiple interpretive possibilities and ambiguous endings (Arizpe, 2013). Despite the misunderstandings which occurred in the study, due to children failing to make connections through the sequence of events, they were still able to have a better understanding of the storyline as a whole through their comprehension of illustrations. As a result, wordless picture books are an ideal medium for both less and more experienced readers. Less experienced readers will acquire language development skills that occur through the construction of narrative and the verbalisation of a story (Beckett, 2012). While more experienced readers will be able to draw a more complex understanding of the story.

### **Text Carries Primary Narrative, Illustration is Selective Relationship**

The *Text Carries Primary Narrative, Illustration is Selective Relationship* represented by *The Happy Owls* (1964) was the most misunderstood text-picture relationship in the study because the story was predominantly told through words, which assumed a dominant, primary role in telling the story through what was absent from the illustrations. In contrast, the illustrations assumed a less prominent, submissive role, as their function was to merely focalize one aspect or detail of the text. As words were the prevalent form of communication in the relationship, language was a barrier in students' comprehension. 'Students therefore need to develop a knowledge of how language works' (Anstey & Bull, 2000, p. 202). They also need to have an understanding of semantic and vocabulary knowledge from an early age which continually grows over time. This finding is supported by Betty Hart and Todd R. Risley (1995) who discovered the importance of exposing children to a high quantity and

quality of language learning experiences in the early years which led to greater educational achievement in the middle years of primary school.

Children may be exposed to a range of language through a variety of texts. Metafictive texts in particular can assist children to develop a heightened awareness of language through meaning-making (Freire, 1985). The written or oral language acquired from these texts can influence ‘the complexities and nuances of children’s thinking’ (Sinatra, Zygouris-Coe, & Dasinger, 2011, p. 333). They can also enable children to express their understanding of more complex ideas through meaningful discussion. In addition to exposing children to a wide variety of texts it is also important for children to be exposed to adults who use a wide variety of vocabulary. This is important as the predictor of vocabulary learning depends on children’s interactions with adults (Weisleder & Fernald, 2013) and the number of words they hear from them during interactions and conversations which may or may not be play orientated.

While the language in *The Text Carries Primary Narrative, Illustration is Selective Relationship* was a barrier, the picture book’s non-linear narrative structure completely distorted children’s comprehension of the text through its allegorical, indirect, and interwoven narrative structure, which aligned happiness with love of the seasons and nature and unhappiness with bickering and a disregard for the beauty that abounds and astounds. Children may be taught about this type of narrative structure through story mapping which is an effective strategy in improving children’s memory and understanding which results in fewer comprehension problems (Dymock & Nicholson, 1999). Lorna Idol (1987) used story mapping with grade 3 and 4 students which focused on characters, time, place, problem, goal, action, and outcome. James F. Baumann and Bette S. Bergeron (1993) also used story mapping to assist children with their comprehension. The findings revealed improvements to comprehension in both studies. Children as young as six years old can engage with character and plot analysis in identifying the theme and setting in a text (Calfee & Patrick, 1995). This

was exemplified by a 6-year-old student in a study by Robert C. Calfee and Cynthia L. Patrick (1995, p. 178) who spoke about the process.

What you have to do with a story is, you analyze it; you break it into parts. You figure out the characters, how they're the same and different. And the plot, how it begins with a problem and goes on until it is solved. Then you understand the story better, and you can even write your own.

Teaching children about narrative structure through story mapping from an early age is important as it can provide children with a foundation for comprehending more complex narrative structures in postmodern, contemporary, and multimodal texts. It can also establish the foundation for more complex novels children will encounter in upper primary and high school.

### **Contradiction Relationship**

The *Contradiction Relationship* represented by *Come Away from the Water, Shirley* (1977), was one of the most misunderstood relationships in the study as the opposition between the text and illustrations confused children. Andy was one of these children who by his own admission was completely perplexed by the text:

It was confusing when Shirley's father was making stuff up, here he's like careful where you're throwing those stones you might hit someone. And she's not even throwing stones. And then here he's like don't bring that smelly seaweed home. And she's not even doing that.

While Andy's reasoning was sound, he became confused because he did not understand the text's irony which not only required him to go beyond the scope of text and illustrations (Nikolajeva & Scott, 2000), but it also necessitated a range of skills in order to understand the concept of irony. These skills included background knowledge, an understanding of intention, and the ability to make inferences and understand falsehood (Kummerling-Meibauer, 1999). Even if children are taught irony, it is questionable whether they can understand it in the early years of a child's cognitive development (ibid) as it is a complex discursive strategy which requires a deeper cognitive understanding and an awareness of several different literary tropes.

Adding to the text's confusion was the interwoven theme of fantasy which made it all the more difficult for children like Vivienne to understand the story: 'I don't know where Shirley is. I don't know who the other characters are. I don't know why the dog is on the front cover in the boat with Shirley. And I don't know why the characters are jumping off the ship.' Vivienne, like other children in the study, was confused by the text's fantasy scene.

Children's difficulty in identifying such scenes was potentially attributed to their inability to distinguish between fantasy and reality (Strouse, Nyhouy, & Ganea, 2018). This process is underlined by mental and symbolic models (Corriveau & Harris, 2015) which children must have knowledge of in deciding whether a story stands for something real, or something made up (ibid). Children's inability to distinguish between the two may be due to constraints in mental and symbolic reasoning (DeLoache, 1991), which prevents them from seeing objects as both physical and symbolic sources. As Gabrielle A. Strouse, Angela Nyhout, and Patricia A. Ganea (2008, p. 2) explain using the exemplar of a book:

when reading an informational book about new animals such as South American cavies, children need to realize that they are reading a book with pages that can be flipped and pictures that tell a story about 2-dimensional cavies. They also need to recognize that the cavies on the page are intended to be representative of animals in the real world that have the same name (“cavies”) and features. Understanding that a picture in a book is an object that represents another entity is a symbolic task.

In addition to distinguishing between the symbolic and literal, children also must be able to transfer such knowledge, which they are not always successful at. This was particularly evident in a study by Georgene Troseth and Judy DeLoache (1998) who asked 2-year-old children to use pictures of a room (with information about hidden objects) to help them find the hidden objects in a real room. While children could identify the hidden objects in the pictures of a room by pointing to them, they could not transfer this knowledge to find the objects hidden in the real room. This was potentially because children did not make connections between the picture of a room and the actual room as they saw the two as separate entities. Children in the study may have similarly struggled to make connections between the real and fantasy world in a text due to viewing the two as separate entities as opposed to intertwined worlds.

The representation of pictures may have been another factor which affected children’s understanding. According to Strouse, Nyhouy and Ganea (2018, p. 2) ‘pictures in books are ‘impoverished’ compared to information presented in real life because they provide only one visual perspective, lack depth cues like motion parallax and changing shadows, and may be low resolution.’ Gabrielle Simcock and Judy DeLoache (2006) support this view as they maintain that perceptual differences between images in picture books and objects in the real world present a barrier to children’s ability to use picture books symbolically, as a source of information about the world. To address these barriers, it is necessary to acquaint children with symbolism (Strouse, Nyhouy, & Ganea, 2018), draw more realistic representations, and acquaint children with cues that point to or establish a transition between fantasy and reality.

## **Counterpoint Relationship**

Despite the *Counterpoint Relationship* and the *Contradiction Relationship* being built on the same premise; both feature two opposing characters who are represented in the text by two opposing modes of communication: text and illustrations, the *Counterpoint Relationship* represented by *Rosie's Walk* (1967) was the most understood picture book in the study, while the *Contradiction Relationship* represented by *Come Away from the Water, Shirley* (1977) was the most misunderstood picture book. The disparity between the two relationships was due to their narrative structure. In *Come Away from the Water, Shirley* (1977) the narrative structure was non-linear and complicated, while In *Rosie's Walk* (1967) it was linear and uncomplicated. This indicates that while children had a basic understanding of simple narrative structures which inhabit a clear beginning, middle, and end, they were less likely to have knowledge of more elaborate structures. As a non-linear narrative structure was found to significantly affect children's comprehension of this text and several others in the study, it is particularly important to investigate it further.

## **Narrative Structure Patterns**

Prior to investigating a non-linear narrative structure, it is essential to define what is meant by the term narrative structure. In a broad sense narrative refers to 'any spoken or written presentation' (Polkinghorne, 1988, p. 13). In the narrow sense, it refers to 'a fictitious tale or story-usually in the form of a causally-linked set of events' (ibid). In either sense, structure refers to the relations between the chronological parts of something complex. Together, narrative structure makes a story more intelligible through a sequence of events. The distortion of such a natural progression subverts the notion of a clear beginning, middle, and end, confounding children's understanding of a text as there are no clear signposts to guide them. Fortunately, the thesis identifies several signposts both in the discussion below and within a typology attached in the report section of the thesis, which identifies different

types of narrative structures and their characteristics in guiding children's understanding of a text. Each of these narrative structures have notably been aligned with the metaphor of carnival rides to provide a better understanding (Carpenter, 2008) of their movement through visual imagery. It is important for children to have a comprehensive understanding of all these narrative structures as they can improve memory and comprehension (Goldstone, 1999), predictive thinking (Hennings, 1997), reading development (Cain & Oakhill, 2008), literacy acquisition (McCabe & Peterson, 1991), and enhance children's knowledge of how a text is organised (Lapp et al., 2013), and how it may be read and understood.

### **Linear Narrative Structure (Ghost Train)**

Before exploring non-linear narrative structure in more detail, it is important to compare and contrast it to a standard linear narrative structure. A standard linear narrative structure presents stories in a logical manner, from the beginning to the end (Liu et al., 2010). There are no flashbacks or flash-forwards in this narrative structure that speed up the character's journey or create an alternative framework to tell the story. Nor are there any complex literary devices that disrupt a clear progression through the text. You could effectively draw a straight line from the beginning of the story to the end, as it encompasses a sequence of chronological events which do not disrupt the course of the story. This type of narrative structure is synonymous with the ghost train carnival ride as it moves its passengers (implied reader) in a linear, straightforward motion, devoid of any detours. *Rosie's Walk* (1967) inhabited this narrative structure in the study, as the story progressed through time in a linear, sequential order, devoid of any flashbacks or flash-forwards.

## Circular Narrative Structure (Ferris Wheel)

The circular narrative structure subverts linearity through cyclicity, self-reflexivity, and introspection (Campbell, 1949). Like the legendary ouroboros, it re-creates itself in cycles by beginning anew as soon as it ends through the eternal return, central to the writings of Friedrich Nietzsche (2009). At times making the reader feel as though nothing has changed, as they are back to where they started. In other instances, making them feel a sense of completion and fulfilment as the narrative is neatly tied up with a happy ending. The simplest and most unassuming of these circular narrative structures are the alphabet and number books which require the reader to return to the beginning despite reaching the end until they have mastered their knowledge of letters or numbers. There are more complex circular narrative structures which are synonymous with Christopher Vogler's (2007) *The Hero's Journey*, where the main protagonist's journey just like the circle of life moves in a circular motion, from optimism to pessimism, from pessimism to optimism. The journey is marked by tests, challenges, trials, and tribulations. The strange, peculiar, or unusual unfolds and the protagonist experiences a new environment or unfamiliar circumstances. There is often fear, confusion, heartbreak, or resistance to change. The protagonist loses or gains physical or allegorical possessions along the way as they overcome challenges and undergo internal or external growth. The journey comes full circle, as the protagonist completes a cycle, and at times returns to the beginning where there is a happy ending.

Max's adventure in *Where the Wild Things Are* (1963), follows this narrative structure, which begins in the *Ordinary World* where Max mischievously hammers nails into the wall and chases the dog with a fork before there is a *Call to Adventure* and Max *Crosses the Threshold*, from his bedroom into a moonlit forest filled with wild, frivolous things. *Tests, Allies, Thresholds* arise as Max forms allegiances with the wild things and simultaneously faces *The Ordeal* of losing his family. Despite receiving *The Reward* of becoming king of all the wild things, Max decides to take *The Road Back* home and *Return with the Elixir*, which is the

realisation that no kingship is more valuable than your family. Max wakes from his dream and returns to the beginning, which is incidentally the end, neatly tied up and embellished with an ideological bow, as John Stephens (1992, p. 42) affirms:

Aesthetic completeness is achieved in children's literature through representation of symmetries or movements from states of lack to state of plenitude, as found in, for example: the completion of a quest or purging of an evil; the finding or recovery of a valuable object...; a return to a place of departure...; the replaying of a crucial event..., and so on.

### **Gravitational/Random Narrative Structure (Roller Coaster Ride)**

The gravitational narrative structure like a rollercoaster ride is not about a fixed point, but rather an ongoing progression through the text that is free-flowing and uninhibited. Time in this narrative structure is disrupted through discourse, which is abstract, poetically, or ideologically imbued, as it relies on the complexity of language and the irony of convention. The passenger (implied reader) in such an instance is moved in an irregular and erratic manner as the narrative does not inhabit a normative beginning, middle, and end. This makes it extremely difficult for the reader to determine where the story begins and where it ends, as there are no markers or fixed points to guide the reader through the progression of the text.

*Come Away from the Water, Shirley* (1977), inhabits a gravitational narrative structure as it does not feature a lucid beginning: 'Of course it's far too cold for swimming, Shirley' (p. 1), nor does it have a comprehensive middle: 'That's the third and last time I am asking you whether you want a drink, Shirley' (p. 10), or a conclusive ending: 'Good heavens! Just look at the time. We are going to be late if we don't hurry' (p. 20). In the study this type of non-linear narrative structure created confusion for the novice reader due to the absence of a clear beginning, middle and ending, and fun and frivolity for the experienced reader as it invited children to experience the story in an unorthodox and unconventional manner. This type of narrative structure is prevalent in metafictional, postmodern texts which often embody

unconventional forms such as a character, an object of construction, or a portal to other narrative levels. According to Pantaleo and Sipe (2012), these types of texts should be appreciated and acknowledged in classrooms because they enhance children's development as readers, writers, and thinkers and make them more critically aware of the complexity and the ambiguity in the social world in which they reside.

### **Open Narrative Structure (Jumping Frog)**

While the reader has to fill in the textual gaps in all stories, the open text requires the reader to co-create the story by going beyond the 'the readerly gap—that imaginative space that lies hidden somewhere between the words and the pictures' (Styles & Watson, 1996, p. 2). This space is different to the readerly gap as it requires the reader's imagination to co-create the story. It may present itself in a text through various ways, as exemplified by Goldstone's observation of *Shortcut* (Macaulay, 1995) 'illustrations are deliberately constructed with gaps in information, seemingly superfluous irrelevant information, multiple story lines and ambiguity...there is not a hierarchy of events or a central story line' (Goldstone, 1999, p. 26).

The gap in this type of text may be throughout the story or it may be present in a section. In *Granpa* (Burningham, 2003) the gap is predominantly at the end of the story where the reader has to interpret the absence of granpa, which may be attributed to the 'grandfather's departure to a retirement home, as his death, as a kidnapping by aliens, or as his having shrunk so much that he is not visible to the naked eye anymore' (Beauvais, 2015, p. 6). The gap in Shaun Tan's *The Lost Thing* (2000) is throughout the text. While the story is not complex, there are many ambiguities surrounding the lost thing which is unlike anything one might normally encounter. It is a huge tentacled monster, not quite animal or machine, with no particular function or origin. It is estranged from everything around it. The environment surrounding it is also ambiguous, including the plumbing, the mysterious and dehumanising architecture, and the physics and algebra inscriptions. There are many questions about the lost thing that go unanswered, such as

‘what is the lost thing?’ ‘Where did it come from? And what is its purpose?’ There are no clear answers to these questions because the reader is required to fill in the textual gaps.

### **Oscillating Narrative Structure (Pendulum Ride)**

The oscillating narrative structure like Frank Kermode’s (1966, pp. 44–45) analogy of time in fiction swings between two exchanges of dialogue: the tick and tock, as he explains:

We ask what (the clock) says: and we agree that it says tick-tock. By this fiction we humanize it, make it talk our language. Of course, it is we who provide the fictional difference between the two sounds; tick is our word for a physical beginning, tock our word for an end.

In this narrative structure the tick represents one character’s dialogue; the beginning of a spontaneous exchange, while the tock represents another character’s repetitive retort; occurring at the end of an exchange. There is often no central value, as the reader, like a pendulum clock or ride, swings back and forth between the tick and tock. These two exchanges of time (the tick and tock) may notably be reversed to (tock and tick), as the repetitive exchange may be at the beginning or at the end of a conversation. This type of narrative structure may be exhibited in picture books for both younger and older readers. In picture books for younger readers the dialogue is extremely short consisting of a couple of words which serve as the sentence, such as: *Jack jumps, Jack skips. Jack runs, Jack dances.* Jack is the repetitive riposte while his action is the spontaneous exchange. The text continues to swing back and forth, often without a conclusive ending, but an action that suggests an ending, such as Jack falls down. In more complex picture books for older children there may be a play on words, like the banter between father and son in *My Dad Thinks He’s Funny* (Germein, 2010, p. 6). The beginning embodies the father’s witticisms: ‘When I say, Dad, do you know what? He says, I don’t know What, but I know his brother. When I say, Dad, I don’t know how. He says, I know How, he’s What’s brother. And when I say, Dad, I don’t want to. He says, Okay then...Do you want three?’ and

the ending is the repetitive and caustic passage: 'My dad thinks he's funny.' This type of exchange between the father's witticism and the son's caustic retort oscillates throughout the text until the very end.

### **Retrograde Narrative Structure (Ejection Seat)**

Like the ejection seat, the retrograde narrative (Genette, 1983) structure subverts linearity by moving the reader backwards. While the ejection seat moves the passenger (implied reader) along a vertical axis, the retrograde in the text generally moves the reader along a horizontal axis, where the events in the narrative unfold backwards. Such as those in the *Backward Day* (Krauss, 2007), where the day is lived backward, from beginning to end. This includes dressing backwards by putting on your jacket, followed by your shirt, pants, and underwear on top and walking downstairs backwards, sitting on your chair backwards and greeting your parents in the morning with a 'Good night'. This retrograde may notably relate to more significant events in a text, such as those in the fairy tale *The End* (LaRochelle, 2007), as opposed to the order of everyday events in *Backward Day* (2007). The retrograde may also be in a minor section of the text or it may feature more prominently throughout the story.

### **Visual Spatial Narrative Structure (Bumper Cars)**

While the visual spatial narrative structure was not present in the study, it is worth exploring, along with others, to gain a better understanding of all the different types of narrative structures that exist and how they may affect children's comprehension of a text. Visual spatial texts similarly to flat rides such as bumper cars, move their passenger (implied reader) spatially on the surface of the pages which are full of activity, devoid of any meaningful destination. The reader as such is acquainted with the complexity of the visual, aesthetic world, as the text is verbally encoded with visual elements within a spatial and compositional whole. Characters in such an instance are rarely challenged as they do not undergo any perceivable growth, only

physical movement due to the toneless or non-explicit plot, in contrast to the reader who is tested by their probing skills that emerge through an imminent hunt or exploration.

*Where's Wally? The Incredible Paper Chase* (2010) by Martin Handford inhabits this narrative structure as it is not Wally (the main protagonist) who undergoes any perceivable growth, but the reader who is challenged to find Wally among the visual and aesthetic chaos in the text. Visual spatial texts should, however, not be confused with wordless picture books which visually inhabit flatness but theoretically encapsulate a more complex storyline. *The Boy, the Bear, the Baron, the Bard* (2004) is a text which is presented in a wordless format but inhabits a circular narrative structure which similarly to Vogler's (2007) adapted version of Campbell's *The Hero's Journey* (1949), begins with a *Call to Adventure* as the Boy enters the theatre to retrieve his soccer ball and ends with *The Road Back* home as the Boy *Returns with the Elixir*, which is the realisation that sometimes in life you lose friends.

### **Zigzag Narrative Structure (Zigzag Ride)**

The zigzag narrative structure like the zigzag carnival ride moves its passenger (implied reader) across two successive motions. It traces the perspective of two or more characters who take turns speaking. These perspectives often diverge at the beginning of the story, while at the end they may converge (due to a truce between the characters), or they may continue to diverge throughout the text (due to the differences between the characters) as exemplified in the *Happy Owls* (Piatti, 1964): 'Once upon a time in an old stone ruin there lived a pair of owls. All year through they were happy' (1964, p. 1). 'On a farm nearby there were all kinds of barnyard fowl who did nothing all day but eat and drink' (p. 3). 'And after they had finished eating and drinking, they began to fight with one another' (p. 6). This exchange between the happy owls and the barnyard fowl continues to diverge till the end of the story where the barnyard fowl remain unenlightened (pp. 7–28):

One day the peacock noticed the owls and he wanted to know why they did not quarrel. Why was it they were so happy? The other birds when they heard his question said, Why don't you visit the owls and ask them how they can live together so peacefully? With a deep bow the peacock agreed to call on the owls. When the chickens, the ducks, the geese and all the others were assembled, the owls began their story. What nonsense! screamed the chickens, the ducks, the peacock, and the geese; for they had understood nothing of all this. Do you call that happiness? And the barnyard fowl who preferred to go on preening, stuffing themselves, and quarrelling, turned their backs on the owls and went on living as before. But the owls snuggled still closer to one and another, blinked their big round eyes, and went on thinking their wise thoughts.

In contrast to *The Happy Owls* (Piatti, 1964), *Pearl Barley and Charlie Parsley* (Blabey, 2007), is a text where the perspectives between the two characters diverge at the beginning but converge at the end. The diverging perspectives are evident as soon as the two friends are introduced who are quite different: 'Pearl Barley and Charlie Parsley are friends. Really great friends' (p. 1), 'However, people often ask, Why are Pearl Barley and Charlie Parsley friends? They are just so different!' (p. 2). These differences continue to expand through Pearl Barley and Charlie Parsley's contradictory demeanour in the text: 'And they are different. Different in almost every way' (p. 3). 'You see, while Pearl Barley is very loud, Charlie Parsley is very quiet' (pp. 4–5): 'While Pearl Barley likes to talk, talk, talk all day long, about anything and everything, Charlie Parsley is very shy' (pp. 6–7). It isn't until the end of the story where their differences converge into one: their friendship: 'Yes, they are different alright..., different in almost every way' (pp. 24–25). 'And that is why Pearl Barley and Charlie Parsley are friends. Really great friends' (p. 26).

There are invariably texts that subvert these narrative structures by occupying characteristics from multiple narrative structures. But, generally speaking, these texts will be less frequent as there will often be overriding features which are synonymous with one or two of these narrative structures, as opposed to all of them.

## **Semiotic Patterns**

Semiotic theory investigated how children communicated their understanding of the six different text-picture relationships investigated in the study through a signifying system of communicative behaviour. This communicative behaviour more specifically consisted of two semiotic categories. The first category investigated the sign systems children engaged with to express their cognitive understanding of individual activities. These sign systems included 1) the icon—denoting likeness or similarity; 2) the index—pointing to the signifier that correlates with the signified; and 3) the symbolic—referring to signs that are of a social convention. Children engaged with the iconic when they drew images. If children had experienced an image in their mind's eye from the real or imagined world (Oittinen, 2003), then they could identify it and replicate it in the study. This was demonstrated in another study by psychologists Julian Hochberg and Virginia Brooks (1962) who deprived a child of pictorial representations for the first nineteen months of his life. When the child was shown outline drawings of familiar objects he recognized and named them all—including some of the drawings in perspective. Children engaged with the symbolic by using the conventions of the English language (Oittinen, 2003) to express their understanding of the different text-picture relationships. Children also engaged with the indexical when they discussed the nature of cause and effect (Sobel & Kirman, 2006). This involved making inferences and predictions (Shultz, 1982) to understand the causal relationships between them. Amy demonstrated this understanding when she described the consequence of a ball smashing a window: 'BOOM, BOOM, CRASH!!!'.

While children could engage with causal thinking (Leslie & Keeble, 1987; Spelke et al., 1992), it is unknown how children are exposed to such knowledge (Sobel & Kirkham, 2006). There is however research that maintains that self-explaining (explaining to oneself or to another person) (Legare & Lombrozo, 2014) assists with children's understanding of such a relationship through scientific reasoning. It is consequently important for children to be given the opportunity to think like scientists (Bailey-Gilreath, 2015). Teachers and parents should ask children to explain 'why' and 'how' something works rather than telling children so that they have the opportunity to understand the causal relationship better through self-explanation.

The second semiotic category in the study investigated the dominant form of communication children engaged with to express their understanding of the different text-picture relationships they engaged with. The findings revealed that children's preferred communicative exchange consisted of both text and illustrations. This may be because the thinking process consists of both 'verbal thinking (using words to think) and visual thinking (using images, rather than words, to think)' (Nishimura et al., 2016, p. 2). Verbal thinking more specifically comprises thinking with words, which follow a linear, logical, and sequenced structure, as Nishimura et al. (2015, pp. 2–3) explain:

Individuals whose thinking is dominated by verbal thinking tend to comprehend things in order. They have difficulty starting a novel halfway through, or listening to a mathematical lecture halfway through. These individuals must read from the beginning, or listen from the start, in order to understand the content. When they think, they think while talking to themselves.

While 'the main function of visual thinking is its ability to coordinate different meanings of images into a complete, visible picture' (Zhukovskiy & Pivovarov, 2008, p. 149). It can also assist us with verbal thinking so that we can better comprehend its abstractness (ibid).

The distinction between verbal and visual thinking was particularly evident in the study when children solely engaged with one form of communication over the other. Children who only engaged with visual thinking were generally more artistically and visually inclined. While children who solely engaged with verbal thinking were more adept at learning new language, as they had an affinity with words, literature, and speech. When these children were asked why they had chosen one form of communication over another their responses did not seem to align with their predisposition to think verbally or visually. Brayden, a grade 3 student, at times said that there was no room on the page to draw illustrations, and in other instances, he said that ‘he didn’t really know what to draw and where to put it.’ Abdul thought that ‘bears are like really hard to draw.’ Grade 2 students, Dawn and Julie also discussed their love of drawing, while Brody said that he didn’t know he was allowed to draw pictures. Annie, a grade 1 student, often said she had no idea why she had chosen either form of communication. Amy thought that it was quicker to draw pictures. Edi more directly said that he didn’t want to draw pictures, while Justin took an unorthodox approach and said that if he couldn’t be fair and draw pictures on either side of his two columns then he would not draw pictures anywhere.

Despite children’s varying responses, it became apparent that apart from children’s predisposition to think verbally or visually there were three other determining factors which influenced the way children responded to a text. The first of these was influenced by the activity children had chosen and the demands it necessitated. If, for instance, a child chose to interview a character, then they would only use text. If they chose a map, they would only use illustrations. If they chose a comic strip, then they would synthesize both text and illustrations. The second factor which influenced the way children responded to a text was their love of art and drawing which led them to respond in a variety of artistic ways. There was no correlation between children who responded verbally and had high levels of cognition, as Dawn, Bethany, Aria, and Alexia all had high levels of comprehension, but included illustrations in nearly all their textual responses because they loved to draw. Tabatha was the exception, as she did not

like to draw. The third factor which influenced how children responded to a text was their lack of comprehension. Most children who struggled to understand a text were more likely to write and/or draw a picture, as opposed to engaging in concept-related activities. When children did, however, have sound comprehension of a text, they predominantly engaged with concept related activities because they were more adept thinkers, who were able to synthesise knowledge and engage with various cognitive processes. Knowledge of how children responded to texts is particularly important for teachers to understand, as it will reveal a deeper insight into their cognitive strengths and weaknesses and how these may be catered for through applicable education and pedagogy.

### **Verbal Poetic Patterns**

Despite children engaging with a multiplicity of semiotic systems through their choice of activities, the vast majority of (verbal) poetic devices used were copied from the texts children engaged with. This was ironic as poetry is ‘commonly regarded as the ‘highest’ genre in the literary hierarchy, the most abstract, the most profound, sparing of words’ (Johnston, 2012, p. 422), yet it was a form of communication that children rarely ever engaged with. In the rare instance that they did, they copied the poetics from the texts they engaged with. The most copied poetic device in the study was the symbolism of a crown which Amy replicated from *Where the Wild Things Are* (1963). She understood its symbolic meaning when she observed that: ‘you can boss people.’ The only time children engaged with poetics independently was when they drew hearts. Dawn drew a heart in a certificate for the Boy in *The Boy, the Bear, The Baron, the Bard* (2004). She understood its meaning when she discussed its symbolism: ‘I feel like whenever I do certificates, I am always going to draw a heart in it. And that’s the only picture that will need to be.’

It is difficult to discern why children rarely ever engaged with poetics in the study, but assumptions can be made. Some of these include children's genetic predisposition, their environment (Goswami & Bryant, 1990), or their age. The latter seems to be the case in the study, as poetics was not a predisposition children were born with, but one they learnt over time. This was because expository writing was a priority in building the foundations of the English language and learning how to read and write. This finding is supported by Linda Thompson (1996) who also maintains that while children have knowledge of poetics from an early age, their ability to talk about it is not fully developed, nor was their ability to express it actualised in the study.

Although children did not seem to express themselves poetically at this younger age, there is evidence to suggest that children are part of a 'secret society' (Mole, 2002, p. 37). They may be reinitiated into this society through various methods of teaching. These may include engagement with writing poetry (such as haiku, rhyming schemes, acrostics, etc.), recital and memorization (Hanauer, 2012), exposure to emotional and observational experiences of others, and experimenting and playing with language, expression, and sounds (Grugeon, 1999). Not only is verbal poetics important in communicating but it also has many other benefits. Poetry can teach children how to read, write, and understand texts. It can help children respect different perspectives. And it can have a positive impact on children's mental health as it can give them a voice to express their emotions in a controlled manner. Due to the many benefits of poetics, it should be taught in the classroom through an emphasis on pedagogy and activities.

## Visual Poetics Patterns

There were several questions in the study about how children would engage with visual poetics and to what extent they were visually literate as there was no underlying convention to read illustrations such as the alphabet (Feldman, 1976). Despite the lack of convention, children drew several different types of images which were not present in the picture books they read but they had memory of. This was possible through visual perception which is an activity of the mind (Arnheim, 1969), that allowed children to make sense of what they saw by gathering information (Stern & Robinson, 1994), patternmaking (Myers, 1989), visualization (Barat, 2007), and building mental models (Johnson-Laird, 1980). These mental models consisted of recognizing objects, describing, and classifying them into three hierarchical levels of recognition, including (a) primitive features, (b) the objects, and (c) inductive interpretation (Greisdorf & O'Connor, 2002). The primitive level enabled children to identify aspects of an object such as colour, shape, and texture. The object level allowed children to classify the object into its categorical representation and discern whether it is a person/thing, location/place, or an activity/event. And the inductive level facilitated the process of interpreting and understanding the object's symbolic meaning.

Despite children recreating visual images from the world around them they rarely ever copied the images inside the texts they read. They also never spoke about the artistic elements of line, shape, colour, and texture and how they conveyed meaning. This was potentially because of the lack of emphasis on images in the curriculum, which resulted in teachers rarely ever analysing and commenting on children's illustrations as they did on their written work. As Gunther Kress and Theo Van Leeuwen explain (2006, p. 16) 'illustrations are not 'corrected' nor subjected to detailed criticism ('this needs more work', 'not clear', 'spelling!', 'poor expression', and so on).' The lack of emphasis on images may also be because 'they are seen as self-expression, rather than as communication – as something which the children can do already, spontaneously, rather than as something they have to be taught' (ibid). Images,

however, not only play an important role in texts for children but in the wider world of electronic media, newspapers, magazines, CD-ROMs, websites, and advertisements (ibid). Despite the expansive function of illustrations, as children get older the amount of time allocated to exploring them gets smaller. As Kress and van Leeuwen (2006, p. 16) explain:

By the time children are beyond their first two years of secondary schooling, illustrations have largely disappeared from their own work. From here on, in a somewhat contradictory development, writing increases in importance and frequency and images become specialized.

This is problematic as the meaning of images increase in complexity over time through diagrams, figures, charts, graphics, and atlases, which children are not taught to interpret. The lack of emphasis on these more complex images hinders children's knowledge and their ability to use them to support their understanding in a multiplicity of different and complex ways.

The following chapter of the thesis summarises the findings in relation to children's cognitive, semiotic, and poetic engagement with different text-picture relationships and the implications of these for teachers and children.

## CHAPTER

### 5

### *Discussion*

### Introduction

*'Discussion is an exchange of knowledge; argument an exchange of ignorance'*

– *The School Day Begins: A Guide to Opening Exercises, Grades Kindergarten-12*

(in Krarup, 1967)

In this chapter a discussion is put forward about children's cognitive, semiotic, and poetic engagement with different text-picture relationships. While most children in the study engaged with several aspects of these frameworks, children did encounter difficulties with some of them. It is important to discuss these difficulties in not offering a deficit view of children's capabilities but providing the opportunity for a surplus model that arises from identifying children's weaknesses and making recommendations to improve them.

The first cognitive process investigated in Anderson and Krathwohl's (2001) *Taxonomy of the Cognitive Domain* was memory. While most children engaged competently with memory, there were however some children who struggled to retain information from the texts they read as it exceeded their working-memory capacity (Sweller, 1988, 1989, 1993, 1994). This may have been attributed to limitations in storage, decay in memory, or interference in memory (Cowan, 2014). As a result of these limitations, it is important to discuss how memory can be improved. The most effective way is through retrieval practice, which has a greater impact on memory than spending more time learning (Bangert-Drowns, Kulik & Kulik, 1991; Landauer & Bjork, 1978; Karpicke & Roediger, 2008) or using any other encoding techniques (Karpicke & Blunt, 2011). This is because learners need as much time to practise remembering information as they do learning it. The implications with memory retrieval are that it is typically associated with rote learning which is 'thought to produce poorly organized knowledge, lacking coherence and integration, and is reflected in failures to make inferences and transfer knowledge to new problems' (Karpicke & Grimaldi, 2012, p. 407).

This, however, contradicts what retrieval learning is, as it is the opposite of rote learning: ‘It is long-lasting and durable, coherent and well organized, and supports transfer, inferencing and problem solving’ (Karpicke, 2016, para. 13). Due to these negative connotations associated with memory retrieval children do not practice it as often or as effectively as they could (ibid). Changes consequently need to be made to the curriculum so that time is allocated for children to reflect on what they have learnt through class discussions and testing (Landauer & Bjork, 1978) which promote meaningful learning (Karpicke, 2016).

Children engaged with both low and high levels of comprehension in the study. Low levels of comprehension were affected by children’s reading capacity while higher levels were related to children’s inferencing. As different aspects of comprehension were affected, it is important for teachers to specifically identify which facet of the comprehension process is affected and which pedagogy is applicable. Children who struggle with reading more specifically require activities which address decoding (words and sentences) (Perfetti, 1985), acquiring vocabulary knowledge (Nagy, Herman, & Anderson, 1985), having linguistic comprehension (understanding their meaning) (Gough & Tunmer, 1986; Castles, Rastle & Nation, 2018), and reading fluently (Fuchs et al., 2001). While children who struggle with inferencing require pedagogy that centres around making referential connections (Long, Seely, & Oppy, 1994), and filling in conceptual gaps between clauses, sentences, and paragraphs (Oakhill, Yuill, & Donaldson, 1990).

All the children who engaged with high levels of comprehension in the study also engaged with the analysis process through Chamber’s (1993) *Tell Me* strategy, which was a prompt that instigated deeper thinking. While this strategy was effective in promoting children’s engagement with the analysis process, it raised questions about how children can learn to think analytically and how this cognitive process can be transferred to other contexts and settings (Petraglia, 1995). Children may be taught to think independently by directing their attention toward certain ‘properties or patterns’ (Lobato, 2006, p. 442), by asking them to pay

‘attention to the who, when, where, and probably why of a text’ (Fahnestock & Secor, 2002, p. 182). The transfer process however is not so clear as ‘there is little agreement in the scholarly community about the nature of transfer, the extent to which it occurs, and the nature of its underlying mechanisms’ (Barnett & Ceci, 2002, p. 612). As Jackson (2010, p. 18) explains: ‘*That* it happens is uncontested; *how* it happens is mysterious, and one hundred years of experimental research has yielded conflicting frameworks and conclusions that suggest—to put it blandly and anticlimactically—the need for further study.’ To address the problem of transfer teachers may need to focus on evaluation rather than interpretation (Jackson, 2010). This would involve asking children to evaluate the merits of a text for a specific purpose (Jackson, 2010, p. 20), which is important because children need to overcome their natural inclination to ask, ‘what things mean’ and start asking ‘what they do and how they mean’ (Bazerman & Prior, 2004, p. 8). This would involve inquiry into all aspects of a text including its classification, context, structure, textual devices, reader, and character positioning (Adler & Van Doren, 1972). It would also involve making children aware of reader positioning and what the main argument of a text is and what is the supporting evidence.

Children engaged with the cognitive process of application in the study by re-applying knowledge of subjects, concepts, or activities they had learned in the classroom in their textual responses. This was potentially because the curriculum dictated which subjects were the most important, and subsequently which subjects children had knowledge of. To engage children more extensively with the cognitive process of application, it is important to incorporate knowledge from both outside the curriculum and inside the home. Knowledge from inside the home may consist of children’s funds of knowledge (Moll et al., 1992), which is the collection of knowledge children already possess through their cultural practices, social experiences, and their daily routines. Children may access these funds of knowledge in the classroom by talking and writing about their experiences (Moje et al., 2004) or making connections to the texts they read. Drawing on these funds can strengthen children’s knowledge and position them as

powerful agents in their learning who are experts in their field (Barton & Tan, 2009). Knowledge outside the curriculum may consist of teachers introducing children to noncurricular and unorthodox subjects such as racism, environmentalism, fascism, technology, astrology, equality, the nature of knowledge, and the atomic bombing of Japan, and giving children the opportunity to choose their subject of interest and its method of application.

While children could easily engage with the cognitive process of evaluation in the study, they weren't particularly aware of their reasoning behind it. It is important for teachers to encourage children to become more aware of their reasoning so that they can identify the motivation behind their judgement and become discerning thinkers who don't believe everything they read. Children may be taught to become more aware of their reasoning by introducing them to the 'believing and doubting' game (Elbow, 2008, p. 4), and asking them to be both sympathetic and skeptical readers who question the validity of their thoughts. This critical view will enable children to become autonomous thinkers who develop the capacity to identify assumptions and distinguish between competing claims in determining which arguments they can trust and which they should be sceptical of.

Despite children engaging with creativity in the study there were, however, questions regarding the priority given to creativity in the classroom as children were reluctant to choose their activities independently and take risks, which was a significant part of being creative. It is important for schools to understand that creativity is not just an extra-curricular activity, but it is a definable, measurable, cognitive process that can increase motivation, deepen understanding, support problem solving, facilitate inquiry, and promote joy in children. Schools would consequently benefit from adopting a creative and organic pedagogy which 'is not so much a *type* of pedagogy but a *philosophy* that suggests pedagogical principles. This means there are no set 'pedagogies' but, rather, a framework of thinking that informs the practice of teaching in diverse situations and contexts' (Johnston, 2017, p. 51). This practice would involve the implementation of variety and unconventionality into the classroom by

‘choosing the right teaching methods, prompts, types of work, goals, and tasks’ (Miletic & Vukicevic, 2013, p. 1966). It would also involve teachers practicing what they preach and becoming creative thinkers. Teachers who think, act, and engage creatively will not only become happier teachers but they will inspire happier and more creative children who are not afraid to take risks and think autonomously.

Metacognition was not a cognitive process in Anderson and Krathwohl’s (2001) *Taxonomy of the Cognitive Domain*, but thematically arose because of children consistently discussing their thought process. It was an important cognitive process to examine in the study due to the many benefits metacognition has on children’s learning (Alexander et al., 2003; Hartman, 2002). Some of which included its ability to improve children’s memory (Denckla, 2003), regulate their self-awareness (Carpendale & Lewis, 2004; Ritchhart, Turner, Hadar, 2009), and enable children to transfer knowledge (Chatzipanteli, Grammatikopoulos, & Gregoriadis, 2014). Despite the benefits of metacognition, the study found that it was not a prioritised facet of learning, as it was an interwoven branch in the Victorian Curriculum (2021) that coincided with the faculty of reading a text and asking questions. It is important for metacognition to be made an individual strand in the curriculum that is explicitly taught, so that when children hear the term ‘metacognition’, they instantly begin to think about thinking. The predicament, however, is how do children begin to think about thinking? Self-awareness plays a critical role (Chatzipanteli, Grammatikopoulos, & Gregoriadis, 2014) as it helps children to identify what they don’t know. It may be activated through a range of different types of metacognitive strategies which assist with the regulatory process and spur children to think independently. Younger children may be introduced to dialogic thinking which includes think alouds and self-questioning (Fisher, 1998). Older children may be acquainted with reciprocal teaching which consists of dialogue between teachers and children about the text, using the strategies of questioning, clarifying, summarizing, and predicting. Encouraging children to take time at the end of the day or a challenging task to ask themselves ‘What was

most confusing?’ and ‘What they didn’t understand?’ is equally important. Asking such questions not only activates the metacognitive process, but it also creates a classroom culture that acknowledges *confusion* and *not knowing* as an integral part of learning which consists of children reflecting on, monitoring, and evaluating their learning without worrying if their thought process is wrong or right.

Problem solving also was not a cognitive process in Anderson and Krathwohl’s (2001) *Taxonomy of the Cognitive Domain*, but thematically arose due to its reoccurrence. Despite children frequently engaging with the cognitive process, they were not always conscious of the problem they had solved. This is problematic as children are oblivious to the self-regulatory process which is a crucial aspect of solving a problem. The most effective way to make children more aware of this process is to regulate it. When a child approaches a teacher and says, ‘I don’t get it,’ the teacher should not solve the problem but encourage them to look for answers, test possibilities, and find out whether they work (Britz & Richard, 1992). The role of the teacher in such an instance should be that of a mentor who stimulates initiative and research. ‘Teachers should not think that they can give children the ‘gift’ of thinking, nor should they believe that purposeful thinking comes from tossing children unaided into a situation’ (Pitri, 2013, p. 46). A tempered approach to teaching is most beneficial which guides children through the process of problem solving and allows them to identify the flaws in their thinking so that they can become aware of alternatives, cope with difficulty, feel empowered, rather than vulnerable (ibid) and become autonomous problem solvers who are able to form healthy habits of the mind (Burton, Horowitz, & Hal, 1999).

Children’s competency with the different text-picture relationships in the study varied due to the complexity of the text-picture relationships. These findings may, however, vary in the classroom depending on each text and each child’s understanding. The most effective way to examine children’s understanding is to expose them to the different text-picture relationships and question children about the role of text and illustrations in each instance. Children should

understand that in the *Symmetrical Relationship* text and illustrations tell the same meaning (Golden, 1990); in the *Extend, Enhance, Elaborate, Amplify, Clarify Relationship* illustrations expand the story's meaning (Nikolajeva & Scott, 2000); in the *Text Carries Primary Narrative, Illustration is Selective Relationship* the text primarily tells the story; in the *Illustration Carries all the Narrative Relationship* the story is predominantly told through illustrations (Golden, 1990); in the *Counterpoint Relationship* the story is told through two character perspectives (Schwarcz, 1982); and in the *Contradiction Relationship* the story is told through the opposition of text and illustrations (Schwarcz, 1982). In addition to having knowledge of these different types of text-picture relationships, children also need to be aware of narrative structure as the study found that a non-linear narrative structure could significantly affect a child's comprehension of a text.

While most children in the study had a basic understanding of narrative structure in relation to a clear beginning, middle, and end, they encountered difficulties with more elaborate narrative structures (Calfee & Patrick, 1995; Dymock & Nicholson, 1999). As such it is important for children to have knowledge of these more complex narrative structures as they can affect children's memory and comprehension (Goldstone, 1999), their predictive thinking (Hennings, 1997), literacy acquisition (McCabe & Peterson, 1991), and understanding of a text's story grammars (Hayward & Schneider, 2000). Teachers may introduce children to more complex narrative structures through high quality texts (Armbruster & Anderson, 1988), which coincide with postmodern, metafictional, and contemporary picture books that inhabit a variety of devices in them, such as multiple storylines and diegetic levels, intrusive or obtrusive narrators, characters, eclecticism, indeterminacy, and dissolution of genre (Pantaleo & Sipe, 2012). These devices may be explored further through the typology of text characteristics enclosed in the report section of the thesis. The typology aligns the characteristics of non-linear narrative structures with carnival rides which is a metaphor used to better understand the visual movement of each text. The typology may be used to test

children's understanding of these non-linear narrative structures through games where guess the picture book's carnival movement, based on the characteristics of a text. Alternatively, children may use the typology to create their own non-linear stories.

While children expressed their understanding of texts using a variety of semiotic systems, their understanding may be enhanced by teaching them more specifically about the signs systems pertaining to the iconic, index, and symbolic. Children may be made more aware of how illustrations function in the iconic sense through an emphasis on their five representative functions which include a 1) representational function; 2) organizational function; 3) interpretational function; 4) transformational function; and 5) decorative function (Levin, 1981). They may be taught about how text functions in the symbolic sense through exposure to language conventions that include familiar, conversational language, and complex language that consists of figurative, ironic, and abstract devices (Sierschynski, Louie, & Pughe, 2014). And they may be introduced to the indexical through knowledge about how the signifier connects to the signified, (such as smoke with fire), which may be interpreted using the iconic (pictures) or symbolic (words).

Despite children engaging with several semiotic systems in the study to express their understanding of different text-picture relationships, children rarely ever engaged with poetics. This has implications for children as they are denied an expression which has so many benefits. Poetry offers children opportunities to grasp language, express their heartfelt emotions, and understand the world around them (Grugeon, 1999), whilst simultaneously diminishing prejudices and stereotypes (Vandergrift, 1980), which children longed to do through their empathic and unconditional love for the diverse characters in the texts they engaged with. Due to the many benefits of poetics, it is important to teach it in the classroom through an emphasis on form and content. Children should understand that content more specifically refers to what a text says through figurative language, sound techniques, structure, irony, and register. While form refers to how it is said through action, character, idea, storyline, vision, and plot.

Together, the two form the basis of a poem which children should have the opportunity to compose.

Like verbal poetics, children also rarely ever engaged with (visual) poetics in the study. This was potentially because of the lack of emphasis on images in the curriculum and how they convey meaning. This is problematic as the world is immersed in visual imagery which children should have an understanding of through knowledge of artistic elements such as line, shape, colour, and texture, and how they convey emotional meaning: why are diagonals dramatic? why are curves calming? why does red feel hot and blue feel cold? Answers to these questions are important as they will enable children to not only become visually literate but emotionally intelligent through their understanding of visual cues which support both their intellectual and emotional understanding in a multiplicity of different ways.

## CHAPTER

### 6

### *Conclusion*

### **Introduction**

*'In literature and in life we ultimately pursue, not conclusions, but beginnings'*

– *Literature Unbound* (Tanenhaus, 1986)

While this chapter is the ending, literature marks the beginning of many new possibilities for children to not only get lost in the world of their imagination, but for them to find their cognitive, semiotic, and poetic strengths. Children may discover their cognitive strengths through a critical approach to thinking (Willingham, 2007), which encourages them to grapple with questions which go beyond the 'what' to answer questions of 'how' and 'why'. This approach to learning would enable children to actively construct their own knowledge by evaluating concepts critically and not assuming that there is only one correct answer or one particular way of thinking. It would also empower children to become active agents in their learning who are able to self-regulate their learning (Schraw, 2002), by identifying a problem (McBride, 1991), exploring different options (Presseisen, 1991), seeing relationships between these options, and drawing conclusions (Ennis, 1987).

This approach to learning, however, is not without its implications. 'Critical thinking is not a set of skills that can be deployed at any time, in any context. It is a type of thought that even 3-year-olds can engage in—and even trained scientists can fail in' (Willingham, 2007, p. 22). Thus, critical thinking is a cognitive process that needs to be cultivated so that it becomes a habit of the mind, an orientation that spurs children to ask questions, offer contradictory ideas, and become non-compliant thinkers. This approach to teaching would require teachers to engage with more contemporary pedagogy that centers around children questioning, inferring, collaborating, reasoning, critiquing, and establishing critical thinking skills (ibid).

In addition to implementing a critical approach to teaching it is also important for semiotics to become a more prominent framework within the curriculum. A semiotic approach to teaching would empower children to develop rich and more complex literacy practices that enable them to engage with texts more critically (Cowan & Albers, 2006) through knowledge of different sign systems (Berghoff et al., 2000). It would also strengthen children's communication, improve their understanding of different types of modalities and enable them to explore highly abstract concepts, while perceiving their world in new ways (Eisner, 2002; Harste, 2000).

There are, however, implications with integrating semiotics into the curriculum, as there are questions concerning how the disciplines of semiotics and education can be brought together. As semiotics focuses on signs and signification and is of a linguistic nature (Saussure, 1916), and education focuses on knowledge that is of a particular context. While it is difficult to answer how the two disciplines may be integrated in the curriculum (Radford, 2013), there are more simple ways semiotics can be explored both in and out of the classroom. In the classroom children can engage with semiotics by constructing and translating meaning across different sign systems. This may involve transferring verbal language into physical language; physical language into pictorial language; pictorial language into oral language; and so forth. Out of the classroom children may be taken to the beach and asked to identify signs and symbols all around them including flags, slogans, and signboards. This is however a small step forward in what will require significant work in the implementation of a curriculum that is semiotic centered.

In addition to semiotics, verbal poetics also needs to be prioritised in the curriculum as children rarely ever engaged with it in the study. Policy makers need to ask themselves several questions.

First, what is the priority given to poetry in English classrooms and in literacy practices across schools and different learning contexts? Second, how is it being taught? Thirdly, do teachers care about poetry, or are teachers as passionate about poetry as me? Finally, what can teachers do to enhance their capacity to teach poetry? (Creely, 2018, p. 65)

The answers are not particularly clear, but research by Mary Weaven and Tom Clark (2013, 2014) and Debra Myhill and Anthony Wilson (2013) suggests that there is a reluctance to teach poetry in classrooms. As a result, it is a low priority across primary, secondary, and tertiary sectors. This has implications for children who are denied an expression that will not only strengthen their literacy, but also enable them to express themselves creatively while thinking differently about the world and the aesthetic meaning that resides within their experiences.

Teachers need to remember that:

Aesthetic awareness does not develop in a vacuum. If...we want students to see beauty in language, then we introduce them to forms of language that others (including ourselves) have found to be beautiful, and we invite discussion and informed consideration of the work. Of course, aesthetic purposes other than beauty are also amenable to rich study through the experience and analysis of poetic text and performance. (Weaven & Clark, 2014, p. 144)

To support children's engagement with such an expression teachers may read poetry in the classroom and discuss how poetic devices in them (Certo, 2017), evoke vivid and emotional responses through a range of prompts such as auditory aids (Schaefer, 1973), pictures (Cumming, 2007), texts (Certo, 2015; Wilson, 2007), and dramatic performance (Kelin, 2017). Children can also be motivated to engage with poetry by praising their work, having a classroom contest, and publishing their poetry in the classroom or the school newsletter (Schaefer, 1973).

If teachers are not motivated to teach poetry, one solution may be 'to mandate it: to make the study of poetry a compulsory element of English' (Weaven & Clark, 2014, p. 144). The curriculum in such an instance needs to support teachers with pedagogy as poetics has several benefits. Not only is it one of the most generative kinds of writing (Certo, 2017) for children to express themselves, but it is a meaningful literacy (Hanauer, 2012), that enriches children's communicative exchanges, by allowing them to explore their emotions (Certo, 2017), and lived experiences (Cahnmann, 2006; Certo, 2015; Flint & Laman, 2012; Hanauer, 2012; Van Sluys & Reinier, 2006) within the flexibility of a genre that evokes beauty (Elster & Hanauer, 2002).

In addition to verbal poetics there needs to be an emphasis on visual literacy in the curriculum as it can increase children's verbal skills, improve self-expression, increase student motivation, enhance critical thinking (Raiyn, 2016), and enable children to have an improved understanding of the world at large. Teachers can demonstrate how to read and interpret the meaning of images by familiarising children with the visual and spatial world and the properties within it. Rather than looking at images, children should be able to understand them. The two are not the same, as looking refers to 'an act of choice' (Berger, 1972, p. 8), while seeing refers to an active process where an 'understanding of the visible world begins in the eyes' (Langer, 1979, p. 84). This involves discussing how the visual conventions in a text convey meaning through 'facial expressions, gestures, settings, events, actions' (Serafini,

2010, 2012) and how the verbal conventions render information through visual design features such as line, shape, colour, and texture and how they work together to create meaning (Giorgis et al., 1999). Knowledge of these conventions will empower younger children to read illustrations more accurately, which they depend on to interpret the text (Kiefer, 1994). It will assist older children to contextualise and clarify their understanding (Alvermann & Phelps, 2004), whilst understanding the power of visual stimulus and conquering its rhetoric by liberating themselves from any manipulation (Fillion, 1973).

While the study has reached these conclusions there are many aspects of research that have not been addressed. These aspects are more extensively outlined in the recommendations below for future researchers to consider.

## **Recommendations for Future Research**

Future researchers are encouraged to use different approaches and methods to diversify their research. While a qualitative approach to research was particularly beneficial in the study in acquiring rich and multifaceted data, it perhaps did not account for a wider spectrum of children's interactions. Future studies could use a bigger sample size to depict larger trends. Students from grade 4 and 5 and potentially 6 could also be included in the study. This would provide a deeper insight into how older children engage with picture books during the latter part of their primary years and how such knowledge may be used to optimise the opportunities that picture books provide children for cognitive, semiotic, and poetic advancement.

Future studies are also encouraged to expand their focus by examining children's understanding of metafictional, postmodern and contemporary picture books. The textual devices in these picture books could also be explored, including multiple storylines and diegetic levels of narration, intrusive or obtrusive narrators, characters, a sarcastic tone, an anti-authoritarian stance, and a non-linear narrative structure, which was a particularly significant as the study found that no aspect of a text could disrupt children's comprehension of a text like a non-linear narrative structure could.

More extensively, future studies could broaden their focus by examining more social and cultural issues in society such as race, religion, culture, gender, ethnicity, disability, and diversity in preventing prejudice and intolerance.

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## *Appendix A*

### **Research Procedure (Explained to Children)**

Hello, my name is Nade, and I am from Victoria University. What is your name? Can you tell me something about yourself, like what your hobbies are, or what your favourite colour is?

Thank you for sharing. Its lovely to meet you!

During the next couple of weeks, I am going to be doing some research with you about how you read picture books and how you understand them. You will be participating in six sessions. During each session, you will read a picture book out loud (I will help you if you get stuck), and then I will be asking you a few questions about the book. Once you have answered these questions you will complete an activity of your choice about the book. If you can't think of an activity, I will provide you with a list of book response ideas. Once you finish your activity, I will ask you about your work, and then I will give you stickers for your effort. When you finish participating in the six sessions you will be rewarded with a certificate for your participation in the research! How does that sound?

Do you have any questions for me?

Okay, let's get started!

## *Appendix B*

### **Research Procedure (Implemented in the Study)**

Children will be asked to read six picture books and they will be interviewed about them using Chambers' (1993) *Tell Me* strategy:

- 1) Tell me about what you liked and disliked about the book?
  
- 2) Tell me about what you didn't understand or found difficult about the book?
  
- 3) Tell me about what connections or patterns you discovered in the book? For example, did something in the book happen to you, or did something in the book happen to someone else, or was there something in the book that happened in another book that you have read?

When children have answered these questions, they will be asked to respond to each book with an activity of their choice. If children do not know how to respond, they will be prompted with a list of book response suggestions (depicted below).

Once children have responded to a book, they will be asked to talk about their work using the questions below.

- 1) Can you tell me about your work?
- 2) Do you know why you have chosen this activity?
- 3) Do you know why you have used either:
  - a. pictures? or
  - b. words?

## *Appendix C*

### **Book Response Suggestions**

- 1) Interview a character from your book.
- 2) Write a diary entry from the perspective of one of the characters in the book.
- 3) Write a letter to the main character of the book.
- 4) Write and perform an original song about the book.
- 5) Draw a comic strip of your favourite scene.
- 6) Use magazine pictures to make a collage about the book.
- 7) Make a mini book of the story.
- 8) Retell the story in your own words.
- 9) Write about what you learned from the book.
- 10) Write a different ending to the story.
- 11) Write a different beginning to the story.
- 12) Compare and contrast two characters from the book.
- 13) Write a letter to the author.
- 14) Add an object to the story and discuss why you have included it.
- 15) Choose an object from the book you would like to keep for yourself and discuss why you have chosen it.
- 16) Design new clothes for a character in the story and discuss why you have chosen them.
- 17) Draw a birthday present for one of the characters in the story and talk about why you have chosen it.
- 18) Design a certificate for a character in the book and discuss why they have been rewarded.
- 19) Make a map of where the events in the story took place.
- 20) Compare and contrast the book with another.
- 21) Make a list of personality traits each character possesses in the book.

- 22) Make a poster advertising the book for someone else to read.
- 23) Write a party invitation for one or all of the characters in the book.
- 24) Add a new character to the story and talk about their role.
- 25) If you could spend a day with one of the characters which character would you choose?  
Why? What would you do?
- 26) Write about a character you liked or disliked in the book.
- 27) Make a 'wanted' poster for one of the characters or objects in the book.
- 28) Make a model of an object that was in the book. And on a card, explain what that object was.
- 29) Look through magazines for words and pictures that describe the book. Use these to create a collage or a bookmark.
- 30) Write a poem about the book or one of the characters in it.
- 31) Write a shopping list for one of the characters in the book.
- 32) Design a character's bedroom and talk about all the things in it.
- 33) Draw a holiday destination for one of the characters in the book and discuss why the character would like to visit.
- 34) Draw new friends for a character in the book and discuss who they are and what they bring to the friendship.
- 35) Do a 5-minute talk about your book.

## *Appendix D*

### **Report For Participating Schools in the Study**

*The report below is for participating schools in the study. While much of the thesis findings are summarised in it, sections of the thesis will also be distributed to the participating schools in the study to provide a general overview of the research. The report may also be circulated to other interested parties who would like to improve their knowledge of children's picture books while benefiting from the abundance of opportunities that picture books provide children for cognitive, semiotic, and poetic engagement.*

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# Report Rationale

## Introduction

The rationale for this report derives from the study which aimed to investigate children's engagement with six different text-picture relationships from the theoretical frameworks of cognitive, semiotic, and poetic theory. More specifically:

- Cognitive theory: examined how children engaged with several cognitive processes from Anderson and Krathwohl's (2001) *Taxonomy of the Cognitive Domain* including memory, comprehension, application, analysis, evaluation, and creativity
- Semiotic theory: investigated how children communicated their understanding through a signifying system of communicative behaviour consisting of visual, verbal, physical, oral, or synthesized forms of communication
- Poetic theory: analysed children's engagement with visual and verbal elements. Visual elements examined children's understanding of line, shape, colour, and texture, while verbal poetics explored children's use of figurative language, sound techniques, structure, irony, and register.

The study consisted of eighteen children from two comprehensive state schools. Three children were chosen from grades one to three to capture the dynamic between text and illustrations in children's picture books. If children younger than grade one were chosen, the text would have been lost due to the prevailing illustrations which primarily carry the narrative forward. Conversely, if children older than grade three participated, then the illustrations would be absent or overlooked, due to the reader's fluency.

The study investigated the below text-picture relationships.

*Symmetrical Relationship* where the text and illustrations mirror each other's meaning;

*Extend, Enhance, Elaborate, Amplify, Clarify Relationship* in which the illustrations expand the story's meaning;

*Text Carries Primary Narrative, Illustration is Selective Relationship* where the text tells most of the story, as the illustrations only focalize one aspect of the text;

*Illustration Carries all the Narrative Relationship* where the story is predominantly told through illustrations;

*Counterpoint Relationship* in which the story is told through the perspective of two characters;

*Contradiction Relationship* where the story is told through the opposition of text and illustrations.

The method used to examine the above text-picture relationships consisted of children reading picture books which featured them and answering questions using Chambers' (1993) Tell Me strategy which acted as a prompt. Children were encouraged to: 1) Share enthusiasms – what they liked or disliked; 2) Share puzzles – what they found difficult to understand; 3) Share connections – what patterns they made through relationships, language, motifs, events, symbols. Once children completed their interviews they were asked to respond to the texts they read with an activity of their choice.

The findings support the conclusions of the thesis relating to how children are competent and active agents in their learning who not only possess remarkable abilities to form complex and multifaceted ideas, using a variety of semiotic systems, but they share all the commonalities of adult learners, albeit in their simpler forms. These commonalities are more extensively discussed in the report through five critical areas of knowledge which schools need to understand before they can maximize the opportunities that picture books provide children for cognitive, semiotic, and poetic engagement. These critical areas include:

1. Understanding Picture Books
2. Understanding Children's Cognitive Engagement
3. Understanding Children's Semiotic Engagement
4. Understanding Children's Poetic Engagement
5. Understanding the Opportunities Picture Books Provide

# 1. Understanding Picture Books

The first critical area of knowledge requires teachers to become students once again by familiarising themselves with picture books and the textual devices in them as picture books are not simple pieces of children's work as those who have not studied them would assume; rather they are complex literary forms that inhabit many components.

## 1.1 Text-Picture Relationships

The most significant aspect of the picture book in the study was the text-picture relationship, as it was investigated to determine children's understanding. The most confusing of these text-picture relationships was the *Contradiction Relationship*, represented by *Come away from the water, Shirley* (1977). It was misunderstood as children struggled to go beyond the scope of either medium alone in order to understand the irony within the text. The other most misunderstood relationship was the *Text Carries Primary Narrative, Illustration is Selective Relationship*, represented by *The Happy Owls* (1964). It was misunderstood as the story was predominantly told through the text which assumed a dominant, primary role of telling the story through what was absent from the illustrations. In contrast, the illustrations presumed a less prominent, submissive role as their function was to merely focalize one detail or aspect of the text which did not provide enough support to children. As a result of these different functions, it is important for teachers to discuss each text-picture relationship with children and the dynamic within each through the suggested pedagogy and activities in the report.

## **1.2 Narrative Structure**

The other significant aspect which affected children's comprehension of a text was its narrative structure. The study found that no aspect of the text could distort children's comprehension like a non-linear narrative structure could. The most disruptive of these narrative structures was the zigzag narrative structure represented by *The Happy Owls* (1964), and the gravitational narrative structure represented by *Come away from the water, Shirley* (1977). They were misunderstood due to their interrelated and non-linear perspectives that distorted the essence of time and the progression of a clear beginning, middle and end. This made it extremely difficult for children to determine where the story begins and where it ends, as there were no clear markers or fixed points to guide their progression through the text. As a result, teachers are oblivious of these narrative structures and children are unaware of their function. Fortunately, the study has identified three non-linear narrative structures that subvert linearity. They are more extensively identified in section 5 of the report.

## **1.3 Narrative Elements**

While narrative elements were not investigated in the study, children generally had a sound understanding of them, as they incorporated plot, structure, characters, setting, problem, and resolution in their stories. The only narrative elements which children were confused by in the study was the fantasy sequence in *Come away from the water, Shirley* (1977), and the dream sequence in *Where the Wild Things Are* (1963). Children potentially encountered such problems due to their inability to distinguish between fantasy and reality (Strouse, Nyhouy, & Ganea, 2018). This process is underlined by mental and symbolic models (Corriveau & Harris, 2015) which children must have knowledge of in deciding whether a story stands for something real, or something made up (ibid).

## **2. Understanding Cognitive Engagement**

### **2.1 Memory**

The first cognitive process investigated from Anderson and Krathwohl's (2001) *Taxonomy of the Cognitive Domain* was memory. Children engaged with both short-term and long-term memory in the study. Short-term memory consisted of children retaining a limited amount of information in their mind, which usually consisted of the most memorable scenes from the texts they read. Long-term memory encompassed three different types of memory — semantic memory, episodic memory, autobiographical memory, and procedural memory. Children engaged with semantic memory when they recollected knowledge relating to the texts they read. They engaged with episodic memory when they made a connection to the text based on their recollection of experiences. They engaged with autobiographical memory when they more distinctively discussed their personal memories. And they engaged with procedural memory when they performed a concept-related activity which they had previously engaged with. Weaknesses in memory resulted due to limitations in storage, decay in memory, or interference in memory.

### **2.2 Comprehension**

Comprehension was found to be an implicit factor in all the cognitive processes in Anderson and Krathwohl's (2001) *Taxonomy of the Cognitive Domain*, as without it children could not engage with deeper cognitive processes. In the study it manifested through both low and high levels of comprehension. Low levels consisted of children decoding words and sentences and understanding their meaning. While high levels of comprehension consisted of children reading fluently and making deeper inferences about the text they read and its underlying meaning. Weaknesses in lower levels of comprehension manifested in the study due to children failing to read the text independently or children reading the text independently but failing to recall the main points of the story. Weaknesses in higher levels of comprehension manifested in the study through difficulties in deeper inferencing and critical thinking. The problem in the latter instance was associated with making connections and drawing conclusions, while in the former instance the issue was generally associated with decoding words and sentences.

### **2.3 Application**

Like comprehension, application manifested in the study through low and high levels. Low levels of application consisted of knowledge of the alphabet and its application within the conventions of language. High levels of application comprised knowledge of concepts and categories and the application of these in their activities. Weaknesses in lower levels of application manifested in the study through children's lack of language development whilst weaknesses in higher levels of application manifested through children's inability to engage with concept-related activities. This was because learning a concept requires cognitive structures to build on (Inhelder, Sinclair & Bovet, 1974). If these cognitive structures are not present, then the learning process cannot be activated (Strauss, 1972). This was particularly evident in the study as younger children (who did not yet have the cognitive structures) could not engage with concept learning as they could not synthesize knowledge of a text with knowledge of an activity. Ironically, if children had knowledge of an activity they could still produce a textual response, despite having little or no comprehension of a text. This was possible when children focused on the concept-related activity rather than the text. This is potentially how children 'hide' in classrooms and eventually fall through the cracks; by repeating what they know, without having comprehension of what they don't know. Over time the gap in knowledge enlarges before children not only fall through the cracks but fail through the education system. This has implications for teachers who are not only expected to teach children but also identify these hidden areas of weakness through a curriculum which is knowledge based, as opposed to student centred.

### **2.4 Analysis**

Children engaged with four different types of analyses in the study, including descriptive, exploratory, inferential, and predictive analysis. They engaged with descriptive analysis when they described the characters in the texts they read. They engaged with exploratory analysis when they made self-to-text connections. And they engaged with inferential and predictive analysis, often simultaneously, when they made inferences about the character's circumstances in the text and predicted what might happen to them. Issues in analysis predominantly derived from weaknesses in comprehension. As a result, children with lower levels of comprehension encountered the most difficulties with analysis as they could not make deeper inferences about the texts they engaged with. When children did, however, engage with texts that were

aimed at their comprehension level, then it was possible for them to engage with the cognitive process because analysis was comprehension-based as opposed to reading-centred. There were, however, instances in the study where children could engage with analysis despite not having full comprehension of a text. This was possible when they micro-analysed one vivid scene, or one page from the text, as opposed to the overriding themes. When children did this their comprehension was, however, incomplete because they were unable to connect a sequence of events to acquire a more complete understanding of the text and its underlying themes. It is consequently important for teachers to distinguish between these two forms of analysis and ensure that children have a sound understanding of a text by asking them to discuss the overall themes in a story as opposed to enquiring about their favourite part which may result in children discussing the only part they understand.

## **2.5 Evaluation**

Children engaged with evaluation in the study by reasoning inductively or deductively. Inductive reasoning consisted of children forming a hypothesis based on a set of observations or generalizations assumed to be true, while deductive reasoning involved children reaching conclusions that derived from logical facts or regularities known to be true. Children engaged with both inductive and deductive reasoning when they evaluated the texts or when they evaluated the characters in the texts based on their actions, which they posited against a set of morals deemed acceptable or unacceptable. Children used these morals as a compass to evaluate which characters they loved and which characters they loathed. Children generally, although not exclusively, identified better with characters who were younger, as they could relate to their experience of childhood and the restrictions imposed by it. They could equally relate to characters who were different to them but had experienced the same circumstances. Weaknesses in evaluation manifested due to children having no memory or comprehension of a text. Children did, however, demonstrate that it was possible to evade this process (along with others in the study) by evaluating other aspects of the text, such as their reading, as opposed to a text's underlying meaning.

## **2.6 Creativity**

There were many questions about what exactly creativity was and how it would manifest. In the study it manifested through emotion-based and deliberate-based creativity. Children who engaged with high levels of memory and comprehension, possessed a lot of knowledge, and solved problems engaged with deliberate-based creativity. In contrast, children who were influenced by their emotions, were imaginative and creative thinkers, who loved to participate in the creative arts engaged with emotion-based creativity. Whilst both emotion-based and deliberate-based creativity manifested in the study, both were not equally recognisable. Deliberate based creativity was predominantly indistinct and largely ambiguous, as it frequently consisted of solving problems, which weren't apparent unless they were identified, whereas emotion-based creativity was explicit as it often emerged as an original and tangible work of art. Irrespective of the creativity that emerged in the study, schools did not seem to value it as it was rare for students to take risks and think independently. This was particularly evident in the study as more than 100 of 108 work samples derived from the list of suggested book response ideas. Students were reluctant to think creatively because being creative often involved breaking rules and challenging assumptions while schools are concerned with order and structure. The dichotomy between conformity and autonomy suppressed creativity in the study and deterred students from thinking independently and choosing their own activities. Schools must relinquish some of this control by not only allowing children to think independently, but also developing their interdisciplinary cognitive processes, which are embedded in creativity.

## **2.7 Metacognition**

Metacognition was not a cognitive process in Anderson and Krathwohl's (2001) *Taxonomy of the Cognitive Domain*, but thematically arose as children were consistently engaging with their regulatory process. In the study it manifested through lower and higher levels of metacognition. Lower levels consisted of children identifying general areas of weakness which they were unable to solve, while higher levels of metacognition involved identifying weaknesses in their learning and using critical thinking skills to solve them. Both children with lower and higher levels of comprehension were able to engage with metacognition in the study potentially because metacognition was embedded in the theory of the mind which according to Flavell (2000) develops before the age of one and by the age of four children apply

mental procedures such as 'knowing', 'thinking', and 'remembering' (Schneider & Lockl, 2002). Metacognition is consequently an important cognitive process for children to engage with as it can affect all aspects of children's learning (Alexander et al., 2003; Hartman, 2002). Including the ability to improve children's memory (Denckla, 2003), regulate their self-awareness (Carpendale & Lewis, 2004; Ritchhart, Turner, Hadar, 2009), and enable children to transfer knowledge (Chatzipanteli, Grammatikopoulos, & Gregoriadis, 2014).

## **2.8 Problem Solving**

Problem solving was another cognitive process, which was not part of Anderson and Krathwohl's (2001) *Taxonomy of the Cognitive Domain*, but thematically arose because of its reoccurrence. Children engaged with the cognitive process by solving the textual problems or the character problems. The textual problems children solved included the short format of a text, the wordless format, or the absence of a character's point of view. The character problems surrounded issues of loneliness, abandonment, homelessness, and imprisonment. Despite children frequently engaging with the problem-solving process, they were not always conscious of the problem they had solved. This is problematic as children are oblivious to the self-regulatory process which is a crucial aspect of solving a problem.

Despite knowledge of how children cognitively engage with different text-picture relationships in the study, if teachers are unaware of how children communicate their understanding, they cannot recognise the cognitive processes children have engaged with in the classroom. The child's admission about their lack of comprehension, for example, may be viewed as a weakness, when in fact it may simultaneously be an act of metacognition which is particularly powerful as it can lead to the child's subsequent understanding. A child's comment about a character's sneaky, or smart demeanour, may be dismissed as an observation, as opposed to a deeper form of character analysis that derives from the child's knowledge of adjectives. Comments about liking one character over another may once again be misunderstood as a biased preference rather than the evaluation of a character. A child's creativity may also be overlooked if a teacher assumes it to be a glittered, coloured, and feathered work of art, as opposed to an expression driven by emotion-based or deliberate-based creativity. Similarly, if a teacher is oblivious to the textual problems, such as the wordless format or the short format, they may dismiss a child's comments about the text being short or

the absence of words as complaints rather than potential opportunities for problem solving. The way children communicate, as demonstrated, may not be indicative of children's thought process. As a result, it is particularly important for teachers to understand the language of children through the language of alternative meanings depicted in the table below. Teachers are encouraged to be aware of them in understanding how children communicate.

**Table 1 Alternative Meanings Behind a Child's Communicative Exchange**

<b>What the Child Says about a Text</b>	<b>Which Cognitive Process the child is Engaging with</b>
Discusses their favourite scene in a text	Memory
Questions a character's behaviour	Comprehension
Describes a character	Application (of adjectives)
Talks about their connection to the text	Analysis (exploratory)
Likes one character over another	Evaluation
Discusses artistic elements in the text	Creativity
Recognizes weaknesses in comprehension	Metacognition
Identifies ambiguities or inconsistencies within a text	Problem Solving (opportunity)

### **3. Understanding Semiotic Engagement**

Most children in the study communicated their knowledge of the different text-picture relationships they engaged with in different ways, including visual, verbal, oral, physical, and synthesized forms of communication. While there were no perceivable problems with the ways children used these forms of communication to express themselves, their understanding of these mediums within the context of their exchange in a text-picture relationships did vary.

### **4. Understanding Poetic Engagement**

Despite most children engaging with various semiotic systems in the study to express their understanding, they rarely engaged with poetics. Teachers not only need to encourage poetic engagement, but they need to more broadly understand what visual and verbal poetics look like. Verbal poetics includes the use of textual devices such as figurative language, sound techniques, structure, irony, and register, while visual poetics includes the artistic elements of line, shape, colour, and texture. These poetic devices are important as they not only enrich children's expression, but they help children understand the world around them.

## 5. Understanding the Opportunities

### Picture Book Pedagogy

#### 5.1 Text-Picture Relationships: Introduced

As demonstrated earlier in the report, the text-picture relationships investigated in the study significantly affected children's comprehension of a text. As a result, it is important for teachers to introduce children to these text-picture relationships so that they have an understanding of them. Teachers may do this by discussing the characteristics of each text-picture relationship using the list of suggested picture books in this report. Children may then be quizzed about these text-picture relationships by playing a game or creating their own stories.

1) *Symmetrical Relationship*

The text and illustrations reflect each other's meaning.

2) *Contradiction Relationship*

The text and illustrations oppose each other's meaning.

3) *Counterpoint Relationship*

The story is told through the perspective of two different characters.

4) *Enhance, Extend, Exemplify Clarify Relationship* The illustrations expand the story.

5) *Illustration Carries all the Narrative Relationship* The story is primarily told through illustrations.

6) *Text Carries Narrative, Illustration is Selective Relationship*

The text tells most of the story, as the illustrations only focalize one aspect of the text.

## 5.2 Non-Linear Narrative Structure: Typology

As a non-linear narrative structure was the single most disruptive factor in a child's comprehension of a text, it is particularly important for teachers to familiarise children with a text's narrative structure. Children should be able to distinguish between simple narrative structures and more complex ones. A simple narrative structure is one that is chronologically organised. Whilst a complex narrative structure is unpredictable as there are shifts in chronology and point of view (Sierschynski, Louie & Pughe, 2014). These narrative structures are more extensively discussed and summarised in the typology below. Each narrative structure has notably been aligned with a carnival ride, which is a metaphor used to provide a visual image of the movement in each text. Children's understanding of these narrative structures may be tested through a game where they guess the picture book's carnival movement, based on the text's characteristics. Alternatively, they may use the characteristics in the typology to create their own non-linear stories.

## 5.3 Circular Narrative Structure (Ferris Wheel)

The circular narrative structure, like the Ferris wheel, subverts linearity through its cyclicity. It begins and ends at the same point. The reader as a result may feel as though nothing has changed because they are back to where they started. Or they may conversely feel a sense of completion and fulfilment as the narrative is neatly tied up with a happy ending and an allegorical bow. The simplest of these circular narrative structures are the alphabet and number books which require the reader to return to the beginning, despite reaching the end, until they have mastered their knowledge of letters or numbers. More complex circular narrative structures are synonymous with Vogler's (2007) adapted version of Joseph Campbell's *The Hero's Journey* (1949), which inhabits a main protagonist (human or not) whose journey just like the circle of life moves from optimism to pessimism, from pessimism to optimism. Max's adventure in *Where the Wild Things Are* (1963), follows this narrative arc which begins in the *Ordinary World*, where he mischievously hammers nails into the wall and chases the dog with a fork before there is a *Call to Adventure* and he *Crosses the Threshold* from his bedroom into a moonlit forest filled with wild, frivolous things. *Tests, Allies, Thresholds* arise as Max forms allegiances with the wild things and simultaneously faces *The Ordeal* of losing his family. Despite receiving *The Reward* of becoming king of all the wild things, Max eventually decides to take *The Road Back* home and *Return with the Elixir*, which is the realisation that no kingship is more valuable than your

family. Max wakes from his dream and returns to the beginning, which is incidentally the end, neatly tied up and embellished with an ideological bow. *The Boy, the Bear, the Baron, the Bard* (2004) by Gregory Rogers also follows this narrative structure. The story begins in the *Ordinary World* where the Boy is playing with his soccer ball before he kicks it into an abandoned theatre, and there is a *Call to Adventure*. The Boy *Crosses the Threshold* as he is transported back in time where he meets the Bear and Bard. *Tests, Allies, Thresholds* unfold as the Boy, Bear, and Bard are chased by the Baron while facing *The Ordeal* of having to lose them, despite receiving *The Reward* of their friendship. The Boy takes *The Road Back* home and *Returns with the Elixir*, which is the realisation that sometimes you lose friends in life.

#### **5.4 Gravitational/Random Narrative Structure (Roller Coaster Ride)**

The gravitational narrative structure like the roller coaster ride is not about a fixed point, but rather an ongoing progression through the text that is free-flowing and uninhibited. Time in this narrative structure is disrupted through discourse, which is abstract, poetically, or ideologically imbued as it relies on the complexity of language and the irony of convention. The passenger (implied reader) in this narrative structure is moved in an irregular and erratic manner as the story does not inhabit a normative beginning, middle, and end. This makes it extremely difficult for the reader to determine where the story begins and where it ends, as there are no markers or fixed points to guide the reader through the progression of the text. This narrative structure, as a result, may cause confusion and lack of clarity for the novice reader or it may conversely lead to greater knowledge and insight for the more experienced reader. *Come Away from the Water, Shirley* (1977) by John Burningham inhabits this gravitational narrative structure as it does not have a lucid beginning: 'Of course it's far too cold for swimming, Shirley' (p. 1) or a comprehensive middle: 'That's the third and last time I am asking you whether you want a drink, Shirley' (p. 10) or a conclusive ending: 'Good heavens! Just look at the time. We are going to be late if we don't hurry' (p. 20). *Dust* (2001) by Colin Thompson is another text that inhabits a gravitational narrative structure as it does not have a lucid beginning: 'I died last night. Seventy years too young' (p. 1) or a comprehensive middle: 'Night came and the air was so cold it made us transparent' (p. 13) or a conclusive ending: 'Tomorrow we will be back in the dust, gathered by the wind and spread across the world' (p. 26). Time in this narrative structure is disrupted through the text, which is abstract, poetically, and ideologically imbued as it relies on the complexity of language and the irony of

discourse. In the study this type of nonlinear narrative structure created confusion for the novice reader, due to the poetic language and the absence of a clear beginning, middle or ending, and fun and frivolity for the experienced reader as it invited them to experience the story in an unorthodox and unconventional manner. This type of narrative structure is often present in postmodern, contemporary and metafictional texts which embody several unconventional forms such as a character, an object of construction, or a portal to other narrative levels. It is important to appreciate and acknowledge this type of narrative structure in classrooms as it will enhance children's abstract and lateral thinking while making them more critically aware of the complexity and the ambiguity that resides within these types of texts.

### **5.5 Zigzag Narrative Structure (Zigzag Ride)**

The zigzag narrative structure traces the path of two characters through their alternating perspectives which zigzag throughout the text before they either converge (due to a truce between the characters) or they continue to diverge (due to the character's differences) at the end of the story. *The Happy Owls* (Piatti, 1964) inhabits this narrative structure. The diverging perspectives are apparent as soon as the story begins and the happy owls and the barnyard fowl are introduced: 'Once upon a time in an old stone ruin there lived a pair of owls. All year through they were happy' (p. 1). 'On a farm nearby there were all kinds of barnyard fowl who did nothing all day but eat and drink' (p. 3). 'And after they had finished eating and drinking, they began to fight with one another' (p. 6). This exchange between the happy owls and the barnyard fowl continues to zigzag throughout the text until the end where the two perspectives continue to diverge due to the character's differences (pp. 7– 28):

One day the peacock noticed the owls and he wanted to know why they did not quarrel. Why was it they were so happy? The other birds when they heard his question said, Why don't you visit the owls and ask them how they can live together so peacefully? With a deep bow the peacock agreed to call on the owls. When the chickens, the ducks, the geese and all the others were assembled, the owls began their story. What nonsense! screamed the chickens, the ducks, the peacock, and the geese; for they had understood nothing of all this. Do you call that happiness? And the barnyard fowl who preferred to go on preening, stuffing themselves, and quarrelling, turned their backs on the owls and went on living as before. But the owls snuggled

still closer to one and another, blinked their big round eyes, and went on thinking their wise thoughts.

John Burningham's *Granpa* (2003) also inhabits this zigzag narrative structure. It is apparent as soon as the story begins and the perspective of Granpa and his granddaughter diverges: 'There would not be room for all the little seeds to grow' (p. 2), says Grandpa, while his granddaughter ponders: '*Do worms go to Heaven?*' (p. 2). This exchange between the two continues throughout the text: 'This is a lovely chocolate ice-cream', says granpa (p. 12), before his granddaughter corrects him and says: '*It's not chocolate, it's strawberry*' (p. 13). The two perspectives continue to diverge up until the end of the story where Granpa's death is evident through an illustration which features his empty chair.

In addition to the circular, gravitational, and zigzag narrative structures four additional non-linear narrative structures were identified, which although were not present in the picture books investigated, are worth exploring in having a comprehensive understanding of all the narrative structures that exist. They are more extensively discussed below.

### **5.6 Open Narrative Structure (Jumping Frog)**

The open text requires the reader to co-create the story by filling in the textual gaps. While the reader must fill in the textual gaps in all stories, in this narrative structure the gaps are so large that if the reader did not fill them in, they would fall in them. This is because this type of narrative structure includes expansive ambiguities which require the reader to go beyond the 'the readerly gap—that imaginative space that lies hidden somewhere between the words and the pictures (Styles & Watson, 1996, p. 2) to cocreate the story. These ambiguities may be present within a section of the text, such as the ending of John Burningham's *Granpa* (2003) where the reader has to interpret the absence of granpa which might be attributed to the 'grandfather's departure to a retirement home, as his death, as a kidnapping by aliens, or as his having shrunk so much that he is not visible to the naked eye anymore' (Beauvais, 2015). Alternatively, the ambiguity may be throughout the text, such as that in Shaun Tan's *The Lost Thing* (2000). While the story is not complex, there are many ambiguities surrounding the lost thing which is unlike anything one might normally encounter. It is a huge tentacled monster, not quite animal or machine, with no

particular function or origin. It is estranged from everything around it. The environment surrounding it is also ambiguous, including the plumbing, the mysterious and dehumanising architecture, the physics, and algebra inscriptions. There are many questions about the lost thing that go unanswered such as what is the lost thing? Where did it come from? And what is its purpose? There are no clear answers to these questions because the text remains open and ambiguous.

### **5.7 Oscillating Narrative Structure (Pendulum Ride)**

Like a pendulum clock, the dialogue in the oscillating narrative structure swings between the tick and the tock. One character's dialogue represents the tick; the beginning of a spontaneous exchange, while the other character's response represents the tock; a repetitive retort that marks the ending of an exchange. The tick and tock may notably be reversed as the repetitive exchange may be at the beginning (the tock) and the spontaneous exchange may be at the end of a conversation (tick). There is often no central value in this narrative structure as the reader, like a pendulum clock or ride, swings back and forth between the two exchanges of dialogue. This type of narrative structure may be present in picture books for both younger and older readers. In picture books for younger readers the dialogue is extremely short, consisting of a few words which serve as the sentence, such as: *Jack jumps, Jack skips. Jack runs, Jack dances.* Jack is the repetitive exchange, while his action is a spontaneous rejoinder. The text continues to swing back and forth often without a conclusive ending but an action that suffices an ending, such as Jack falls down. In more complex texts for older children there may be a play on words, such as the banter between father and son in *My Dad Thinks He's Funny* (Germein, 2010, p. 6). The beginning embodies the father's witticisms: 'When I say, Dad, do you know what? He says, I don't know What, but I know his brother. When I say, Dad, I don't know how. He says, I know How, he's What's brother. And when I say, Dad, I don't want to. He says, Okay then...Do you want three?' and the ending is the repetitive and caustic passage: 'My dad thinks he's funny.' This type of exchange between the father's witticism and the son's caustic retort oscillates throughout the text until the very end.

### **5.8 Visual Spatial Narrative Structure (Bumper Cars)**

Visual spatial texts similarly to flat rides such as bumper cars, move their passenger (implied reader) spatially on the surface of the pages which are full of activity, devoid of any meaningful destination. The reader as such is acquainted with the complexity

of the visual, aesthetic world, as the text is verbally encoded with visual elements within a spatial and compositional whole. Characters in such an instance are rarely challenged as they do not undergo any perceivable growth, only physical movement due to the toneless or non-explicit plot, in contrast to the reader who is tested by their probing skills that emerge through an imminent hunt or exploration. *Where's Wally? The Incredible Paper Chase* (2010) by Martin Handford is a text which inhabits this narrative structure as it is not Wally (the main protagonist) who undergoes any perceivable growth, but the reader who is challenged to find Wally among the visual and aesthetic chaos in the text. Visual spatial texts should, however, not be confused with wordless picture books which visually inhabit flatness but theoretically encapsulate a more complex storyline. *The Boy, the Bear, the Baron, the Bard* (2004) is a text which is presented in a wordless format but inhabits a circular narrative structure which similarly to Vogler's (2007) adapted version of Campbell's *The Hero's Journey* (1949), begins with a *Call to Adventure* as the Boy enters the theatre to retrieve his soccer ball and ends with *The Road Back* home as the Boy *Returns with the Elixir*, which is the realisation that sometimes in life you lose friends.

### **5.9 Retrograde Narrative Structure (Ejection Seat)**

The retrograde narrative structure like the ejection seat moves the reader backwards. This type of narrative structure is particularly evident in the *Backward Day* (Krauss, 2007) where the day is lived backward, from the beginning to the end. This includes dressing backwards by putting on your jacket, followed by your shirt, pants, and underwear on top and walking downstairs backward, sitting on your chair backward and greeting your parents in the morning with a 'Good night'. This retrograde may relate to more significant events in a story like those in the fairytale *The End* (LaRochelle, 2007), as opposed to the order of everyday events in *Backward Day* (2007). The retrograde may also be in a minor section of a story or it may feature more prominently throughout the text.

There are picture books that will inevitably subvert these narrative structures by occupying characteristics from multiple narrative structures. However, these texts are less frequent, as there will often be overriding features which are synonymous with one or two types of narrative structures, as opposed to occupying all of them.

**Table 2 Non-Linear Narrative Structure Typology**

Text Type	Text Characteristics
Standard Structure (Ghost Train)	Linear movement
	No flashbacks or flash-forwards
Circular (Ferris Wheel)	Features a main protagonist (human or not) whose journey, just like the circle of life, moves in a circular motion, from optimism to pessimism, from pessimism back to optimism
	The journey is marked by tests, challenges, trials, and tribulations
	The strange, peculiar, or unusual unfolds
	The protagonist experiences a new environment or unfamiliar circumstances
	There is often fear, confusion, heartbreak, or resistance to change
	The protagonist losses or gains physical or allegorical possessions along the way
	The protagonist undergoes internal growth, often through a realization
	The journey comes full circle as the protagonist completes a cycle, and at times returns to the beginning
	There is a happy ending
Gravitational (Rollercoaster)	The absence of a structure as the text is not about a fixed point but rather an ongoing progression that is free-flowing and uninhibited
	Discourse is abstract, poetic, and allegorical imbued
	Discourse leads to greater knowledge and insight or conversely confusion and lack of clarity for the inexperienced/emerging reader
	Open, abstract, and inconclusive ending
Open Text (Jumping Frog)	The text inhabits several ambiguities, gaps, and unanswered questions

	The ambiguities may occur because of obscure, unrelated or superfluous events
	The reader and character (at times) try to fill in the gaps
	The ending is open to interpretation
Oscillating Text (Pendulum Ride)	Oscillation occurs between two exchanges of dialogue. One exchange is repetitive while the other is not
	There is often no middle due to the oscillation that occurs between the two exchanges of dialogue
	In simpler texts for younger readers, oscillation consists of short, uncomplicated sentences
	In more complex texts for older readers, oscillation is wound around more lengthy and intricate sentences
Retrograde Text (Ejection Seat)	Significant or everyday events in the story are told in reverse order
	Reversals may be featured throughout the text or sections of it
	The reversals may go back to normal or they may not
Zigzag Text (Zigzag Ride)	Interrelated perspectives which are told sequentially or simultaneously by two or more characters or groups
	Perspectives contrast, oppose, or diverge usually at the beginning of the story
	Perspectives continue to diverge, or they converge at the end of the story
Visual Spatial Text (Bumper Cars)	A search, a hunt, or an exploration is imminent
	A monotonous, toneless, and non-existent plot
	The reader is immersed in the visual, aesthetic, and spatial world
	The pages are full of activity, devoid of any meaningful destination
	The characters are not challenged as they do not undergo any perceivable growth
	There is no climax or rise in action

### **5.10 Semiotics: Diverse Communicative Exchanges**

While children expressed themselves using a variety of semiotic systems, there is always an opportunity for more diverse expression. Teachers may cultivate this expression by writing a sentence on the board and asking children to translate its meaning through the below sign systems.

- *Visual Communication*  
Children illustrate the sentence.
- *Verbal Communication*  
Children rewrite the sentence in their own words.
- *Physical Communication*  
Children role play the sentence or they cut out magazine words to write the sentence.
- *Oral Communication*  
Children perform the sentence in a song or a poem.

### **5.11 Verbal Poetics: Exemplary Expression**

As children rarely ever engaged with (verbal) poetics in the study, it is important for teachers to encourage this expression as it is not only a generative kind of writing, but it is a meaningful literacy that enriches children's communicative exchange, by allowing them to explore their emotions and lived experiences within the flexibility of a genre that evokes beauty. This genre may be evoked by discussing the below forms of expression and asking children to identify them in the text *The Year Comes Round: Haiku Through the Seasons* (Farrar, 2012). Alternatively, children may incorporate these poetic devices in their stories or poems.

**Table 3 Poetic Devices**

<p><b>Figurative Language</b></p> <p>Figurative language consists of dressing up an ordinary statement into an evocative frock.</p>
<p><b>Simile</b></p> <p>A simile compares two things; it uses the words 'like' or 'as' to make comparisons.</p> <p>For example:</p> <ul style="list-style-type: none"><li>• Tall like a tree</li><li>• Busy as a bee</li></ul>
<p><b>Metaphor</b></p> <p>A metaphor makes a comparison between two things that aren't alike but share something in common. Unlike a simile, a metaphor's comparison is more indirect when comparing one thing to another.</p> <p>For example:</p> <ul style="list-style-type: none"><li>• The world is your oyster</li><li>• He has a heart of gold</li></ul>
<p><b>Synecdoche</b></p> <p>A synecdoche uses a part of something to depict a whole or a whole to depict a part of something.</p> <p>For example:</p> <ul style="list-style-type: none"><li>• There are many mouths to feed (refers to hungry people)</li><li>• Pair of hands (refers to workers)</li></ul>
<p><b>Metonymy</b></p> <p>A metonymy is a word or phrase that is used to represent another word or phrase.</p> <p>For example:</p> <ul style="list-style-type: none"><li>• Crown – in place of a royal person</li><li>• Ears – in place of giving one's attention</li></ul>
<p><b>Personification</b></p> <p>Personification attributes human characteristics to animals or non-human objects.</p> <p>For example:</p> <ul style="list-style-type: none"><li>• The wind whistled through the trees (the wind doesn't whistle; humans do)</li><li>• The alarm clock screams every morning (alarm clocks don't scream; humans do)</li></ul>

**Apostrophe**

An apostrophe is when a speaker addresses someone absent or dead or when they address a non-living or abstract object, as if it were human.

For example:

- Feet, don't fail me now
- Trees how tall and shady you are

**Charactonym**

A charactonym is a name given to a literary character that inhabits a quality or trait the character possesses. At times the charactonym derives from a text and is used to describe a character's personality or appearance.

For example:

- Scrooge is a cold-hearted skinflint who despises Christmas  
*A Christmas Carol* (Dickens, 1843)
- Snow White is a fair maiden, both in character and in complexion  
*Snow White and the Seven Dwarfs* (Gág, 1938)

**Symbol**

A symbol may embody an object, a word, or an idea that has alternative meaning other than its literal meaning. Often, it conveys a deep, emotional response, which is far more symbolic and affective than the actual word, image, or idea it represents.

For example:

- A heart represents love
- A sunrise represents hope

**Allegory**

An allegory is a story that has a second or hidden meaning. It typically endows characters, objects, or events with symbolic, political, or moral meaning.

For example:

- *The Harry Potter Series* (Rowling, 1997-2007) may be read as a biblical fight between good and evil in which Harry represents a Christ-like figure
- *Feathers and Fools* (Fox, 2000) may be read as an allegory about race

## **Imagery**

Imagery uses description to appeal to the senses by comparing one thing to another.

For example:

- As soon as mum dropped the bacon into the salty, greasy, frying pan, the bacon crackled, sizzled, and popped, while my stomach grumbled, griped, and muttered: 'I am hungry'
- The golden yellow sunrays filtered through the sharp cornices of the room, staining the white walls, and enveloping the darkness

## **Motif**

A motif is a recurring element, such as a word, phrase, image, or idea that features prominently throughout a work of art.

For example:

- In *Where the Wild Things Are* (Sendak, 1963), the motif of abandonment and adventure features prominently throughout the text
- In *Charlotte's Web* (White, 1952), the motif of love and friendship prevails through Fern and Charlotte's love for Wilbur

## **Paradox**

Paradox is a contradiction between concepts which hold a deeper truth when placed together.

For example:

- I know one thing; that I know nothing
- You can save money by spending it

## **Sound Techniques**

Sound techniques are used to convey meaning through rhythm and sound.

## **Rhyme**

Rhyme is the repetition of similar sounds.

For example:

- See you later alligator
- I am a poet and I didn't even know it

### **Alliteration**

Alliteration uses consonant sounds at the beginning of words which create a musical effect through the emphasis of sounds.

For example:

- **S**he **s**ells, **s**ea **s**hells by the **s**ea **s**hore
- **P**eter **P**iper **p**icked a **p**eck of **p**ickled **p**eppers. If **P**eter **P**iper **p**icked a **p**eck of **p**ickled **p**eppers, where's the **p**eck of **p**ickled **p**eppers **P**eter **P**iper **p**icked

### **Assonance**

Assonance is the reoccurrence of vowel sounds, usually located in the middle of a word.

For example:

- **o** Row **o** row **o** row **o** your **o** boat
- **e** Fleet **e** fleet **e** sweep by **e** sleeping **e** geeks

### **Consonance**

Consonance is the reoccurrence of a consonant sound at the end of a word.

For example:

- Odds **d** and ends **d**
- Short **t** and sweet **t**

### **Rhythm**

Rhythm is the use of long or short sentences, which may or may not be emphasized through patterns of stressed and unstressed syllables.

For example:

- **How's it going?** (consists of one stressed syllable followed by one unstressed syllable)
- Good **evening, dear** (consists of one unstressed syllable followed by one stressed syllable)

### **Onomatopoeia**

Onomatopoeia is the use of words that sound like their meaning through phonetic sounds or imitated action.

For example:

- **Ding-dong** the bells rung
- **Bow-wow** the large dog said

<p><b>Structure</b></p> <p>Structure is the skeleton part of the story which depicts how it is organized.</p>
<p><b>Formal Structure</b></p> <p>Formal structure refers to the form of a text, comprising of sentences, paragraphs, dialogue, and narration.</p>
<p><b>Storyline</b></p> <p>A storyline encompasses events in a story.</p>
<p><b>Plot</b></p> <p>The plot structure refers to the sequence of events that lead to the outcome of a story. These events typically comprise of five elements including: 1) the exposition; 2) the rising action/conflict, which may occur through characters who are in conflict with one another, characters who are in conflict with their surroundings, or characters who are in conflict with themselves; followed by 3) the climax; 4) the falling action; and 5) the resolution/denouncement. Together these elements not only create a plot, but they add complexity and interest to a story. This sequence may vary, however, as there are different types of plots that subvert the dominant plot structure.</p>
<p><b>Flashback</b></p> <p>A flashback is a device used to transport the reader from the present moment in the story to a scene in the past. The reader is usually transported through memories or a dream sequence that provides an insight into a character's conflict, circumstances, or motivation.</p>
<p><b>Frame Story</b></p> <p>A frame story is the part of the story that exists outside a lengthy flashback. It often assists the reader to better understand the flashback through the beginning of the story.</p>
<p><b>Foreshadowing</b></p> <p>Foreshadowing refers to the use of suggestive words or phrases that set the tone and mood for what is to come, without revealing the story.</p>
<p><b>Allusion</b></p> <p>Allusion is a reference to a person, place, or thing bearing historical, political, cultural, or literary significance.</p> <p>For example:</p>

- I was surprised his nose was not growing like Pinocchio's  
*Pinocchio* (Collodi, 2017)
- He was as stingy as Scrooge, refusing to buy anyone anything  
*A Christmas Carol* (Dickens, 1843)

## **Irony**

Irony contrasts what is on the surface with what is obscured.

### *Verbal Irony*

Verbal irony is the simplest form of irony. It occurs when the speaker says the opposite of what he or she means. It may take several forms such as sarcasm, understatement, or euphemism.

### *Dramatic Irony*

Dramatic irony is when the reader knows something important about the story to which a character is oblivious. The distinction in knowledge creates tension between what the audience knows and that to which the character is oblivious.

### *Situational Irony*

Situational irony is the difference between what is expected to happen in a story and what actually happens.

## **Register**

Register refers to a particular style of language used in a text. It may be recognized through specialized vocabulary or particular uses of grammar which coincide with the purpose of the text.

## **Diction**

Diction refers to the selection of words used to communicate meaning and express emotion in a text. What a word denotes, however, is not necessarily what it connotes. The terms stubborn, for example, is not the same as tenacious, even though they have the same meaning, they depict different things. The term stubborn is an insult, while tenacity is a praise-worthy characteristic.

## **Syntax**

While diction refers to the choice of words in a particular sentence, syntax refers to how the chosen words are arranged in a sentence. This arrangement may include short or long sentences, written in the active or passive voice, constructed as simple, compound, complex, or compound-complex sentences.

## **Voice**

Voice refers to the author's individual writing style or point of view. It gives personality to a story through the writer's personal style and chosen expression.

### **Character's Voice**

A character's voice is the voice of the main protagonist and their perspective on the world inside the story. The voice may be first person or third-person point of view. It becomes prominent when a writer places themselves into the character's psyche and uses words the character would choose to convey a specific message.

### **Third-Person, Subjective Voice**

The third-person subjective voice uses a third-person point of view, which is a subjective voice describing feelings, thoughts, and opinions of one or more of the characters in the story.

### **Third-Person Objective Voice**

The third-person objective voice gives an unbiased and objective account of the story by avoiding the character's feelings and thoughts.

## **Tone**

The tone expresses the writer's attitude toward the subject in the text, the reader, or themselves.

The tone may be serious, comic, sarcastic, sad, cheerful, or any other attitude the writer chooses to convey.

For example:

- A cheerful tone may include the dialogue below.

Mother: 'We are going on a holiday!'

Daughter: 'I am so excited, I can't wait!'

For example:

- A sarcastic tone may include the below dialogue.

Mother: 'We're going on holiday!'

Daughter: 'Great!'

### **5.12 Visual Poetics: Picture This**

Children also rarely ever engaged with visual poetics in the study. Molly Bang's *Picture This: How Picture Books Work* (2000) is an excellent resource that not only introduces children to the elements of line, shape, colour, and texture, but it also discusses their emotional effect: why are diagonals dramatic? why are curves calming? why does red feel hot and blue feel cold? Children's knowledge of these elements may be tested through artworks that encompass them and a discussion of their meaning.

### **5.13 Narrative Elements: Dream and Fantasy Sequences**

While children were aware of narrative elements such as plot, characters, setting, conflict, and resolution, they were confused by the dream sequence in the texts *Where the Wild Things Are* (1963), and the fantasy sequence in *Come away from the water, Shirley* (1977). To strengthen children's understanding of these narrative elements, teachers may read these texts to children and discuss the cues in them that point to the transition between fantasy and reality.

## **Cognitive Pedagogy**

### **5.14 Memory: Retrieval**

'One of the important concepts to understand about working memory is that it is limited in capacity, which means that we cannot store and manipulate endless amounts of information' (Henry, 2012, p. 2). This was particularly evident in the study, as most children could not remember every aspect of the text. The most effective method to help strengthen children's memory is through retrieval practice, which has a greater impact on memory than spending more time learning (Bangert-Drowns, Kulik & Kulik, 1991; Landauer & Bjork, 1978; Karpicke & Roediger, 2008). This is because learners need as much time to practise remembering information as they do learning it. It is consequently beneficial to allocate time at the end of each lesson or day for children to reflect on what they have learnt. This will facilitate metacognitive awareness and enable children to identify what they didn't understand.

### 5.15 Comprehension: Model

Comprehension is most effective when a mental model (a schema) is stored in the mind's eye which enables children to break down knowledge into generalized chunks, code it, and expand on it through new knowledge. As Shakeel Jaman (2017, p. 15) explains:

A simple example is to think of our schema for dog. Within that schema we most likely have knowledge about dogs in general (bark, four legs, teeth, hair, and tails) and probably information about specific dogs, such as collies (long hair, large, Lassie) or springer spaniels (English, docked tails, liver and white or black and white, Millie). We may also think of dogs within the greater context of animals and other living things; that is, dogs breathe, need food, and reproduce. Our knowledge of dogs might also include the fact that they are mammals and thus are warm-blooded and bear their young as opposed to laying eggs. Depending upon your personal experience, the knowledge of a dog as a pet (domesticated and loyal) or as an animal to fear (likely to bite or attack) may be a part of our schema. And so it goes with the development of a schema. Each new experience incorporates more information into one's schema.

The above schema of a dog may be built in children's mind through the below adapted comprehension model (Kintsch & van Dijk, 1978).

- *Teacher reads a text and identifies where the weakness in comprehension is (the verbatim, exact representation)*  
'I don't understand the first sentence in the text about an English Springer Spaniel'
- *Teacher re-reads the sentence and identifies exactly where the problem lies (the propositional text-based stage)*  
'I don't understand the word English Springer Spaniel in the sentence'
- *Teacher identifies a solution*  
'I know I will look it up in classroom dictionary. It's not in there'
- *Teacher identifies another solution*  
'I will look it up on the Internet. I found it, it's a dog breed'

- *Teacher visualizes the word (by building a schema or mental model)*  
The teacher builds a mental model by copying the picture of the dog from the Internet on the board
- *Teacher re-reads the first sentence in the text and repeats the process if there is another word in the sentence, which is not understood.*

### **5.16 Application: Inside the Home and Outside the Curriculum**

To engage children with the cognitive process of application, it is important to incorporate knowledge from both outside the curriculum and inside the home. Knowledge from inside the home may consist of children's funds of knowledge (Moll, et al., 1992), which is the collection of knowledge children already possess through their cultural practices, social experiences, and their daily routines. Children may access their funds of knowledge in the classroom by talking and writing about their experiences (Moje et al., 2004) or making connections to the texts they read. Drawing on these funds can strengthen children's knowledge and position them as powerful agents in their learning who are experts in their field (Barton & Tan, 2009). Knowledge outside the curriculum may consist of teachers introducing children to non-curricular and unorthodox subjects and giving children the opportunity to choose their subject of interest and its method of application. These subjects might include racism, environmentalism, fascism, technology, astrology, equality, the nature of knowledge, and the atomic bombing of Japan. While these subjects may seem complex, there are many introductory picture books, such as the ones suggested below which will prime children's understanding while introducing them to the more complicated and less palatable aspects of life.

**Subject: Racism**

***Separate is Never Equal: Sylvia Mendez & Her Family's Fight for  
Desegregation (2014)***

**Author: Duncan Tonatiuh**

**Illustrator: Duncan Tonatiuh**

When Sylvia Mendez, an American citizen of Mexican and Puerto Rican heritage, was denied enrolment at a 'whites only' school, her parents filed a lawsuit in the federal district court and won. Their success eventually brought an end to the era of segregated education in California and helped to establish the precedent that 'separate-but-equal' schools were not in fact equal.

**Subject: Environmentalism**

***Greta's Story: The Schoolgirl Who Went on Strike to Save the Planet (2019)***

**Author: Valentina Camerini**

**Illustrator: Veronica Veci Carratello**

It is late summer in Stockholm, Sweden, as temperatures rise, and numerous fires burn. Fifteen-year-old Greta Thunberg decides she cannot wait for them to stop without doing something to save the environment. Instead of returning to school, she goes on strike in front of Sweden's parliament hoping to create change and a better future for her generation and all those that come after her.

**Subject: Political Activism**

***Harvesting Hope: The Story of Cesar Chavez (2013)***

**Author: Kathleen Krull**

**Illustrator: Yuyi Morales**

As a young boy Cesar Chavez was shy and poor. He was teased by his peers as his family slaved in the fields making barely enough money to eat. When Cesar Chavez grew up, he spoke up and an entire country woke up when they led a 340-mile peaceful march through California which helped to improve the lives of thousands of migrant farmworkers.

**Subject: Equality**

***For the Right to Learn: Malala Yousafzai's Story (2016)***

**Author: Rebecca Langston-George**

**Illustrator: Janna Rose Bock**

Malala Yousafzai grew up in a world where women were not treated equally to men. Malala challenged this view by arguing that every girl is entitled to an education. Despite almost being killed for her beliefs, Malala changed this view and proved that one person can really make a big difference in the world.

**Subject: Atomic Bomb**

***Sadako and the Thousand Paper Cranes (1993)***

**Author: Eleanor Coerr**

**Illustrator: Ed Young**

*Sadako and the Thousand Paper Cranes* (1993) is based on a true story about a little girl who lived in Hiroshima in Japan when the atomic bomb was dropped. She got sick from the bomb and was diagnosed with leukaemia. During her battle, she was told that 'If a sick person folds one thousand paper cranes, the gods will grant her wish and make her healthy again.' Sadako had folded five hundred and forty-one cranes before she died on 25 October 1955. Her classmates folded three hundred and fifty-six cranes more so that Sadako would be buried with a thousand cranes. People continue to place thousands of paper cranes beneath Sadako's statue on 6 August, Peace Day. On the statue is the call for peace:

This is our cry,  
this is our prayer;  
peace in the world.

**Subject: Astrology**

***Doorways To Astrology for Kids (2014)***

**Author: Hanne Klein**

**Illustrator: Hanne Klein**

*Doorways To Astrology (2014)* is a fun and educational picture book about astrology, which is written in story format. It discusses the sun signs, stars, and the planets, where the home of each sun sign is located in the horoscope, and which career path each sign is best suited to.

**Subject: Astrology**

***Astrology for Kids (2010)***

**Author: Paul Wade**

**Illustrator: Cosmic Snail**

*Astrology for Kids (2014)* introduces children to the constellations in a fun, entertaining and accessible way. Children meet one character from each of the twelve zodiac signs through a series of illustrations which depict their personalities and destinies.

**5.17 Analysis: Prompt**

Most of the children who engaged with analysis in the study did so through Chamber's (1993) *Tell Me* strategy, which was a prompt that instigated deeper thinking. While this strategy was effective in promoting children's engagement with the analysis process, it raised questions about how children can learn to think analytically and how this cognitive process can be transferred to other contexts and settings (Petraglia, 1995). Children may be taught to think analytically by directing their attention to Dale D. Johnson and Bonnie von Hoff Johnson (1986) list of ten types of inferences depicted below and asking children to transfer them into several contexts including the photograph below.



Figure 1 School children digging while gardening in New York (Bain, 2012)

- 1) Action: What is happening?
- 2) Location: Where is it happening?
- 3) Time: When is it happening?
- 4) Characterization: Who is it happening to?
- 5) Object: What types of objects are involved?
- 6) Category: What types of groups exist?
- 7) Cause and Effect: What is going to happen next?
- 8) Problem/Solution: What is the problem and/or solution?
- 9) Feeling/Attitude: What types of feelings and attitudes are involved?
- 10) Figurative Language: What association can you make about what's going on?

Once children answer the above questions, their understanding may be strengthened by asking them to make the below connections (Marzano, 2010, pp. 80—81):

*Question 1: What is my inference?*

The first question helps students become aware that they have just made an inference—that is, that they have just filled in information that was not directly presented to them.

*Question 2: What information did I use to make this inference?*

As students ponder this second question, teachers should query them about their thinking and guide them in articulating the premises on which they've based their inferences.

*Question 3: How good was my thinking?*

Once students have identified the premises on which they've based their inferences, they can engage in the most powerful part of the process — examining the validity of their thinking.

*Question 4: Do I need to change my thinking?*

The final step in the process is for students to consider possible changes in their thinking. The point here is not to invalidate students' original inferences, but rather to help them develop the habit of continually updating their thinking as they gather new information.

**5.18 Evaluation: Feeling, Exerting, Comprehending, Seeing, Valuing**

While children successfully engaged with the cognitive process of evaluation in the study, most were not aware of the reasoning behind the evaluative process. Children may be made aware of this process by introducing them to the evaluative statements below (Hilgers, 1984) and asking them to evaluate texts according to these or any other factors they consider applicable.

1) *How something feels (based on personal experience) Feels*

(I like this story because it reminds me of my birthday)

2) *How laborious something is (based on effort) Exerts*

(I didn't enjoy reading this story because it was too long and it took forever to read)

3) *How something is understood (based on processing) Comprehends*

(I really like this story because it was so easy to understand even though it had some really hard words in it)

4) *How something looks (based on aesthetics) Sees*

(I love this story because of the bright colours in it)

5) *How something is valued (based on all the above qualities) Values*

(I love this story because it has so much detail in it)

### **5.19 Creativity: Cultivation**

Despite children engaging with creativity in the study there were, however, questions regarding the priority given to creativity in the classroom as children were reluctant to choose their activities independently and take risks, which was a significant part of being creative. It is important for schools to understand that creativity is not just an extra-curricular activity, but it is a definable, measurable, cognitive process that can increase motivation, deepen understanding, support problem solving, facilitate inquiry, and promote joy in children. Schools would consequently benefit from relinquishing some of their control and allowing children to have more autonomy in their learning and decision making. This may occur by encouraging children to:

- Choose their homework
- Choose their book responses (without providing any prompts in the classroom)
- Choose projects of interest
- Choose activities of interest
- Choose which groups to work in
- Choose how to spend free time (this may consist of one hour per week where children can choose what they would like to work on)

To loosen the reins even further teachers may implement the below activities which promote creativity.

#### *Activity 1 (Thinking Independently)*

The teacher draws an apple on the board and asks children to copy the apple. Each day children are taught several different ways of drawing an apple using different styles such as Surrealism, Impressionism, Pop Art, and different ways to embellish the apple including watercolours, stipple brushwork, mosaic, glitter, stickers, stamps, yarn. During the final session children draw their own apples. This leads to the “Anything Apple”, in which children are free to mix and match techniques any way they like. Once children finish their drawings, they are transformed into a classroom gallery of alternative apples which are a reminder of children’s uniqueness and their ability to think independently and creatively.

### *Activity 2 (Taking Risks)*

One way of teaching children about taking risks in the real world is by introducing them to the real world, that is through adult simulation. Children are informed that they are grown up adults who must fend for themselves. They must consider what types of lives they will live and decide if they are going to work, study, remain on benefits, or pursue other ventures. They will have to think about how they spend their money in relation to food, housing, expenses, as well as how they spend their time in relation to work, leisurely, or creative pursuits. Once children make these decisions they share their lives with the class who scrutinise their choices and discuss the ramifications of them in the broader context of the outside world.

### *Activity 3 (Exploring Options Outside the Box)*

Another way of engaging children with creativity is by teaching them to generate multiple solutions to one question. This is a crucial aspect of creativity as children typically look for one premature answer. Children may be encouraged to explore wider possibilities through Antoinette Portis' picture book *Not a Box* (2007) which illustrates the concept of reproducing multiple responses by asking the question: 'Why are you sitting in a box?' and exemplifying these vast possibilities through the rabbit's response: it's not a box: it's a race car. But the rabbit doesn't stop there: it's also a mountain, a robot, a tug-boat, a rocket, the crow's nest of a pirate ship, the gondola of a hot-air balloon. Taking their cue from the rabbit, children brainstorm their own possibilities ('not a ball,' 'not a ribbon,' etc.).

The first two activities have been modified from the website below:  
<https://ideas.ted.com/three-ways-to-help-any-kid-be-more-creative/>

### **5.20 Metacognition: Lesson**

While metacognition was not a cognitive process in Anderson and David R. Krathwohl's (2001) *Taxonomy of the Cognitive Domain*, it thematically emerged in the study as children consistently engaged with their thought process. Teachers may more explicitly teach metacognition using the below lesson plan, which offers several opportunities for metacognitive engagement.

**Table 4 Lesson Plan**

<b>Lesson</b>
<b>Warm Up</b> Children silently write down their own description of what is happening in the cartoon depicted in the worksheet below (It's a frog thinking about thinking = metacognition). A child is chosen to share their description with the class. The teacher then informs the class that if this description does not make sense, it will do so by the end of the lesson.
<b>Game</b> Children are given the opportunity to play noughts and crosses with a partner. Before commencing they are asked to pay attention to their thought process while they make choices about their placements.
<b>Discussion</b> Winning children are asked to share their secrets about their starting placements? Most likely children will say they like to start in the corner because they can win that way. Teacher says: <i>You have a strategy that helps you win! Now I'm going to teach you another strategy that is going to help you win in your schoolwork.</i>
<b>Lesson</b> Teacher explains to children that the strategy is metacognition and that it involves thinking about thinking. Children are then shown the video below to reinforce their understanding of metacognition. <a href="https://www.youtube.com/watch?v=f-4N7OxSMok">https://www.youtube.com/watch?v=f-4N7OxSMok</a>  Following the video children are taught a class a rap, chant, or song to help them remember the definition of metacognition. The below metacognitive songs may be used as an exemplar. <a href="http://www.youtube.com/watch?v=FvyZsSQ3ul4">http://www.youtube.com/watch?v=FvyZsSQ3ul4</a> <a href="http://www.youtube.com/watch?v=LNeQKk_1Bg8">http://www.youtube.com/watch?v=LNeQKk_1Bg8</a>

The teacher discusses how metacognition may be used more broadly. For example:  
Have you turned to the next page in your book only to realize that you have not really been paying attention to the words you were 'reading'? or  
Have you ever spent time 'studying' flashcards only to realize that you cannot remember any of the words or concepts?  
Teacher explains that this is because children are not conscious of their thinking. Teachers emphasizes that being metacognitive will help children become aware of their own thinking process so that they can adjust their strategies to make their learning easier.

### **Closing**

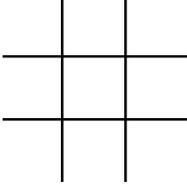
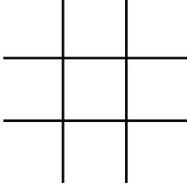
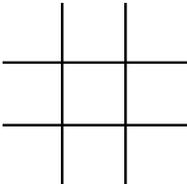
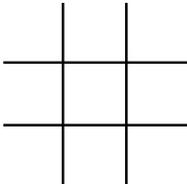
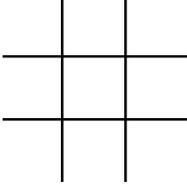
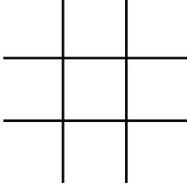
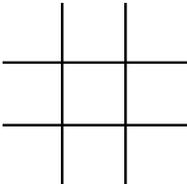
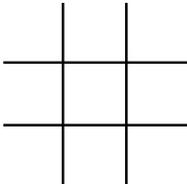
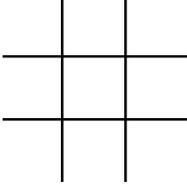
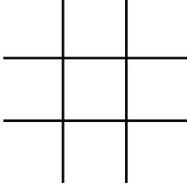
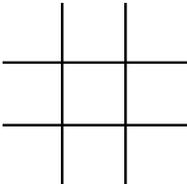
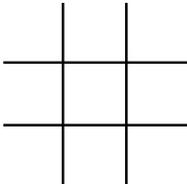
- Children brainstorm and share ideas of how metacognition will help them learn
- The picture of the frog is posted on the wall as a reminder to children to use their metacognitive skills throughout the year.

### **Follow-Up Activities**

An anchor chart of children's metacognitive strategies is kept in the classroom. Every time children are stuck in class; they can refer to these strategies listed on the wall, or they can refer to other strategies their fellow classmates have used.

# Table 5 Worksheet

Name \_\_\_\_\_ Date \_\_\_\_\_

	In your own words describe what is happening in this cartoon.				
Game time	<table border="0" style="width: 100%; text-align: center;"><tr><td style="width: 50%;"></td><td style="width: 50%;"></td></tr><tr><td></td><td></td></tr></table>				
					
					
How would you describe metacognition?					
How will metacognition help you become a better learner?					

Modified activities from the website below:

[https://static1.squarespace.com/static/55d3467ee4b04baeaff5b32b/t/56cf5db427d4bd059ca514ca/1456430517215/Lesson Plan final.pdf](https://static1.squarespace.com/static/55d3467ee4b04baeaff5b32b/t/56cf5db427d4bd059ca514ca/1456430517215/Lesson+Plan+final.pdf)

## 5.21 Problem Solving: Strategy

While many children engaged with problem solving in the study, not all were aware of the problem they had solved. The most effective way to make children more aware is by drawing their attention to the below problem-solving process so that they can establish a connection between the problem and the solution.

- *Identify what the problem is;*  
(I don't understand the activity my reading group and I are meant to complete)
- *Think about all the possible solutions;*  
(I can ask my friend, another student who is in my group, or my teacher)
- *Think about what will happen if I do this and what will happen if I do that?*  
(If I ask my friend he might not know as he is in a different group, if I ask someone in my group they may not explain the activity properly)
- *Try different types of solutions until the problem is solved.*  
(If I ask my teacher I will get the right answer)

### *Problems Solving: Real-Life Scenario*

To assist children more extensively with solving real-life scenarios, ask children to create and decorate a medium-sized box with a slot in the top. Label the box 'The Problem-Solving Box.' Invite children to anonymously write down and submit any problem or issue they might be having at school or at home, that they can't seem to figure out on their own. Once or twice a week, have a child draw one of the items from the box and read it aloud. Then have the class as a group figure out the ideal way the child can address the issue and hopefully solve it.

Once children are familiar with the above problem-solving procedure and adept at solving real life problems they may be introduced to the below hypothetical scenario and game.

*Problem Solving: Hypothetical Scenarios*

Ask children to consider how they will survive being stranded on an island. They must consider food and water, shelter, and a means for escaping, or being rescued from the island. Children may work independently or in groups and share their ideas about how to make it out of the island safely.

*Problem Solving: Fun Scenario*

A fun way to engage children with problem solving is through a game. The detective game is particularly apt as it encourages critical thinking and engagement with problem solving. Teachers may engage children with this game by collecting several items (such as pictures) that are associated with a specific profession, social trend, place, public figure, historical event, animal, etc and placing these items into a bag. The teacher then chooses a child to reach into the bag and pull out a clue before making their first guess. This process continues until the problem is solved.

Modified activities from the website below: <https://resilienteducator.com/classroom-resources/5-problem-solving-activities-forthe-classroom/>

All the above activities may be used in conjunction with the recommended picture books below, which schools are encouraged to incorporate into their curriculum so that the thesis does not merely satisfy the requirement of the doctoral degree but fulfils the aim of the study which is to improve student learning outcomes.

## **Recommended Picture Books**

When choosing picture books for children to read, they should not be too complex for them to understand or too simplistic that they are not challenged. Children should be encouraged to grapple with challenging texts that are at their reading levels. When they have mastered these texts and become proficient readers they may be challenged with more complex texts that inhabit diverse narrative structures and textual devices in them such as the texts below.

### ***Voices in the Park (1998)***

**Author: Anthony Browne**

**Illustrator: Anthony Browne**

The story tells of four different character perspectives relating to the same walk in the park. The illustrations in the text reflect each character's outlook. The same park changes from colourful and cheerful to dark and dreary, depending on the character's perspective.

### ***The Incredible Book Eating Boy (2007)***

**Author: Oliver Jeffers**

**Illustrator: Oliver Jeffers**

Henry, like most children loves books, but unlike other children has a vivacious, mouth-watering appetite for eating books. The more he consumes, the smarter he becomes, but is a diet solely of books healthy?

### ***No Bears (2013)***

**Author: Meg McKinlay**

**Illustrator: Leila Rudge**

Ruby is in charge of this book summary. She wants you to know that there are NO BEARS in it. Not even one. She is sick and tired of reading books about bears, she just wants to write a story about fairies, princesses, castles, and monsters. The only problem is that as she writes this summary, a certain furry mammal creeps in. Can you guess who it is?

### ***Simon's Book (1991)***

**Author: Henrik Drescher**

**Illustrator: Henrik Drescher**

A boy draws a character named Simon and a scary monster. Just as he falls asleep, his drawing comes to life. And a monstrous chase ensues through the pages between Simon and the monster who gets a hold of him, leans in, and gives him a big, sloppy kiss. When the boy wakes, he finds that the book he was working on is complete.

### ***Do not Open this Book (2018)***

**Author: Andy Lee**

**Illustrator: Heath McKenzie**

'Excuse me, but who do you think you are, opening this book when the cover clearly says, 'DO NOT OPEN THIS BOOK? The reason you weren't supposed to open this book is because it is not yet written! ... You think it's easy to put words together? Hah! Now go away—I need time to think', Pig shouts as he attempts to pen his chef-d'oeuvre before he is rudely interrupted by the discovery that both the reader and he have written the book together.

### ***Mirror (2010)***

**Author: Jeannie Baker**

**Illustrator: Jeannie Baker**

Mirror compares the life of two boys, one from Western Sydney, and the other from Morocco in a North African village. While their lives appear to be different, upon closer inspection there are many similar threads that weave the same rug they walk on, even though it covers different soil.

### ***Who's Afraid of the Big Bad Book? (2003)***

**Author: Lauren Child**

**Illustrator: Lauren Child**

When Herb cuts out Prince Charming from his fairy tale book and draws moustaches on the characters, he never imagines that he would fall into the book and have to contend with a disheartened Cinderella, a ranging Goldilocks, and a very angry wicked stepmother. All Herb wants to do now is restore their happily ever after and get the hell away from these whining characters.

### ***The Day the Crayons Quit (2013)***

**Author: Drew Daywalt**

**Illustrator: Oliver Jeffers**

Duncan just wants to colour using his crayons. But his box of crayons thinks otherwise: 'We quit!' they shout. Beige is tired of being overlooked. Blue is weary of colouring in all that water, pink hasn't been used, orange and yellow are no longer friends. What can Duncan do when the battle lines have been drawn?

### ***Don't Let the Pigeon Drive the Bus! (2003)***

**Author: Mo Willems**

**Illustrator: Mo Willems**

When a busy driver temporarily leaves the bus, he has only one request for the reader: 'Don't let the pigeon drive the bus!' Despite this stern warning, the pigeon tries to trick the reader. Will the reader succumb to the pigeon's tricks?

### ***The Lost Thing (2000)***

**Author: Shaun Tan**

**Illustrator: Shaun Tan**

While scavenging for his bottle-tops at the beach, a boy discovers a large, freakish thing which no-one else notices, nor do they want anything to do with it. Despite their non-compliance, the boy tries to find out where the lost thing comes from and to whom it belongs.

### ***Previously (2007)***

**Author: Allan Ahlberg**

**Illustrators: Bruce Ingman**

Do you know what Jack was up to before he climbed down the beanstalk? Or what Jack and Jill were arguing about before they went up the hill? Every story starts somewhere including fairy tales. To find out where your favourite fairy tale started from read *Previously* (2007).

### ***The Pencil (2008)***

**Author: Allan Ahlberg**

**Illustrator: Bruce Ingman**

A pencil illustrates a boy, a dog, a cat, and a world for them to play in, including family and friends. Despite the pencil giving life to everyone and everything, it is not long before the complaints come rolling in: 'This hat looks silly!' 'My ears are too big!.' The pencil grows weary and draws an eraser. Can you guess what he does with it?

### ***Have I Got a Book for You! (2009)***

**Author: Mélanie Watt**

**Illustrator: Mélanie Watt**

Boy does Mr. Al Foxword have a book for you, in fact he has a book for everyone as he is one great salesman. He can just about sell anything, to anyone, including an icebox to a penguin, an umbrella to a fish, and a vacuum to a mole. Will you buy what Al Foxword is selling you?

### ***This Book Just Ate My Dog! (2014)***

**Author: Richard Byrne**

**Illustrator: Richard Byrne**

While books may appear safe, be aware of this one, as there have been several mysterious disappearances in it, including Bella's dog and her helper. Try and find them at your own peril!

### ***Round Trip (1990)***

**Author: Ann Jonas**

**Illustrator: Ann Jonas**

Are you ready for a trip around and upside down? The trip to the city begins from the front of the book. And the trip back begins from the back of the book. This trip will definitely change the way you travel: maybe back to front?

### ***Once Upon a Cool Motorcycle Dude (2005)***

**Author: Kevin O'Malley**

**Illustrators: Kevin O'Malley, Carol Heyer, Scott Goto**

When a boy and a girl are given the assignment of writing a story together in class, they are not on the same page because the boy likes motorcycles and fighting, and the girl likes princesses and love. Whose story do you think will prevail on the page?

### ***My Dad Thinks He's Funny (2010)***

**Author: Katrina Germein**

**Illustrators: Tom Jellett**

Does your dad think he's funny? The dad in this book thinks he's funny with his endless parade of 'dadisms' that form the basis of the story and perhaps the reason for your laughter—that is if you like dad jokes!

### ***Come Away from the Water, Shirley (1977)***

**Author: John Burningham**

**Illustrators: John Burningham**

When Mum and Dad arrive at the beach and settle down in their deck chairs, not all is as calm as the sea; certainly not for their daughter Shirley, whose adventure is much more perilous than her parents can see.

### ***Where's Wally? The Incredible Paper Chase (2010)***

**Author: Martin Handford**

**Illustrators: Martin Handford**

Do you know Where Wally is? To find out you will have to follow him on an incredible paper chase around the world which is full of fun and interactive adventures.

### ***Rosie's Walk (1967)***

**Author: Pat Hutchins**

**Illustrators: Pat Hutchins**

Rosie the hen leaves the chicken coop and sets out for a walk across the farmyard. Little does she know that a menacing fox is trying to catch her, or does she know? Will the menacing fox catch her? Or will Rosie get back home in time?

### ***The Happy Owls (1964)***

**Author: Celestino Piatti**

**Illustrators: Celestino Piatti**

The happy owls are always happy, but the barnyard fowl always fight. Can the barnyard fowl change their ways if the owls share their secret to happiness?

### ***The Boy, the Bear, the Baron, the Bard (2004)***

**Author: Gregory Rogers**

**Illustrator: Gregory Rogers**

What happens when a little boy kicks his soccer ball into an abandoned theatre? He travels back in time and gets caught up in a runaway chase with a Baron, Bard, and a Bear, that's what happens!

### ***Where the Wild Things Are (1963)***

**Author: Maurice Sendak**

**Illustrator: Maurice Sendak**

One night Max puts on his wolf costume and makes mischief of one kind and another. His mother calls him the 'Wild Thing' and sends him to his bedroom, which transforms into a moonlit forest surrounded by an ocean and wild things. Max becomes king and has a rumpus with the wild things. It isn't long before Max feels lonely and longs to return home where he is loved most of all.

### ***John Brown, Rose and the Midnight Cat (1977)***

**Author: Jenny Wagner**

**Illustrator: Ron Brooks**

One night an elderly widow named Rose thinks she sees a cat out in the garden. Her dog John Brown, however, assures her that there is nothing there. Just as Rose dozes off to sleep, John Brown goes outside and confronts the cat, telling it to stay away. Do you think the cat listens?

### ***Oh, Were They Ever Happy (1978)***

**Author: Peter Spier**

**Illustrator: Peter Spier**

One Saturday morning while their parents are away, the three Noonan children decide to paint the house. Can you guess what their parents think of their paint work when they get back?

### ***The Backward Day (2007)***

**Author: Ruth Krauss**

**Illustrator: Marc Simont**

Imagine living backwards, from beginning to end. Imagine dressing backwards, walking backwards, and talking backwards. It would be fun, wouldn't it? How long could you live backwards for? Long enough for a smart kid to reverse the spell in the story and return everything back to normal?

## ***The End (2007)***

**Author: David LaRochelle**

**Illustrator: Richard Egielski**

The end tells the story of a fairytale which traces the courtship of a handsome knight and a beautiful princess by going backwards! As the reader moves backwards, they meet several interesting characters that lead them forwards to the beginning of the story.

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