



MONASH University

BOOKS IN THE ROUND

The value of playbooks in childhood development

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Abstract

In an era of vast electronic media, this research sets out to establish the contemporary value of thoughtfully developed playbooks, being hard-copy children's books with additional features such as flaps, textural elements, built-in puzzles and so on, in childhood development and learning. It seeks to determine whether such playbooks continue to have a role in education and learning or whether they have been superseded by electronic media such as interactive digital books. The following chapters consider various formats in terms of their suitability for specific developmental and learning outcomes for young children.

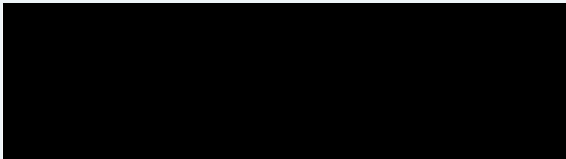
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Declaration

This document contains no material which has been accepted for the award of any other degree or diploma in any university or other institution and to the best of my knowledge and belief the document contains no material previously published or written by another person, except where due reference is made in the text of the documentation.



Emma Borghesi, March, 2016

Acknowledgements

I am indebted to the many people, children and adults alike, who have influenced me and informed me, directly and indirectly, over the years. First, my ever-patient and knowledgeable supervisor, Dr Gene Bawden, who tolerated my idiosyncrasies, focussed my thinking, and helped me get back on track after I had well and truly fallen off. My thanks are also due to MADA, for its support and patience throughout my candidature. There are many others who may be unaware of their influence but whom I would nonetheless like to thank here: Dr June Factor, who was the first to alert me to the fact that playbooks could offer much more than entertainment and could provide valuable developmental support to children; several children's authors and illustrators with whom I have had the pleasure to work and in particular Wendy Straw, Jan Wade, Jill Bruce, Garry Fleming, Natalie Jane Parker, Nadia Turner, Sally Hardy, David Hardy, Cassy Liberman, and Shirley Barber—I am in awe of the creative works of each and inspired by all of them; my past employers, in particular David Horgan, former CEO of The Five Mile Press, who gave me the opportunity to attend the Bologna Children's Book Fair on several occasions and to see firsthand the spectacular array of children's book formats, illustrations, and texts from around the globe, and who also enabled me to learn about book production and in turn how to produce playbooks. And, of course, unbounded thanks is due to my family, Andrew, Holly, Bridgette, and Judith, who have not only supported me but who have constantly and unknowingly 'informed' me in their unique, valuable, and ever-appreciated ways.

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Preface

This research began over five years ago when digital books were first beginning to gain a serious foothold in schools, libraries, and homes around the world. Excitement abounded over the opportunities provided by the digital format and its potential to extend into the world of games, animation, and interaction between reader and book. In contrast, printed books were increasingly regarded as ‘old hat’ and at risk of extinction. Many a bookshop and several publishers closed their doors as books in digital formats became more readily available over the internet. This coincided with a time when the growth of internet retailers such as Amazon imposed even more pressure on traditional ‘bricks-and-mortar’ bookshops.

Yet the passage of time has shown the printed book remains both a valuable and appreciated medium for the communication of stories, information, ideas, and concepts. It also provides a sensory experience different to that offered by digital media and one that provides information and facilitates the acquisition of knowledge and wisdom in other ways. The printed book has not been extinguished but rather has continued to develop in ways of its own. This is not to disparage the digital format—it has much to offer and is here to stay—but rather to indicate that the digital format and the printed format are complementary rather than the exclusory.

My interest in this area has a long history. Its earliest manifestations were in my childhood when I almost always chose books over television, that major influence on and precursor of the animated digital books of today. I was drawn to books with a high level of illustration—particularly beautiful illustration—as well as decorative type. These played a major role in attracting me to books in the first place. Conversely, my interest in television and film was dulled because I had, and still do have, difficulty following plots and connecting information relayed audibly rather than through words and pictures. This is not a hearing issue, for even with the most clearly expressed television dialogue I will use subtitles whenever possible to assist me. I also find moving images and too-dominant audio distracting and confusing. I specifically recall being unimpressed with the introduction of colour television in the 1970s, as I was conscious of how it prevented me from imagining colours for myself or, in other words, how it impinged on my imagination.

I seem to have adjusted to colour television quite well, despite the lingering comprehension issues, but black-and-white television and also photography

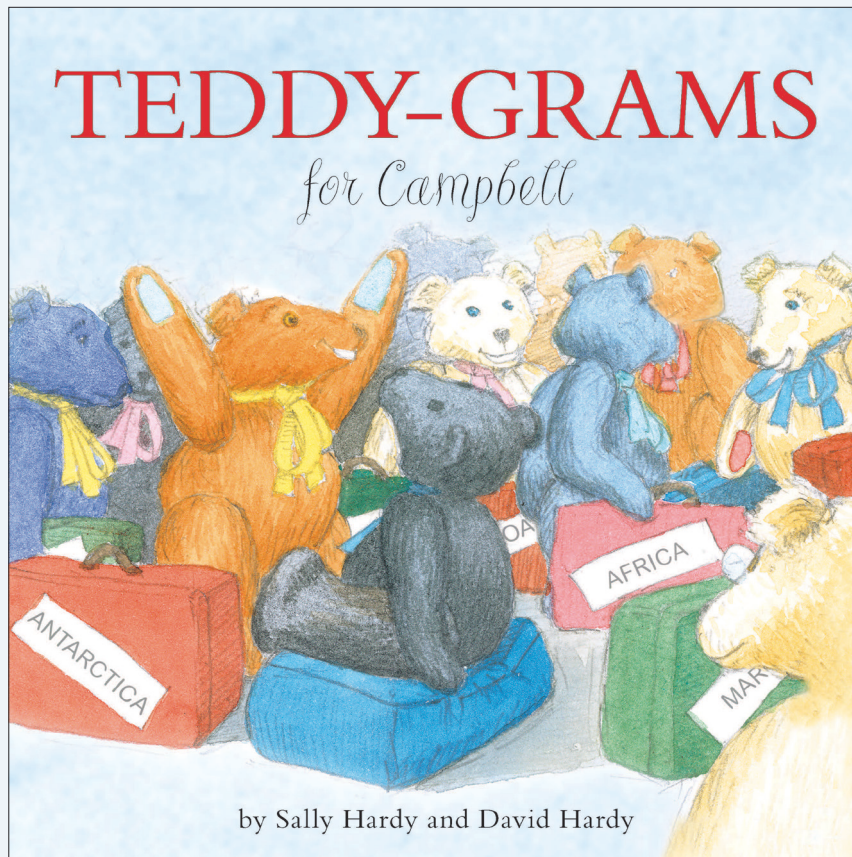


FIGURE 1: *Teddy-Grams for Campbell*, written by Sally Hardy; illustrated by David Hardy; designed and produced by Emma Borghesi; published by the Pembroke School, Adelaide (reproduced with permission).

This playbook features postcards, a get-well card, and bear ‘selfies’ housed in internal pockets. The story conveys gentle messages of caring, sharing, and empathy. The project was inspired by the Pembroke School’s bear-making programme (<https://www.pembroke.sa.edu.au/news/bear-making-programme/>). Children from the school provided the handwriting for the postcards and inside the get-well card (pictured) and were actively involved in the book’s development.

to this day often have more meaning to me, presumably because I am more readily able to imbue them with my own perception and interpretation.

Of course, this poses the question as to whether my opinions and abilities in this area are largely because I am not a ‘digital native’—or even a colour TV native for that matter. It is, in fact, highly likely that the digital revolution has brought with it a gradual but fundamental change to human consciousness and the way in which people receive, process, interpret, communicate, and indeed apply information, in much the same way the print revolution did before it (c. 1440). As a non-digital native, I belong to the transitional period, and therefore acknowledge that my particular responses are a product of that fact and may not be relevant or applicable to digital natives. My research demonstrates that despite the irreversible advancement into the digital environment and all its associated benefits, the printed book offers its own distinct experience, particularly in the areas of visual and kinaesthetic learning (see below and also pages 1 and 8). Digital complements but has not superseded this.

Meanwhile, it took many years for me to reconcile why on one hand I struggled to follow films and television episodes while on the other I was more than usually competent in reading and writing. It was only after I had children of my own that I became more aware of different learning styles. I eventually realised that my problems understanding audio texts and moving images are concerned with comprehension rather than hearing and, in the context of the visual, auditory, and kinaesthetic (VAK) learning model, relate directly to my predominantly visual learning style.¹

Gradually I began to realise something that in hindsight seems obvious and is well understood by educators, and most likely parents as well: that if different learning styles applied to some children more than others, it would follow that different types of learning tools and methods (which would include printed books, films, interactive books, hand-on activities and so on) would not only lend themselves to some areas of learning more readily than others but would also be more relevant to some children than others. Therefore, any tendency to strictly prescribe certain tools and methods for certain areas of learning would potentially be limiting because the effectiveness of each would be dependant on each child’s way of learning. Hence it seemed more likely that a careful but nonetheless mix-and-match approach was required.

I hasten to add I do not have a background in education. I am, therefore, very conscious of my limitations in this respect. My approach, however, comes from a publishing background, but as I explored the topic further I found myself increasingly delving into educational texts and other related material as I attempted to find ways that playbooks could be of benefit to childhood development

and learning, rather than offering little more than simple entertainment and distraction. Coming from a trade publishing background, I had spent considerable time in an environment where the quality of the book was important, but being able to sell it was paramount. There are reasons for this—the survival of a trade publishing house and its ability to publish books in the first place is directly related to its ability to sell those books. Sometimes those books that offer entertainment over education are favoured in the marketplace. Yet I felt strongly that there must be ways to develop books that do both: appeal to children, perhaps entertain, and simultaneously inform and support childhood development in the most engaging and effective ways.

Professional and academic background

The impetus for this research was the culmination of 25 years' experience in the publishing industry as well as complementary academic studies at undergraduate and post-graduate level. My academic and professional trajectory was itself fuelled by a long-held interest in children's book illustration, and most particularly in nursery rhymes and fairytales.



FIGURE 2: A scene from *The Enchanted Woods*, written and illustrated by Shirley Barber; published by Brolly Books (reproduced with permission).

My various publishing roles have included, of most significance, those of Director and Publisher for various publishing entities. I was the Publisher for an Australian publishing house for several years (The Five Mile Press) before taking up the position of Co-Director for a subsidiary concerned with international licensing.

Subsequently, I founded a boutique independent Australian publishing house and also authored several children's books (and a lesser number of general books), many of which have been published internationally. I have also commissioned, developed, edited, designed, and/or produced in excess of 1,200 book titles of varying complexities over the course of my publishing career, at times undertaking all processes for a given project and at other times only a selection.

I entered the publishing industry in the late 1980s when I accepted the offer of a position at Harvey Horgan Pty Ltd, the directors of which were Roland Harvey and David Horgan. Harvey Horgan was the umbrella company for several publishing imprints, including The Five Mile Press and Roland Harvey Studios. It was also, for a short time, affiliated with Geoff Hocking Graphics. In the early 1990s, Harvey Horgan was restructured and the various imprints became publishing companies in their own right.

My initial role at Harvey Horgan was as an assistant to the Directors Roland Harvey and David Horgan, and later to the Publisher Jackie Yowell.¹ After the restructure, my roles soon expanded to include those of Editor, Production Manager, and the senior position of Publisher over a period of 11 years. From a graphic design perspective, Geoff Hocking, who at that time designed most of the company's publications, was and remains a major influence in terms of publication design and typography.

During my time at Harvey Horgan and later The Five Mile Press, I was exposed to the work of many notable Australian illustrators, including Roland

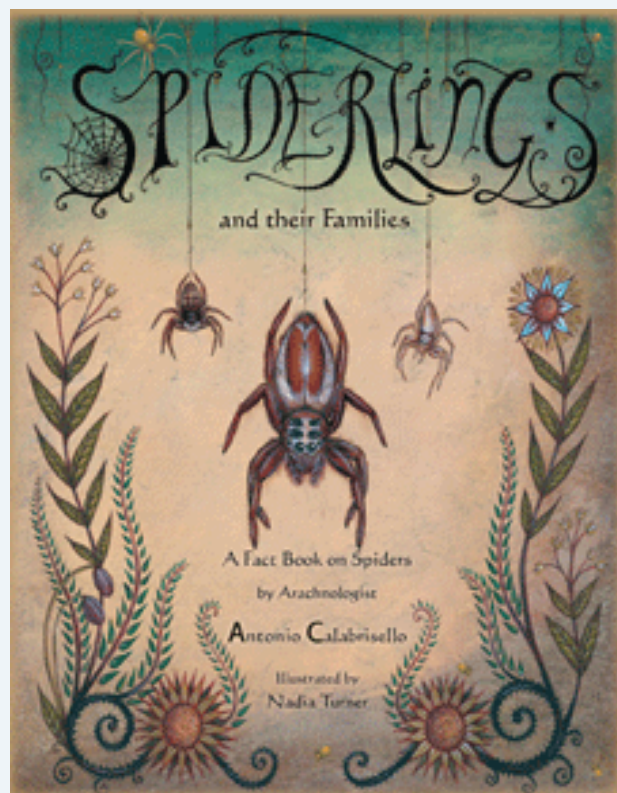


FIGURE 3: Cover of *Spiderlings and their Families*, written by Antonio Calabrisello; illustrated by Nadia Turner; designed and produced by Emma Borghesi; published by Brolly Books (reproduced with permission).



FIGURE 4: *My Favourite Fairytales Game Book*, illustrated by Joy Scherger and with fairytales retold by Emma Borghesi; cover, text, and format design by Emma Borghesi; originally published by Brolly Books (reproduced with permission).

This playbook features two slide-out jigsaw puzzles, two slide-out picture stencils, and one slide-out board game with spinner arrow and counters. In addition to the original English-language edition, this book (and other books in the same series) was published under licence by several European publishers in various languages, including Greek, Lithuanian, Polish, Slovene (pictured), Estonian, and Italian.

Harvey, Bob Graham, Tracey Moroney, and Shirley Barber, and in most cases had the privilege of working with them directly. I also attended the Bologna Children's Book Fair and the Frankfurt International Book Fair for many years, where I was further exposed to the work of illustrators from around the globe. Later, as Publisher for my own publishing house, Brolly Books (see below), I would work, and still do, with many other Australian illustrators including Wendy Straw, Jan Wade, Garry Fleming, Natalie Jane Parker, Emma Stuart, and Nadia Turner.

During this period, The Five Mile Press, and myself by association, worked closely with Joshua Morris Pty Ltd, an American publishing house founded by Josh Gaspero and the late Mike Morris, both internationally renowned and highly innovative book publishers who were instrumental in developing specialised book formats and production techniques that would later spread around the globe and be known, generally, as 'novelty books'. These books formed my first introduction to what I have termed 'playbooks' in my own research and have influenced many of my own productions since that time. Joshua Morris Publishing was purchased by Reader's Digest in the early 1990s.

In 1999 I resigned as Publisher for The Five Mile Press to take up the position of Co-Director at FMP Export Pty Ltd, which at that time was the international licensing subsidiary of The Five Mile Press. In this role, I actively licensed the

work of The Five Mile Press authors and illustrators into international territories, with most of the licensing agreements being initiated at either the Bologna or Frankfurt book fairs. The work of Shirley Barber and Tracey Moroney were consistently of the most appeal internationally. Interestingly, the traditional style of Shirley's work appealed most to European publishers, especially those in the far north including Estonia, Latvia, and Poland. Conversely, the brighter and more contemporary style of Tracey Moroney's work was popular with a number of major U.S. publishers and booksellers.

During my time at FMP Export, it was agreed that I could also, independently and in my own time, found and build my own publishing house. In this way, Brolly Books (see below) had its beginnings in the late 1990s but was not operated as a full-time concern until some time later. In 2001, I resigned from my directorship at FMP Export and instead focussed on my own fledgling publishing house, Borghesi & Adam Publishers Pty Ltd, of which Brolly Books was one of two imprints, the other being Tandem Publishing. Brolly Books continues to operate today as an independent Australian publishing house with a focus on young children's books and also as a provider of publishing services (writing, editing, design, and production) to other organisations, including other publishers, government entities, and individuals.

Brolly Books currently has a backlist of approximately 100 titles, many of which have been published internationally. These include a series of game books and a series of mosaic books, two different kinds of playbooks of specialised design and format originated by myself. The game books were published under licence to Brolly Books by several publishers and in several languages, including Greek, Italian, Russian, Polish, and Romanian. At some point a decision was made to



FIGURE 5: 'I'm a Little Choo Choo Train' in *Wendy Straw's Action Rhymes*, illustrated by Wendy Straw; published by Brolly Books (reproduced with permission).

focus solely on the children's book programme, and as a result Tandem Publishing is not presently operational.

As an author, I have written several books, both for other publishers by commission and also for the Brolly Books imprint. These include children's books and non-fiction. Many of the Brolly Books titles authored by myself have been taken on by other publishers and published internationally.

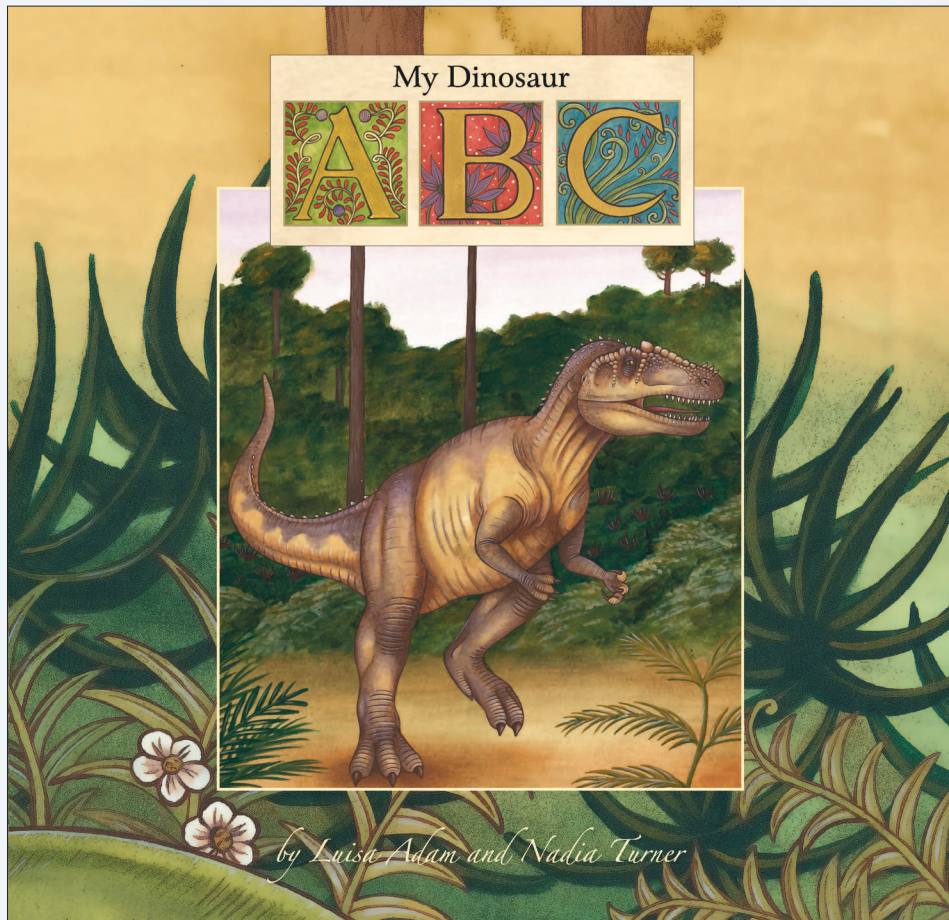


FIGURE 6: *My Dinosaur ABC*, written by Emma Borghesi (under the pseudonym Luisa Adam); illustrated by Nadia Turner; designed and produced by Emma Borghesi; first published in Australia by Brolly Books and subsequently by Italian and American publishers (reproduced with permission).

Notes

1. James Cook University [undated], 'Visual, auditory and kinaesthetic (VAK) learning style model', *JCU workplace educators resource package*, JCU, Australia (http://www.jcu.edu.au/wiledpack/modules/fsl/JCU_090460.html, accessed 20 October 2015).

Introduction

This research has a particular focus on early childhood development. It has endeavoured to show that high-quality children's books, well-produced and with sound content, engage and educate children effectively while also stimulating their development, and that these aspects can often be further advanced if the book offers well-designed sensory experiences through the use of, for example, real-life shape, texture, form, and manipulative elements such as flaps and levers. In educational terms, it may be expected that these would be of particular benefit to kinaesthetic learners who, amongst other things, '... learn through moving, doing, and touching ... [and] remember and process information through interacting with the space around them.'¹

The term 'playbook' has been coined for such books. In other research and contexts, alternative terms are used, including, most commonly, 'novelty book', 'mechanical book', 'manipulative book', 'toybook', and 'movable book'.² These terms are not used here, however, because they each have different connotations that are not appropriate for the concept being described. For instance, 'novelty book' generally refers to printed books that include gimmicks that might attract a child but are of little educative or developmental value. A 'manipulative book'³ is generally one that includes moving parts, but tends to exclude other aspects such as shape and sound (and there is also the problem that the term 'manipulative' is associated with control rather than encouragement). The term 'toybook' was also considered, but abandoned because it caused some confusion between an earlier meaning of that term for, in the 19th century, toybooks referred to illustrated paper reproductions of children's stories and were the precursors of the modern-day picture book.⁴ Furthermore, the term 'toy' drew too much attention to the object rather than to the child and in doing so implied a certain passivity. The term 'playbook' was ultimately decided as the most appropriate because it encompassed both the concept of interaction between the child and the book and also imbued it with associations of real-world space, activity, and creative play.

Regarding terminology used for electronic editions, 'digital book' rather than 'ebook' is used to describe all the various electronic book formats. This is because the term 'ebook' is often confused with, or used interchangeably, with the term EPUB, which generally refers to a subset of digital book formats, and one which specifically includes features such as adjustable font size, page size, flowing type, and orientation. These features enable it to be read on a wide

range of electronic devices of different sizes without compromise to legibility. Additional features such as bookmarking are also included. EPUB books, therefore, are different to another common form of digital book: the fixed layout PDF. The PDF does not allow size adjustments, flowing type, and other changes to be made to suit varying-sized devices but preserves the scale and positional relationship of image to text and vice versa. A more recent emergence is the 'fixed-layout EPUB'⁵ which, like the PDF, preserves the layout of all elements on a page but at the cost of losing scalability and type flowability. The term 'digital book' therefore preserves rather than confuses these various distinctions.⁶

All digital books are subject to the limitations of the device upon which they are presented. The pages can only be shown at the scale, amount of colour, and resolution that the external device permits, and they are also subject to the available power and software of the device. Printed books are independent of these restrictions but simultaneously present fewer options in terms of accessibility, immediacy of delivery, and cost.

It is not the intention of this research to compare the benefits of one book format over the other, specifically digital formats versus print formats or vice versa, or to assert one is better than the other. Rather, it is recognised that in the specific context of early childhood literacy, printed books are of particular importance while digital formats have less application. This is because, at least to date, the general recommendation of Australian authorities on early childhood development is that screentime, which includes exposure to digital books, for children be limited. The Australian Government Department of Health's 'Sedentary behaviour recommendations' include the following statements regarding this matter:⁷

Children younger than two years of age:

... should not spend any time watching television or using other electronic media (DVDs, computer and other electronic games);

Children aged 2–5 years of age:

... sitting and watching television and the use of other electronic media (DVDs, computer and other electronic games) should be limited to less than one hour per day;

Children aged 5–12 years

... use of electronic media for entertainment (e.g. television, seated electronic games and computer use) [should be limited] to no more than two hours a day— lower levels are associated with reduced health risks.⁷

The recommendations to limit children's screentime is coupled with recommendations to enhance young children's development of literacy skills through increased exposure to books, both in educational settings as well as in the home.

The Australian Government Department of Education, Science and Training, as a result of the National Inquiry into the Teaching of Literacy, states that:⁸

While it is the responsibility of schools to teach children to read and write, there are many things that parents and carers can do to develop the language skills of their children. For example, reading aloud with children during the early preschool years is important in assisting children's familiarity with books, with the pleasurable aspects of reading, as well as in developing early links between print and meaning.⁸

It further reiterates the fundamental importance of literacy in all areas of learning by stating that:

... literacy competence is foundational, not only for school-based learning, but also for children's behavioural and psychosocial wellbeing, further education and training, occupational success, as well as for productive and fulfilling participation in social and economic activity. Moreover, the rapidly changing nature of computer-based technologies and global communication systems has given rise to demands for competence in increasingly complex multi-literacies. These assertions are supported by the work of Nobel Prize winning economist James Heckman's overview of the economic aspects of human skills formation. Heckman concludes that investment in the learning development of young children is crucial. For Heckman, literacy competence is an essential area of learning investment in the young, being a 'skill that begets many other skills' (an index of 'self-productivity', as he calls it), because it constitutes a 'key part of our capacity to increase our capacity'.^{9,10}

This research therefore, while acknowledging the role and place of digital books, is necessarily focussed on printed books of various formats. It is not possible to limit or ban screentime for young children and simultaneously increase their exposure to books unless those books are in printed formats—notwithstanding some possible revisions to screentime limits in the future.¹¹

Secondly, the research aims to convey that all books, whether digital or printed, are derived from an original creative Work (rather than being wholly original in their own right), and the term 'Work' is defined here as being the manifestation of creative thought and original ideas which is only later reproduced in tangible or digital formats. The term 'Work' is hence capitalised to distinguish it from 'work', which refers more generally to physical and mental *labour* and has less association with creativity and originality. Thirdly, it should be noted that (a) the quality of and applications for various books will vary regardless of format but will inevitably be largely influenced by the quality of the original Work, and (b) that digital books and printed books coexist and offer different but potentially beneficial opportunities in terms of learning. Much of this research was to draw attention to

the role of the hard-copy playbook in this context, not least because it is felt that to some degree this format has been at times overshadowed due to excitement over the opportunities provided by digital formats.

The following chapters consider various book formats in terms of their suitability for specific developmental outcomes for young children. The research set out to ascertain whether playbooks had been made effectively redundant in the face of interactive media or whether they provided a distinct and beneficial experience to children. The research drew on academic literature that reveals the many variables that impact on these outcomes. Those variables include ‘external’ influences such as format, content, and developmental goals and ‘internal’ influences such as the child’s learning style and areas of interest. All variables interact to create a complex set of influences that impact on a child’s learning experience. The research shows that playbooks have a valid place in the mix of educative tools including both digital and printed books that may be used to enrich a child’s learning experiences.

Notes

1. James Cook University [undated], ‘Visual, auditory and kinaesthetic (VAK) learning style model’, *JCU workplace educators resource package*, JCU, Australia (http://www.jcu.edu.au/wiledpack/modules/fsil/JCU_090460.html, accessed 20 October 2015).
 2. Library of Congress [undated], *Toy and movable books*, Children’s and Young Adults’ Cataloging Program, LOC, Washington DC (www.loc.gov/aba/cyac/toys.html, accessed 15 October 2015).
- Hardcopy books with additional features are known by various names. The Library of Congress uses the term ‘Toy and Movable Books’ in its descriptive cataloguing to refer to a wide range of such books, including ‘3-D books’ (those that require a special viewer, usually in the form of glasses, to enable the reader to view two-dimensional images as being in three dimensions); ‘lift-the-flap books’, ‘light-up books’, ‘pop-up books’, ‘puzzle books’, ‘scented books’, ‘textured books’, and ‘sticker books’, to mention just a few. This is evidence of the wide range of such book in existence. Many, however, that utilise such features may offer little or no educative or developmental value so would typically be regarded as ‘novelty books’. This is because their additional feature is essentially a novelty, gimmick, or ‘add-on’, rather than something that is inherently integrated with the book’s content to enhance the learning experience.
3. Cynthia Chiong, Judy S. DeLoache 2012, ‘Learning the ABCs: what kinds of picture books facilitate young children’s learning?’, *Journal of Early Childhood Literacy*, 13 (2), 225–41 (<http://ecl.sagepub.com.ezproxy.lib.monash.edu.au/content/13/2/225.full.pdf+html>, accessed 14 October 2015).

These authors use the term ‘manipulative books’ to describe those playbooks with additional features: These are in turn described as flaps and levers designed to elicit physical manipulation, but the authors also included books with ‘textures’ within their definition—even though texture would not usually require manipulation as it relates to touch rather than movement. For this reason the term ‘manipulative book’ seemed potentially confusing. Terminology aside, their research does reveal interesting results regarding the impact of using ‘a manipulative’ book compared with using a standard type of children’s book when teaching children alphabet letters.

4. Sarah Rundall 2009, *T is for toy book: social lessons contained in 19th century lower class British children’s literature*, Abstract, Masters thesis, Department of History, University of Wyoming, USA (<http://search.proquest.com/docview/305036774>, accessed 15 October 2015).
5. Gerald Schmidt 2014, *Why fixed-layout EPUB from InDesign is a big deal for designers*, InDesign Secrets (<https://indesignsecrets.com/issues>, accessed 15 October 2015).
6. Until recently, the EPUB format has been favoured for digital books that are primarily type-based, because of what amounts to their portability across different devices and the fact that they do not need to be printed before being read. On the other hand, PDFs have been preferred for digital books that require the various visual relationships between type and image to be preserved but simultaneously are limited because their lack of liquid text flow and scalability produces a less satisfactory result on screens of varying sizes. Nonetheless, PDFs can be downloaded and printed to a suitable size as required, without compromise to layout. This distinction between EPUB books and PDF books does explain why, at least in the earlier days of digital books, most digital books were primarily type-based texts while books that included a high illustrated content along with the type—for example artbooks, picture books, and heavily-illustrated reference books—were less commonly produced as digital books. This situation is starting to change with the emergence of Adobe’s fixed-layout EPUB format in 2014 (apparently not the first of its type, but comparatively easy to use as it enables fixed layout EPUB books to be created directly and quickly from InDesign, the industry standard layout software for publication design.)⁶ The fixed layout EPUB, like a PDF, preserves the various relationships between type and image. The very fact, however, that the layout is fixed suggests the EPUB format is encumbered with the same limitations as that found in the PDF. The question as to whether the fixed layout EPUB format offers particular advantages over the PDF format has not been examined here, however.
7. The Australian Government Department of Health, ‘Sedentary behaviour recommendations’, *Australia’s physical activity and sedentary behavior guidelines*, Department of Health, Canberra (<http://www.health.gov.au/internet/main/publishing.nsf/content/health-pubhlth-strateg-phys-act-guidelines#npa05>, accessed 1 December 2015).
8. Australian Government Department of Education, Science and Training 2005, ‘Context and conditions for effective teaching’, *Teaching reading: report and recommendations*, DEST, Canberra
9. Australian Government Department of Education, Science and Training 2005, ‘The importance of literacy’, *Teaching reading: report and recommendations*, DEST, Canberra.
10. James Heckmann (2000, 2005), quoted in the Australian Government Department of Education, Science and Training 2005, ‘The importance of literacy’, *Teaching reading: report and recommendations*, DEST, Canberra (<https://www.google.com.au/url?sa=t&rct=->

j&q=&esrc=s&source=web&cd=1&ved=0ahUKEwiUpLjchpfLAhUB3KYKHSn-3CLgQFggcMAA&url=http%3A%2F%2Fresearch.acer.edu.au%2Fcgi%2Fviewcontent.cgi%3Ffilename%3D2%26article%3D1004%26context%3Dtll_misc%26type%3Dadditional&usg=AFQjCNGKIrgUyB9KFGgcc6bqjhFNmgwm5A, accessed 15 January 2016).

11. Cosima Marriner 2015, 'Scrap simplistic screen time limits for kids, experts say', *Sydney Morning Herald*, 18 October 2015 (<http://www.smh.com.au/nsw/scrap-simplistic-screentime-limits-for-kids-experts-say-20151016-gkb7kl.html>, accessed 15 November 2015).

This article reported on the American Academy of Pediatrics's warning that the two-hour daily limit risks becoming obsolete in the digital age and suggestions to scrap the present limits in favour of guidelines on how children use electronic devices. The present Australian guidelines are based on the Academy's own recommendations that are now approximately 15 years old. In this context, it seems likely that some review of screentime limits may take place in the near future to ensure guidelines are up-to-date and relevant, but to date this has not occurred. This research is therefore based in part on present guidelines. In any case, given the role of books in the development of literacy, any review of screentime limits is most unlikely to simultaneously discourage the use of books in all formats, printed and digital.

1. A New Way to View Books

The rapid adoption of digital books over the past decade has aroused much debate regarding their relative advantages and disadvantages when compared with conventional printed editions and vice versa.¹ A common paradigm underpinning this debate is that digital books are the contemporary versions of printed books and that they are therefore more advanced because they offer additional features and extended possibilities through technology. This leads to the conclusion that the printed book form is fast becoming redundant in the face of that technology. A more moderate and feasible position, however, is that digital books and printed books each offer their own distinct advantages and benefits, coupled with some possible disadvantages, and seem likely to coexist, at least for the foreseeable future.

A well-researched article in *Writer's edit* titled 'Is the print book dead?' posed the question 'Has the e-book superseded the printed book?' It went on to state:

There is a strong belief that digital delivery is killing traditional print, as evidenced by the growth of e-readers and increasing demand for e-books, and also by the adaptation of trade publishers themselves into the world of digital content delivery.²

This was followed by a detailed examination of the particular advantages of one format over the other which ultimately supported the position of co-existence:

For the time being, e-books cannot achieve all of the requirements that book consumers have come to expect and appreciate from the printed book. Printed books are still preferred by readers who intend to read with children, or pass their books on to others. . . others argue that the reading experience simply cannot be mimicked online. Readers with a preference for print surveyed by Bowker³ explain that they 'prefer reading printed books, spend too long looking at the screen already, don't like reading from a screen, [and] like owning printed books'. . . It may be more useful to view digital delivery as a separate method of reading that need not compete with the printed book at all. After all, 'the act of reading abhors distraction, such as the Web-based enhancements—musical accompaniment, animation, critical commentary, and other metadata—that some prophets of the digital age foresee as profitable sidelines for content providers'.^{4,5}

The research embodied in this thesis asserts that printed books and in particular playbooks offer learning and developmental experiences to young children that digital books are unable to offer or at best can only emulate through proxy. The discussion therefore focusses on the aesthetic features of playbooks and the relevance and usefulness of their special features in terms of early childhood

development and learning. It is the physical, rather than virtual, properties of playbooks that help provide kinaesthetic learning experiences—those experiences that involve movement and touch. This position is supported by educational theories including, for example, the ‘visual, auditory, and kinaesthetic’ (VAK) learning style’ which, as explained by Donald Clark (2011):

... uses the three main sensory receivers: visual, auditory, and kinaesthetic (movement) to determine the dominant learning style ... According to the VAK theorists, we need to present information using all three styles. This allows all learners the opportunity to become involved, no matter what their preferred style may be ... Kinesthetic learners do best while touching and moving ... They tend to lose concentration if there is little or no external stimulation or movement.⁶

As noted by Patrick Frierson (2014),⁷ the importance of the senses in early childhood development underpinned the pedagogy developed by Italian physician and educator Maria Tecla Artemisia Montessori (1870–1952). Further, sensory learning as expounded by Maria Montessori appears to align with contemporary theories of ‘embodied cognition’, which in essence suggests it is not only our brains that do the thinking and learning. As explained by Samuel McNerney (2011), ‘It means that our cognition isn’t confined to our cortices.’⁸ Finally, the *Stanford encyclopedia of philosophy* provides further details on the importance of the body (and therefore the senses) in cognitive processes, and explains how this view, although seemingly aligned with those of Montessori, marks a departure from more traditional opinions on such processes.⁹

This research therefore proposes that, instead of regarding the digital book as a more evolved form of the printed book, the printed book and its digital counterpart could be considered as essentially the same thing: reproductions of a Work but presented in alternative formats (or editions). They are vehicles for transmitting the Work, the original content and copyright, or intellectual property, of the creator, to its audiences.¹⁰ Viewed this way, the long-held but

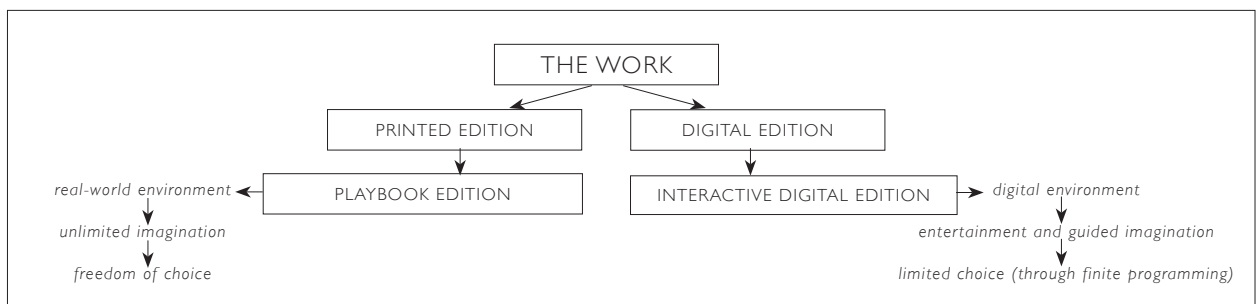


FIGURE 7: The relationship of digital and printed editions to the original Work and to each other. This approach emphasises the importance of the original Work and dispels the concept of one book format as being more advanced than the other.

occasionally forgotten premise that it is the creative Work behind its reproduction (whether that be in print, digital or another form) is of primary importance and the book's very *raison d'être*: substance over form, rather than vice versa. The various forms of reproduction—essentially digital, print, audio, and video—are not the Work itself but rather modes of communication used to convey the Work and all its embedded knowledge, stimulating ideas, and other content, to a wider audience. The various editions may be contributory and valuable in their own right, but remain derivative of the original Work.

From this position—and underpinning this research—is a framework that places the greatest emphasis on the quality of the Work and views the simple-format printed and digital versions as being derivatives on relatively equal footing. The more advanced digital formats (which might include animation, interactive elements, and electronic games) are viewed as further editions of the Work with advanced features that take the book and its reader into the digital environment. On the other hand is the concept of the *playbook*, which is defined here as an advanced printed book format which might include flaps, jigsaw puzzles, textured and shaped elements.

Advanced digital books and printed playbooks can therefore be seen as different yet complementary extensions of the original creative Work (Figure 7). While the digital book can take the reader across the screen boundary into a digital world imagined by the digital book designer, the *playbook* keeps the child firmly on the 'real-world' side of the screen. But, it provides opportunity for real or imagined play that is fuelled by both the child's imagination and also the content that has been absorbed through reading. In digital books the child meets the characters on the remote, other side of the screen; in the case of printed books with illustrated characters, the characters step out of the page and into the world of the child's imagination.

Unlike animated digital books, television shows, films, and other media that show moving images, the amount of information provided by the still images in printed books and playbooks is limited due to the greatly restricted number of scenes and corresponding restrictions on shifting scales and perspective. While a digital book or film might have hundreds of scenes linking together to create an animation, a typical children's picture book of 24–32 pages will only have 10–15 doublespreads, or a mix of single- and doublespreads, over the entire book. This is not a negative detail, but in order for the reader to make sense of the text and images he/she will need to make greater use of his/her own knowledge and experience to fill in the gaps; to imagine, for example, how exactly a character moves from one position to another, how various objects are positioned relative to one another, or the exact form and

appearance various object take. In this way, the reader's personal interpretation of the text can be enhanced because it is imbued with his/her own personal knowledge and experience and therefore is potentially more engaging and meaningful. In the case of children's picture book characters, their detailed actions take place in the child's imagination which is informed by the child's own life experiences and knowledge, and so the character moves into the child's imagination in this way.

The role of life experiences and existing knowledge on interpreting text is discussed in guidelines published by that National Council of Teachers of English (2015), which state:

... readers simultaneously use their knowledge of spoken and written language, their knowledge of the topic of the text, and their knowledge of their culture to construct meaning with text. Each of these types of knowledge impacts the sense that readers construct through print. Readers easily comprehend text with familiar language but are less successful at comprehending text with unfamiliar language. Readers easily comprehend text on familiar topics but are less successful at comprehending texts on unfamiliar topics. At the same time, the interpretations readers construct with texts as well as the types of texts they read are influenced by their life experiences.⁸

The sociocultural, cognitive, and linguistic systems readers use to make sense of print are largely intuitive. For example, few are aware that they use their life experiences to interpret text, and that as life experiences differ from reader to reader and from community to community so, too, do interpretations of a given text. The systems readers use to make sense of print are interrelated ...⁸

C. Denise Johnson (2003) also explains the interaction between existing knowledge and experience in the learning process as follows:

As children encounter new experiences, existing memory structures in the brain or schema are reshaped, impacting the linguistic, cognitive, social, and emotional development of children over time. Therefore, 'knowledge cannot be given directly from the teacher to the learner but must be *constructed by the learner and reconstructed* as new information becomes available' [Ken Ryan and James M. Cooper 2000, *Those who can teach*, Houghton Mifflin, Boston]. From this point of view, learning is not the result of development; rather, learning *is* development.⁹

Another consideration that runs alongside this brief comparison between digital and printed books is that, while the digital environment may offer particular educative and developmental opportunities, the child's responses and actions to a digital book (or game) are governed by a predetermined range of responses programmed into its software. Put another way, the child may choose a response or action, but only from those which fall within an available range; hence, there is less opportunity to respond free-

ly with genuine creativity and originality. Researchers Fauzi Naemim Mohamed and Nurul Lina Mohd Nor (2015) compared digital and physical animations and the ability of the latter to be imbued with nuances by the operator rather than governed by the software design and associated controls. Their discussion is in relation to the use of puppets in animation, but is of relevance to this research because puppets are used in the playbook projects discussed in Chapter 4. They state:

Puppets are rich in their textured and sculptural forms and yet they have limited, wood-en-like performance. However, it is their limitations—unlike smooth computer-generated imagery (CGI) or 2D animated drawings—which make every nuance in their performances exceptionally important and instructive in understanding the character’s motivation.¹⁰

Interestingly, the authors also comment on the paradox whereby puppets are ‘alive’ in the minds of their viewers even when they are still and silent; this paradox seems unlikely to be as effectively achieved in digital reproductions where ‘silence’ and ‘stillness’ are generally equated with pausing or switching off operations. As the authors observe with respect to puppets, but which appears equally applicable to picture books and playbooks:

Paradoxically, the more puppets stay still . . . the more they are alive in our experience. It is as if in being able to move, they can also opt to sit still, and in being still, their bodies gaze out of their movement by being perfectly inert.¹¹

Picture books and playbooks offer similar experiences to that describe above: a child, during the reading of a picture book, may stop and gaze at a particular page which holds a particular fascination, but in no sense has the action or story stopped in the same manner as if the reader had paused a digital reading or film. Rather, the life that is depicted on the page continues in the child’s imagination. Carolyn A. House and Audrey C. Rule (2015), in their discussion about children’s picture book illustration state that young children, unable to read words, ‘focus on a book’s pictures’.¹² They provide several examples of children’s interpretations of still images and how they added varying actions, suggested actions, emotions, values, and other responses to the images according to their own interpretation and imagination rather than what is expressly depicted or in the pictures. Some responses that were based largely on the child’s own interpretations rather than being guided by the text and/or the image included:

‘That bear . . . needs to clean up at clean up time, eat at snack time, then sit on the rug when he is done’ (in response to an illustration of a teddy bear playing with small objects);
‘The water has sharks in it, and the bear can eat them!’ (in response to an illustration of a bear with a fish in its mouth);
‘He wants to go under water . . .’ (in response to a picture of a bear); and
‘He’s in there all by himself . . .’ (in response to a picture of a small teddy bear in a corner of a room).¹³

Meanwhile, research into the way children interpret picture books shows that children have:

... an inventive ability to play with the text' and 'energetically ... [made] ... connections between the reading, their experience of books and their own lives (Adela Baird, Janet Laugharne, Eva Maagerø, Elise Seip Tønnessen 2015).¹⁴

The research of Alissa N. Antle, Milena Droumeva, Daniel Ha (2009) revealed that jigsaw-style puzzles (which, in the context of this research, could be a 'manipulative' component of a playbook) were more quickly and successfully solved when presented to children in traditional (board) format than in digital formats. They compared the speed and efficiency in which children were able to solve picture puzzles (jigsaw-style) that were presented to them in various formats including traditional (with pieces cut from board); digital, whereby the pieces were shown on a digital tabletop and manipulated by a mouse (a 'graphical user interface, or 'GUI'); and finally a laboratory-style hybrid (where the pieces were shown on a digital tabletop but could be manipulated directly by hand, using a 'tangible user interface', or 'TUI').¹⁵

The results showed the children were more successful and faster at solving the puzzles using either of the two tangible formats (traditional or TUI) than with the GUI, as a result of 'direct placement' of the pieces other than the 'indirect placement' offered by the mouse. Further, the results showed that puzzle-solving was more successful and faster with the traditional puzzle than either of the two digital formats (TUI and GUI). The TUI format did present specific benefits, however, including that 'Children spent more time enacting exploratory actions with the TUI than with the traditional or mouse-GUI'; that 'Children enact a temporal pattern of exploratory actions followed by direct placements using the TUI; and that 'Children progressed from making indirect placements early in puzzle solving to making direct placements later in the session using the TUI, suggesting the development of mental models and skills as the session proceeds.'¹⁶

This research suggests that both traditional and TUI puzzle formats are beneficial to children's cognitive development and, given that this research was undertaken in 2009, would seem to foreshadow the usefulness of touchscreen applications, which combine digital screens with direct input in a manner akin to the TUI but which were not more widely available and accessible until some five years later—and remain cost-prohibitive for many users. Conversely, the GUI format which was entirely dependent on digital images and mouse-operated input was less effective, achieving fewer successful results and also being slower in execution. The research also reported that 'The mouse-GUI did not support children to project from indirect (mental) placement actions.'¹⁷

Determining the value of playbooks

Arguably, both digital books and playbooks are potentially distracting rather than beneficial to a child's development and learning. Additional features, whether digital or physical, provide no guarantee of a higher-quality educative or developmental value. Rather, this is determined by the quality of the original content in the Work and the effectiveness of its communication channels. The careful design of the book's special features must ensure they directly relate to the relevant aspect of childhood development and learning intended by the author.

Cynthia Chiong and Judy S. DeLoache (2012) drew attention to these issues in their research into the impact of what they termed as 'manipulative' features' in books on children's alphabet letter-learning. They define manipulative features as 'flaps, levers, textures and other elements designed to elicit physical manipulation'.¹⁸ They provide some examples of specific circumstances when playbooks were shown to be distracting rather than beneficial. In particular, their research suggests that manipulative books do not provide additional benefits when teaching children the alphabet and are potentially distracting, noting that:

In the first study, the children learned more letters with relatively plain books than with a book with manipulative features. The manipulative elements apparently distracted them from the information in that book. In the second study, a manipulative feature that was specifically designed to attract children's attention to the letters did not facilitate performance . . . Specifically, it appears that interacting with manipulative features interferes with children's attention to letters.¹⁹

Chiong and DeLoache also drew attention to the issue of 'dual representation', a concept referring to the use of symbols and potential problems arising on account of some conflict between the real and symbolic meaning. For example, alphabet letters in real terms are just shapes and pictures. In symbolic terms, they are letters. Chiong and DeLoache reported that:

The more interesting the symbol is as an object the more difficult it is for young children to appreciate its primary function of representing something other than itself.²⁰

They did, however, find tracing letters to be beneficial, noting that 'Tracing can also help strengthen alphabetic principle skills for young children.'²¹ They further conceded, in a discussion concerning the possible benefits of rendering the letters in the books with a sandpaper texture and allowing children to trace the letters in that way, that:

Both the manipulative feature [the textured letter] and the associated action [tracing] were designed to draw attention to the letters themselves. Thus . . . [the] . . . result offers the possibility that manipulative elements that are carefully designed to highlight information to be learned could be beneficial.²²

The conclusions that can be drawn from Chiong and DeLoache's findings in the context of this research is that certain types of features in playbooks appear to assist learning and development in some contexts but not others, and the particular features incorporated into the playbook need to have direct relevance to the intended learning outcome.

Chiong and DeLoache also note, however, that, 'On the one hand, to the extent that manipulative elements increase children's interest in a book, they might enhance learning from it.'²³ This could be interpreted as such: a manipulative element may distract a child from the intended learning outcome but may also positively enhance engagement and is therefore beneficial. A child that is opening and closing flaps on an alphabet book instead of paying attention to the letters at hand is exploring and learning about mechanical movements, developing motor skills, and otherwise engaging his or her mind. Hence the ability of a book to arouse a child's interest is beneficial on several levels, and may be of particular relevance in the case of children who are otherwise disengaged or disinterested in aspects of their learning. Given the acknowledged importance of literacy in all areas of learning and development (see page 20), anything that engages children in books, even if the initial interaction involves using the book as a toy, would appear to be of significance.

Furthermore, it is known that visual, audio, and kinaesthetic experiences are important for children's learning and development (see page 8). Therefore, it follows that if elements that offer these experiences are integrated into the design of a playbook in considered way, the playbook should be of benefit, in the same way as some educational toys.

In other research, Junko Yokata and William H. Teale (2014) made various comments regarding digital picture books and apps. Rather than discussing the potential for distraction, however, they were more concerned about the high amount of 'poor quality' e-books (and apps) on the market and the lack of guidance on ways in which their value could be assessed. Ultimately, their recommendations for quality assessment linked directly to the quality of the content, in terms of its literary value, use of language, and quality of illustrations—three standards which they noted are of equal application to printed material. They also posed the following evaluative questions:

Is the story appropriately presented in digital format?;

Does the story take appropriate advantage of features that the digital world allows, beyond what is possible in print?;

Do the interactive features maintain the integrity of the main story?; and

Do the features make sense in terms of how children learn to read and learn in general?²⁴

Various researchers have also investigated the benefits of such educational toys and activities. For example, in researching a child's learning of spatial relationships, Helena Örnkloo and Claes von Hofsten (2007) used a range of toy-like objects (balls, sticks, boxes with apertures, etc.) and associated tasks to assess how children went about trying to solve the spatial problems with which they were presented. They noted:

During the second year of life, infants are fascinated by problems of how to relate objects to each other. For instance, they find it very attractive to pile objects, put lids on pans, and insert objects into holes. The ability to solve such problems reflects infants' developing spatial perception and cognition.²⁵

Children's interest in what these researchers describe as 'object-aperture' problems informed the project *Christopher Bear's Birthday Party* discussed in Chapter 4 and in particular its 'post-a-letter' feature.

Similarly, a toy in the shape of animal or a person or even an inanimate object (such as a toy train) but which the child imagines as a friend is likely to be beneficial to that child's social and emotional development (see discussion of anthropomorphism on page 25). Therefore, if appropriate toys are incorporated into the design of the book, the toy becomes a complementary partner to the book rather than an adjunct. This is not to undermine the book's importance, but instead to suggest that this can be a useful way to introduce



FIGURE 8: Two books that incorporate toy elements. *Left:* an internal spread from *My Alphabet ABC Playbook*. This bag-shaped cloth book with a carry handle supports development of vocabulary and learning of the alphabet (SJ Toys Zone, Melbourne). *Right:* The *Peter Rabbit Finger Puppet Book* incorporates a soft toy rabbit into its design which is used to help teach children counting concepts (Beatrix Potter / Frederick Warne Publishers, UK).

some children to books. While some children may be introduced to books first through pictures and then later words, others might find their first introduction to be through toys.

In the context of early childhood learning, an assessment of the value of playbooks should be in terms of how the format advances or compromises the readers' development (cognitive, emotional, creative, and social) as well as literacy and numeracy, and the acquisition of knowledge—or whether the impact is neutral or detrimental. To this end, a sample of books in the varying formats is discussed in Chapter 3, and findings and observations were incorporated into the design of the projects discussed in Chapter 4.

Conclusion

Well-designed playbooks with high-quality content offer an engaging and kin-aesthetic learning experience for young children that cannot presently be replicated by digital media due to their tactile and true three-dimensional qualities. They offer a viable alternative to digital learning experiences that is of particular relevance in the area of early childhood development where it is generally recommended that children's screentime be very limited or, in the case of very young children, non-existent. High-quality playbooks assist in the development of literacy skills and also encourage creative play, itself considered of major importance in early childhood development.

Notes

1. Articles and reports regarding the ‘print versus digital’ debate are regularly published, with many recent ones indicating that, at least for the foreseeable future, digital will not replace print but rather the two formats will co-exist. In the face of sometimes polarised views, one such article titled ‘Paper vs digital reading is an exhausted debate’ by Nick Harkaway was published in 2014 in the *Guardian* (U.K.; <http://www.theguardian.com/books/booksblog/2014/mar/31/paper-vs-digital-reading-debate-ebooks-tim-waterstone>, accessed 15 November 2015) and neatly ecapsulated the middle-line position:

Digital will continue to grow for a while at least, and continue to exist, because it is becoming part of the world we inhabit at a level below our notice, no more remarkable than roads or supermarkets. Ebooks are here to stay because digital is . . . By the same token, paper has a place in our hybrid future. Digital books are still painfully ugly and weirdly irritating to interact with. They look like copies of paper, but they can’t be designed or typeset in the same way as paper, and however splendid the cover images may look on a hi-res screen, they’re still images rather than physical things . . . you still can’t flick through an ebook properly; you can’t riffle the pages, you can’t look at more than one page at once . . . Until a digital book is a magical object which physically transforms from *50 Shades* into the new James Smythe novel according to your whim; until you can walk through a digital library and open books at random; until the technology becomes as satisfying to the physical senses as the text is to the cognitive self, there’s still a need for shiny, gorgeous, satisfying books. And when those things happen, if they do, we will have lost nothing in the transition.

2. van Groll, Naomi 2015, ‘Is the print book dead?’, *Writer’s’ edit*, (<http://www.writersedit.com/book-dead/>, accessed 1 December 2015).

3. Thorpe-Bowker 2012, ‘Ebooks in Oz: the stats’, *Bookseller + Publisher*, 91 [9], pp.10–11, in van Groll, Naomi 2015, ‘Is the print book dead?’, *Writer’s’ edit*, (<http://www.writersedit.com/book-dead/>, accessed 1 December 2015).

4. Jason Epstein 2010, ‘Publishing: the revolutionary future’, *New York Review of Books*, 57 [4]), cited in *Writer’s’ edit* 2015 (<http://www.writersedit.com/book-dead/>, accessed 1 December 2015).

5. van Groll, Naomi 2015, ‘Is the print book dead?’, *Writer’s’ edit*, (<http://www.writersedit.com/book-dead/>, accessed 1 December 2015).

6. Donald Clark 2011, *Visual, auditory, and kinesthetic learning styles* (<http://www.nwlink.com/~don-clark/hrd/styles/vakt.html>, accessed 22 February 2016). See also James Cook University [undated], ‘Visual, auditory and kinaesthetic (VAK) learning style model’, *JCU workplace educators resource package*, JCU, Australia (http://www.jcu.edu.au/wiledpack/modules/fsl/JCU_090460.html, accessed 20 October 2015).

7. Parick R. Frierson 2014, ‘Maria Montessori’s epistemology’, *British Journal for the History of Philosophy*, 22(4) 767–91 (<http://dx.doi.org/10.1080/09608788.2014.960794>, accessed 1 September 2015).

5. Samuel McNerney 2011, ‘A brief guide to embodied cognition: why you are not your brain’, *Scientific American Blogs* (<http://blogs.scientificamerican.com/guest-blog/a-brief-guide-to-embodied-cognition-why-you-are-not-your-brain/>, accessed 1 November 4, 2011).

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9. Stanford University, 'Embodied cognition, *Stanford encyclopedia of philosophy*, 2011 (<http://plato.stanford.edu/index.html>, accessed 1 December 2015).

10. Australian Government's Attorney-General's Department 2012, *Short guide to copyright*, (<https://www.ag.gov.au/RightsAndProtections/Documents/ShortGuidetoCopyright-October2012.pdf>, accessed 1 December 2015).

The original Work of an individual is the intellectual property, specifically copyright material, of that person. As noted in the *Short Guide to Copyright*, copyright is defined as 'a type of property that is founded on a person's creative skill and labour . . . [it] is not a tangible thing . . . [it] is distinct from physical property.' It should be noted here that as well as being distinct from physical property, it is also distinct from digital property such as digital books and other reproductions. The Work, or 'original content' or 'intellectual property' or 'copyright material', is distinct from the various forms of reproductions and expressions of that Work, and it comes first. For the sake of clarity, it should also be noted that copyright legislation protects the form in which the Work is reproduced, rather than the Work itself that, in alignment with 'moral rights' (. . . recognised in Australia [as] the right of integrity of authorship, the right of attribution of authorship and the right against false attribution of authorship' [Attorney-General's Department 2012]), remains that of the creator.

11. National Council of Teachers of English (USA) 2015, 'On reading, learning to read, and effective reading instruction: an overview of what we know and how we know it', *NCTE guideline*, <http://www.ncte.org/positions/statements/onreading>, accessed 1 December 2015).

9. C. Denise Johnson 2003, 'The role of child development and social interaction in the selection of children's literature to promote literacy acquisition', *Early Childhood Research and Practice*, 5(2), p. 2 (<http://ecrp.uiuc.edu/v5n2/johnson.html>, accessed 27 October 2015).

10. Fauzi Naemim Mohamed, Nurul Lina Mohd Nor 2015, 'Puppet animation films and gesture aesthetics' *Animation: an interdisciplinary journal*, 10(2), pp. 102–18 (<http://anm.sagepub.com/content/10/2/102.short?rss=1&ssource=mfr>, accessed 14 October 2015)

11. Ibid.

12. A. House, Audrey C. Rule 2015, 'Preschoolers' ideas of what makes a picture book illustration beautiful', *Early Childhood Education Journal*, 32(5), http://link.springer.com/article/10.1007%2Fs10643-004-1022-7#, accessed 15 October 2015)

13. Ibid.

14. Adela Baird, Janet Laugharne, Eva Maagerø, Elise Seip Tønnessen 2015, 'Child readers and the worlds of the picture book', *Children's literature in education*, (http://link.springer.com/article/10.1007%2Fs10583-015-9244-4#), accessed 1 October 2015).

15. Alissa N. Antle, Milena Droumeva, Daniel Ha 2009, 'Hands on what?: comparing mouse-based and tangible-based interaction', *IDC 2009*, 3–5 June 2009 (<http://dl.acm.org/citation.cfm?id=1551803&dl=ACM&coll=DL&CFID=738272992&CFTOKEN=81372747>, accessed 15 October 2015).

16. Ibid.

17. Ibid.
18. Cynthia Chiong, Judy S. DeLoache 2012, 'Learning the ABCs: what Kinds of Picture Books Facilitate Young Children's Learning?', *Journal of Early Childhood Literacy*, 13 (2), p. 225 (<http://ecl.sagepub.com.ezproxy.lib.monash.edu.au/content/13/2/225.full.pdf+html>, accessed 14 October 2015).
19. Ibid.
20. Ibid, p. 228
21. Ibid, p. 234.
22. Ibid, p. 238
23. Ibid, p. 227.
24. Junko Yokata, William H. Teale 2014, 'Picture books and the digital world: educators making informed choices', *The Reading Teacher*, 67 (8), pp. 577–85, <http://onlinelibrary.wiley.com/doi/10.1002/trtr.1262/abstract>, accessed 15 October 2015).
25. Helena Örnkloo, Claes von Hofsten 2007, *Fitting objects into holes: on the development of spatial cognition skills*, Department of Psychology, Uppsala University, Sweden (<http://www.ncbi.nlm.nih.gov/pubmed/17352547>, accessed 16 October 2015).

2. Recurring Themes

Exploration of the role of playbooks in early childhood development and learning revealed several recurring themes that informed the design of the projects discussed in Chapter 4, and also those evaluated in Chapter 3. Therefore, to provide both background and context, the major themes are discussed below:

Literacy

Books of all kinds, including playbooks, and early exposure to books including those that are read out loud to children, have consistently been shown to support development of literacy in children. MDR Evans, Jonathan Kelley, and Joanna Sikora (2014) found that exposure ‘to books and high culture provides important academic advantages’ and that ‘the number of books in the family home exerts a strong influence on academic performance in ways consistent with the cognitive skill hypothesis’.¹ In all areas of cognitive skill development,^{2, 3} literacy itself has a pivotal role because it is literacy that enables children and adults to make sense of all the other information they receive and to communicate outwardly to others. It is also literacy that enables people to make connections between different types of information, and to analyse and synthesise information and create their own thoughts. Delvene Neilson (2015) describes literacy as:

... the ability to read, view, write, design, speak and listen in a way that allows you to communicate effectively. The power of literacy lies not just in the ability to read and write, but rather in a person’s capacity to apply these skills to effectively connect, interpret and discern the intricacies of the world in which they live.⁴

Nursery rhymes

Nursery rhymes, and their close relatives action rhymes, nursery songs, and chants, are often depicted in children’s playbooks. They have been in existence for centuries, with many predating the invention of Gutenberg’s printing press (c. 1440).⁵ They evolved and were handed down over the generations as part of an oral tradition that remains in existence today.⁶

Nursery rhymes and nursery rhyme characters were chosen for one of the major projects in this research, the Mother Goose Project. This was primarily because

of their usefulness in developing literacy; secondly because of their familiarity to children, parents, and teachers; and thirdly because, although collectively known as nursery rhymes or nursery melodies, they have sub-categories with particular relevance to different childhood stages and ages. This aspect therefore enabled the range of books for different ages and developmental stages to be cohesively linked in the Mother Goose Project.

Dr Clare Kelly identifies several features of nursery rhymes that help explain their relevance to social, cognitive, and emotional development as well as literacy and numeracy. She notes:

Rhymes and songs encourage participation because they always have rhythm and usually repeated sections that children can join in with, making them predictable and so easier to memorise. This inbuilt rhythm and repetition can also be a source of satisfaction and pleasure. It also makes it easier for children to repeat them independently, building their confidence. There is [also] evidence to show that children who speak more than one language will benefit from learning rhymes in all the languages they know.⁷

Dr June Factor (2011) expresses similar views and further points to the value of nursery rhymes in developing motor skills and social awareness:

A number of these rhymes are used to accompany a movement game: counting out, skipping, hand-clapping and ball-bouncing. The physical co-ordination, flexibility, patience and endurance required for many of these games suggest how strenuously, seriously—and cooperatively—children play . . . [Such] games could also act as a healthy antidote to the highly competitive and sometimes aggressive adult sports that are often introduced to children at a very early age.⁸

Dr Pam Schiller (2008) also notes:

In recent years . . . we have begun to examine and redefine the valuable role singing songs and reciting chants and rhymes play in laying the foundation for reading readiness. We know, for example, that these activities can help build vocabulary and develop sound discrimination. Both skills are crucial for the development of literacy.⁹

Another feature observed during this research and no doubt noted by others is the way in which nursery rhymes capture the shifting moods within the nursery or its modern-day equivalents. On one hand, there are the rollicking songs such as *Old MacDonald Had a Farm* that are probably most used in the context of everyone singing along and having fun together or, in other words, engaging and developing social and communication skills. On the other, there are gentle, soft, euphonious rhymes and lullabies, including *Twinkle Twinkle Little Star*

and *Hush Little Baby*, which are generally thought to be of use in calming and soothing young children. As noted by Hana Doležalová (2007):

A lullaby is a soothing song . . . They [lullabies] originated in England in the late 1300s. The idea is that the song sung by a familiar and beautiful voice will lull the child to sleep . . . Parents have sung lullabies to their children as a way of settling their children or sending them to sleep . . . Just as adults relax to music, so babies and young children are comforted by music. Singing can help to strengthen the bond between parent and child and children benefit from hearing a familiar voice. It is not just song that comforts babies; even simple, repetitive sounds can send babies to sleep, sometimes reminding them of their mother's heart beat in the womb.¹⁰

Some empirical research conducted by Marieve Corbeil, Sandra Trehub, and Isabelle Peretz (2013) provides further insight into the effect of singing or reciting nursery rhymes (including lullabies) to children.¹¹ They suggest that young children do not necessarily differentiate between the singing and reading of such verses, noting that the 'melodious speech' used by adults when reciting (rather than singing) nursery rhymes and the actual singing of those rhymes may instead be perceived by the child as 'variations on a theme'.¹² More important is the fact that the style of reciting or singing is 'infant-directed' (ID), rather than adult-directed (AD). According to these authors, the features of ID speech,

. . . especially high pitch, expanded pitch contours, rhythmicity, repetition, and reduced speaking rate, make ID speech sound much more musical than AD speech. . . ID speech is finely tuned to the infant's age and needs . . . The available evidence indicates that infants find ID singing more engaging than non-ID singing.¹³

The authors concluded infants were most responsive to 'happy' voice quality and that this was the principal contributor to infant attention, rather than vocal mode (speech or singing).¹⁴ Drawing on the research of T. Nakata and S.E. Trehub (2004),¹⁵ they also stated that 'intense infant attention to vocal music initially leads to reduced body movement' and, citing the work of T. Shenfield, S.E. Trehub, and T. Nakata (2003), further noted that 'maternal singing also modulates infant cortisol [the 'stress' hormone] levels'.¹⁶ These factors in combination suggest that the practice of reciting or singing of nursery rhymes to infants in the belief that they have a calming and soothing effect is of sound basis.

It is plausible to think that perhaps not only do nursery rhymes calm and soothe (as well as provide an early introduction to literacy), but they may also foster development and learning in other ways. In between the examples of rollicking rhymes and lullabies given above are all kinds of other moods and, in a sense, lessons: cautionary, subtly didactic (as in counting

and alphabet rhymes), and so on. Viewed in this way, the great importance of nursery rhymes in early childhood development becomes obvious. To quote George Orchard Halliwell (1844), who compiled *The Nursery Rhymes of England* in the 1850s which remains in print today:

I cannot help thinking that harmless and euphonious nonsense may reasonably be considered a more useful instrument in the hands of children than the overstraining of intellect in very early age . . .¹⁷

Who was Mother Goose?

In general terms, Mother Goose is thought of as an adult nursery character who is custodian of the vast array of nursery rhymes that have emerged over centuries and across different cultures and languages through oral culture, before finding their way into print. Although the exact origins of Mother Goose are unknown, various individual rhymes and smaller collections began to find their way into print from the early 1700s. As noted by Iona and Peter Opie (1951):

In the beginning of the 18th century, in the reign of Queen Anne, appeared the first book expressly designed for the young which had traditional rhymes in it. Whoever was its modest author, ‘T.W.’ . . . *A Little Book for Little Children* . . . contains two rhymes still rightly celebrated, ‘A was an archer’ and ‘I saw a peacock with a fiery tail’, and three well-known riddle verses.¹⁸

Other notable earlier examples include *Tommy Thumb’s Pretty Song Book* (published in London c. 1788)¹⁸ and John Newbery’s compilation *Mother Goose’s Melodies* (thought to have been published in Boston, c. 1719).²⁰ Precise details, however, regarding the time and place of first publication of *Mother Goose’s Melodies* appears both disputed and elusive. The Opies describe this aspect of Mother Goose’s possible origins as follows:

The bibliographical history of nursery rhyme books in America is complicated by a legend which arose in Boston in the middle of the 19th century to the effect that *Mother Goose’s Melody*, or a book very like it, was first printed there in 1719, that many rhymes contained in it were of American, and that, in fact, Mother Goose herself was an American lady.

According to this story the fountain-head of the rhymes was a Mistress Elizabeth Goose (née Foster, widow of Isaac Goose (Vergoose or Vertigoose) of Boston . . . [One of their daughters] Elizabeth married Thomas Fleet, a printer in Pudding Lane of the same town. Here in Pudding Lane a book called *Songs for the Nursery or Mother Goose’s Melodies for Children* is alleged to have been printed. Its contents are said to have been collected by Fleet, for the most part from the lips of his wonderful mother-in-law, as she crooned

the immortal verses—until Fleet was almost driven distracted by them—over first one, and then another (there were eventually six) of her grandchildren. It was to stem this babbling, and in derision of Mistress Goose, that Fleet is said to have styled the rhymes ‘Mother Goose’s Melodies’, and to have arranged a goose-like creature with long neck and mouth wide open on the title page. The date of this publication, which has been described as ‘the most elusive “ghost” volume in the history of American letters’ is given as 1719.²¹

This account, which the Opies describe as a ‘story’,²² may help reveal the origins of Mother Goose, and certainly it has been a popularly accepted explanation over the years. It is confounded, however, by the appearance of other characters of seemingly uncanny similarity to Mother Goose at different times and in different quarters of the globe. Charles Perrault, the 17th-century French author and regarded as creator of the fairytale genre, penned a Work titled *Histoires ou Contes de Temps Passé* [meaning, ‘Stories from past times’] that included, on its frontispiece, ‘*Contes de me Mère l’Oye*’, translating to ‘Fairytales of Mother Goose’. It was first published in the late 1690s.²³ While this might shed further light on Mother Goose’s origins, the Opies go on to point out that even before that date the term was old and appeared in works dating from the 1650s and possibly earlier. Despite the confusion, it seems that:

... so far as has been ascertained, her name did not become a household word either in England or America until the second half of the eighteenth century.²⁴

Of note is that many nursery rhymes do have known authors while others seem to be linguistic expressions with communal and playground authors. The commonality in the verses, themes, and characters in nursery rhymes even across different cultures and languages seems to suggest that they are in some way an oral manifestation of a communal psyche or collective unconsciousness that exists among children around the globe and which has some direct relationship to their development, especially with respect to language. In so far as Mother Goose is concerned, it seems she is more than a popular character and rather is archetypal, one of the many:

... universal, mythic characters [that] reside within the collective unconscious of people the world over. Archetypes represent fundamental human motifs of our experience as we evolved; consequently, they evoke deep emotion.²⁵

She is depicted, at times, as an older woman and at others as a goose with a bonnet, but her character and her role as custodian of the nursery rhymes is unchanged. Mother Goose is the central, unifying character in the Mother Goose project discussed in Chapter 4.

The anthropomorphism debate

All of the projects developed for this research make use of anthropomorphism, the ascribing of human qualities on animals and inanimate objects.

Considerable debate surrounds the use of the device, with some regarding it as negative aspect that compromises learning while others consider it supportive. Much seems to depend on the circumstances. A review of some of the literature revealed that anthropomorphism may compromise learning when factual information is being imparted, but conversely may be useful when the intention is to support the child's personal development, particularly in the areas of social and emotional development. For example, anthropomorphism is likely to be distracting when attempting to provide factual information to children about the physical characteristics of animals. This is indicated in specific research (Patricia A. Ganea et al 2014) in this area which reported that:

These results show that . . . anthropomorphic storybooks affect younger children's learning of novel facts about animals. These results indicate that anthropomorphised animals in books may not only lead to less learning but also influence children's conceptual knowledge of animals.²⁶

The research of Sarah Friedman (2011) examines the usefulness of anthropomorphism in the context of both knowledge-based and developmental learning. Although overall Friedman's research supports the use of the device in developmental learning contexts, in citing the work of Simcock and DeLoach (2006), she draws attention to further indications that realistic portrayals are more useful than anthropomorphic when imparting factual information. This research, summarised below, aligns with that also cited in the quotation above:

[Simcock and DeLoach] found that children could learn facts from picture books, but that certain features of picture books, such as realistic illustrations and iconic images, promote learning better than others do.²⁷

Conversely, Friedman's research uncovered several contexts specifically related to developmental learning where anthropomorphism was shown to be beneficial. With regard to social and emotional development, she notes:

Results showed that the children offered more sharing responses to hypothetical scenarios after having been read the book featuring animal characters than the book with human characters.²⁸

Friedman also notes the findings of several other researchers regarding anthropomorphism and in doing so draws attention again to that important qualifying detail: that is, whether the learning experience at hand is primarily concerned with the acquisition of facts or alternatively concerned with childhood develop-

ment and the acquisition of skills such as literacy.

As in the case of the effect of incorporating manipulative features into picture books (see page 1), here again it seems that where the imparting of facts is concerned the use of anthropomorphism may compromise learning. Conversely when the focus is on development, particularly in the areas of social and emotional development, the use of anthropomorphism appears to be useful. Overriding all such qualifiers is the fact that literacy in all situations is of prime importance (see page 20). For example, as well as being of vital importance to cognitive development, it enables factual information to be exchanged and also supports development in other ways, such as assisting children to identify and express their emotions and also to engage in social activities. Therefore, provided the content is appropriate for children, any book is of use if it helps promote the child's literacy, regardless of any special features or lack thereof. If such a book features nonthreatening, friendly anthropomorphic characters and therefore attracts a child to it, and in turn to books and literacy, it is of use.

Furthermore, citing the research of N.A. Boyd and G. Mandler (1955), Friedman notes:

....children actually prefer animal characters.²⁹

Referencing the work of D.W. and L.N. Krueger (2005), amongst others, Friedman draws attention to the usefulness of animal characters in certain contexts because they are not typically gender, age, or race specific: Children may relate to animal characters more easily than human characters because they lack an obvious gender, age, or race . . .³⁰ She further notes:

. . . anthropomorphized animal characters should facilitate children's learning from picture books. They [Krueger and Krueger] propose that children can easily project themselves onto animal characters to confront new and potentially threatening scenarios . . . [When] difficult topics are addressed with animal characters, children may be able to identify with the character without becoming too emotionally involved. Krueger and Krueger also suggest that animal characters may capture a child's attention while at the same time activating memory processes.³¹

Other positive aspects of anthropomorphism noted by Friedman include its ability to enhance learning. Citing A. Waytz, C.K. Morewedge, N. Epley, G. Monteleone, J. Gao and J.T. Cacioppo (2010), she states that ' . . . animal characters will provide a sense of predictability when children are learning about new animals, objects, or situations . . .³²

Citing G.F. Melson, she suggests 'animal characters may help children try on new roles and emotions from a safe distance, such as assuming greater inde-

pendence and feelings of power.³³

These are just some of the benefits identified by other researchers and reported by Friedman. They were of particular relevance to this research because anthropomorphism is used in all of the projects discussed in Chapter 4 and was considered both essential and appropriate in that context. This is because most of the projects feature nursery rhymes, where the use of anthropomorphism is long entrenched and in many cases defines them. For example, the *Cat and the Fiddle* is about a cat behaving like a human and playing a fiddle.

Importantly, much of the power of nursery rhymes resides in their tradition and place in the collective unconsciousness, as discussed earlier in this chapter. Substantially altering the characters by removing the anthropomorphic elements would sever the changed version from all the tradition that precedes it, and in turn weaken it. Many nursery rhymes are concerned with the child's personal emotional, social, and cognitive development rather than with imparting factual information. For the reasons detailed in the preceding paragraphs, use of anthropomorphism is considered beneficial and appropriate in this context and is used in all the projects detailed in Chapter 4.

The role of aesthetics in the playbook

Aesthetics are concerned with sensation, sense, and feeling. A simple definition is that they involve the mind's recognition and appraisal of external tangible or intangible things (phenomena) that it experienced through the senses. This includes those that can be seen and touched as well as those that can be smelt, tasted, or heard.

A more complex definition of aesthetics, and one that has particular relevance to the playbook, concerns how sensory stimulation appears to trigger responses in the brain that go far beyond a simple appraisal. The importance of the senses in early childhood development underpinned the pedagogy developed by Italian physician and educator Maria Tecla Artemisia Montessori (1870–1952). She emphasised the 'foundational role of the senses combined with her . . . insistence that all cognition is infused with "interest"'.³⁴ Montessori believed that:

. . . sensorial experiences began at birth. Through his senses, the child studies his environment. Through this study, the child then begins to understand his environment. The child, to Montessori, is a "sensorial explorer" . . . Through work with the sensorial materials, the child is given the keys to classifying the things around him, which leads to the child making his own experiences in his environment. Through the classification, the child is also offered the first steps in organizing his intelligence, which then leads to his adapting to his environment.³⁵

More recent research into what is termed as ‘embodied cognition’ appears aligned with the views of Montessori. ‘Embodied cognition’ is when that cognition (in other words, the acquisition of knowledge or understanding), is largely dependant on physical features and experiences of the human body and not solely dependant on the brain. This in turn relates directly to sensory experiences of the human body. As explained by the *Stanford encyclopedia of philosophy*:

Cognition is embodied when it is deeply dependent upon features of the physical body of an agent, that is, when aspects of the agent’s body beyond the brain play a significant causal or physically constitutive role in cognitive processing. In general, dominant views in the philosophy of mind and cognitive science have considered the body as peripheral to understanding the nature of mind and cognition. Proponents of embodied cognitive science view this as a serious mistake. Sometimes the nature of the dependence of cognition on the body is quite unexpected, and suggests new ways of conceptualizing and exploring the mechanics of cognitive processing.³⁶

Further, Samuel McNerney (2011) notes that ‘. . . our cognition is influenced, perhaps determined by, our experiences in the physical world.’³⁷

The concept of ‘embodied knowledge’ can be difficult to grasp, but one simple example is when people are unable to mentally recall a password, but are able to punch the code into a keyboard; the knowledge is seemingly stored in their fingers, not the brain. Touch-typists who are unable to mentally recall the character layout on a keyboard but type accurately without looking at the keyboard are also accessing ‘embodied knowledge’. It would appear therefore to be closely related to what is known as ‘muscle memory.’

These views are also aligned with kinaesthetic learning styles and kinaesthetic intelligence, which emphasise the role of actual physical experiences in learning and development.³⁸ It follows that the inclusion of appropriate sensory features in playbooks may increase their usefulness by helping to facilitate a child’s development in this way.

In the case of playbooks, physically exploring, touching, moving and otherwise interacting with physical objects feeds information to the brain, but it is the processing of this information and the associations with other information already stored that produces knowledge, wisdom, understanding, and, beyond that, original and creative thought. As noted by Bennyé D. Austrung and Merete C. Sørensen (2011):

According to these theories aesthetic activities are an integrated and irreplaceable part of all children’s socialisation. Essential activities that develops creativity and enables the child to use the aesthetic languages to

reflect and communicate feelings, experiences and impressions, and develop understanding of herself, the others and the world she is a part of.³⁹

Closely related to aesthetics is the concept of perception. While information about external phenomena is received through the senses, perception concerns the manner in which the mind processes, evaluates, understands, and interprets that information while simultaneously imbuing it with his or pre-existing knowledge and experience, to ultimately arrive at his or her 'perception'.

Digital books are, at least to date, unable to provide the same aesthetic experiences as those made available in playbooks. While digital books are able to provide sound and vision (and, in particular, moving vision), they are unable to provide the tactile sensations of shape and texture. Conversely, playbooks are able to provide all three, including even 'moving vision' through mechanical rather than electronic devices. When considering the five senses, this leaves two others, taste and smell, that do not yet feature in digital books in any significant or widely-accepted way but which have been explored in the arena of playbooks with varying degrees of success. Many children will at some time have enjoyed the curious but not entirely convincing experience of a scented 'scratch-and-sniff' book, and from time to time books with edible components have been produced but due to shelf-life issues and other concerns are, for the most part, neither practical nor viable.

Why is play important?

Play concerns a variety of activities that amuse a child and that can be undertaken within in a group or in isolation. Because of its 'fun' association, the importance of play in childhood development and education can be underestimated. Various authorities attempt to define it as:

... an important vehicle for developing self-regulation as well as for promoting language, cognition, and social competence;⁴⁰ and

... how preschoolers learn, experiment, and solve problems;⁴¹

and

... central to the network for learning ... Play is not merely recreation, or preparation for adult life. Play integrates the child's learning as it moves along. It makes learning deep, broad, relevant, thorough, and imaginative.⁴²

Various types of play have been identified, including, for example, exploratory play, solitary play, onlooker play, cooperative play, sensorymotor play, and combinations of each.⁴² In the context of playbooks, exploratory play is of particular interest. The Illinois Early Learning Project describes this as follows:

Exploratory play, sometimes called unoccupied play, refers to children's seemingly random interaction with things and people around them.⁴³

This type of play enables a child to explore various phenomena experienced through the senses, such as sound, touch, taste, vision, and smell, and also concepts such as cause-and-effect and spatial relationships. A baby may, through the tactile experience of holding a soft toy, begin to learn about texture, shape, and form. If that toy were to have a rattle embedded within, an older child such as a toddler might quickly discover that if the book is given a gentle shake, it produces a rattle sound. It is intended, therefore, that playbooks promote this type of exploratory play. Such play is often conducted in isolation by the child as he or she quietly explores various discoveries, but also between children within a group.

Playbooks may also be used to facilitate sensorymotor play, which has some links and overlaps with exploratory play except that it is generally concerned with how the children learn and explore the wider world and their own bodies. By contrast, exploratory play may be more focussed on a given object or toy, and in turn learning about concepts through experiencing the aesthetic qualities of that object and interacting with it. So in the case of exploratory play, educational toys and playbooks directly provide a learning and development experience to the child, whereas in sensorymotor play the toy or playbook facilitates the exploration of other phenomena external to the toy itself.

The Illinois Early Learning Project describes sensorymotor play as follows:

Children's play sometimes has less to do with other people than with finding out about the world. Young children naturally explore their environments in playful ways that help them understand the physical environment and their own bodies. This type of play is sometimes called sensorymotor play. As they vary their actions and interact with toys and other objects, children discover what their own muscles can do, and they gain practise in the movements they need for everyday life. They also have opportunities to learn about gravity and other principles of the physical world.⁴⁵

Playbooks therefore may be useful tools for facilitating different types of play and in turn supporting childhood learning and development. In addition to their contribution to exploratory and sensory motor play, they also promote other types of play such as cooperative play, which is important for developing social skills, problem-solving abilities, and cooperation and resolution.

Why is illustration important?

Any discussion of playbooks must inevitably reference the importance of illustrations and more generally of children's picture books. In many ways, children's picture books can be considered an early form of playbook, where illustrations are the additional feature and may help enhance the book's educative or story-telling value, or both. Many of the observations that

apply to playbooks and discussed earlier apply equally to more simple-format picture books. The usefulness of the illustrations in facilitating certain aspects of factual learning and certain aspects of developmental learning seems to hinge on both how well the illustrations are integrated with the text and how appealing they are to the child—and therefore how likely they are to encourage the child's engagement and learning.

The high value of picture books in terms of engaging children in literature and facilitating their learning and development is well established. Amongst the copious amount of literature on this subject, Junko Yokota and William H. Teal (2014) succinctly encapsulated the essence of the research as follows:

This body of [research] . . . has helped us understand, for example, how illustration and text work in synergistic ways in the best picture books to create a reading experience that is more than either of these two individual 'parts' of the book, how parents and children interact with picture books, and how picture books are mediated by teachers in classroom settings to help children discuss themes and issues from the books and reflect on author and illustrator craft. Thus, it can justifiably be said that, at this point in time, picture books are a sophisticated art form that also serve significant roles in the literacy and literary development of children.⁷⁴⁶

An additional aspect to consider is the enormous appeal of illustration and decorative detail shown in all kinds of books to both children and adults. It is often the cover illustration, typographical features, and overall design that is the lure that attracts both children and adults to certain books in the first place, and without which they may never have paid any attention. There is ample evidence of this in the bookselling and publishing industry, with parallels concerning video and audio products: the cover design is of paramount importance for attracting readers, including those who hitherto had no knowledge or interest in a particular book. It follows that a children's book with an attractive cover design illustration, realist or otherwise, has a useful role in helping to promote literacy.

Other aspects of children's picture book illustration, such as its role in helping to bring characters to life, and how it works in a complementary manner with the text to fill out visually those parts of the story that are not expressed verbally and vice versa, would seem of great significance with respect to engaging the imagination and facilitating, in particular, cognitive, creative, and emotional development. In the words of children's author and illustrator Marjorie van Heerden (2012):

An illustration in a children's book communicates information and emotion in a unique way. It could cultivate a growing child's ability to develop his or her own creativity and through that even the ability to think laterally. It could also

play a role in developing the child's self-initiative skills. If, for instance, the child reader registers a certain dignity in a character illustrated with aesthetic beauty, it could lead to a process of humanization in the child's mind. This way the images in an illustrated children's book could contribute to the developing a certain humaneness (*sic*) in the individual child reader's emerging personality . . . through sensitive illustrations, [children] can become aware of the physical beauty of nature and the world around us. They can also learn about its vulnerability.⁴⁷

Conclusion

It could be said that the aim of playbooks is to both educate children with factual information and also to encourage their development (including cognitive, social, emotional, and creative development) in a way that appeals to the children themselves.

Well-designed playbooks should therefore: (a) provide sound content that promotes literacy, learning and development; (b) have characters that appeal to children; (c) encourage sensory learning experiences; and (d) encourage play and stimulate imagination. This research, and the associated development of playbook projects (see Chapter 4), identified six key 'themes' in this respect: the importance of literacy, nursery rhymes, anthropomorphism, aesthetic qualities, play, and illustration.

In terms of the development and learning, **literacy** is of prime importance. It facilitates communication and therefore contributes to social, emotional, and creative development and to knowledge acquisition. Furthermore, it supports and facilitates cognitive development, and therefore the analysing and synthesising of information. In this way, it supports all other forms of development.

In term of content, **nursery rhymes** provide solid content for playbooks for many reasons. They are widely known and entrenched in our culture; they include a range of inbuilt 'lessons'; they feature characters that are appealing to children; and their literary structure supports cognitive development and literacy.

In terms of characters, the use of **anthropomorphism** in children's picture books and playbooks has been shown to be beneficial in many contexts, particularly in those areas concerned with the child's development (including cognitive, social, and emotional development). It is also generally appealing to children and so may help engage them in books. Conversely, anthropomorphism is less useful than realistic images in terms of conveying factual information and may compromise learning in such circumstances.

In terms of form, the **aesthetic** qualities of playbooks are of prime importance. On a more obvious level, the true three-dimensional form of playbooks

enable children to explore spatial relationships and also to engage in creative play. Well-designed playbooks provide engaging opportunities for kinaesthetic learning. On a more sophisticated level, playbooks may assist in the acquisition of embodied knowledge—that which is acquired through physical experience.

In terms of activities, playbooks provide children with opportunities for **play**, especially exploratory play and therefore learning. Playbooks may also facilitate sensorymotor play.

In terms of developing literacy and appealing to children, **illustrations** are also of key importance in all children's picture books, including playbooks. First, they are visually appealing to children and attract them to the book. Second, provided they are well-integrated with the text, they combine with text to create the 'whole story', and in this way help promote literacy and other forms of development. Third, they help stimulate the children's imagination and to bring stories and characters 'to life'.

Notes

1. M.D.R. Evans, Jonathan Kelley, Joanna Sikora 2014, 'Scholarly culture and academic performance in 42 nations', *Social Forces*, 92(4) (https://www.researchgate.net/publication/265737802_Scholarly_Culture_and_Academic_Performance_in_42_Nations, accessed 1 December 2015).

2. Gary Gilles (undated), 'What are cognitive skills in children? Development, definition and training', *Glencoe understanding psychology*, Glencoe (<http://study.com/academy/lesson/what-are-cognitive-skills-in-children-development-definition-training.html#transcriptHeader>, accessed 15 December 2015).

Cognitive skill development in children is described by Gilles as involving 'the progressive building of learning skills, such as attention, memory and thinking. These crucial skills enable children to process sensory information and eventually learn to evaluate, analyze, remember, make comparisons and understand cause and effect

3. Dorothy S. Strickland 2004, 'The role of literacy in early childhood education', *Reading Teacher*, 58(1), online journal (<http://go.galegroup.com.ezproxy.lib.monash.edu.au/ps/i.do?ty=as&v=2.1&u=monash&it=search&s=RELEVANCE&p=AWONE&qt=SN~0034-0561~TI~The%20Role%20of%20Literacy~VO~58~SP~86~IU~1&lm=DA~120040000&sw=w&authCount=1>, accessed 1 December 2015).

Strickland reported that 'learning to read and write is an ongoing process.' Citing other researchers (CE Snow, WS Barnes, J Chandler, JF Goodman, L Hemphill 1991, *Unfulfilled expectations: home and school influences on literacy*, Harvard University Press, MA) she states it has been found that 'children from homes where parents model the uses of literacy and engage children in activities that promote basic understandings about literacy and its uses are better prepared for school.' Citing Juel (C Juel 1988, 'Learning to read and write: a longitudinal study of 54 children from 1st through to 4th grade', *Journal of Educational Psychology*, 80) she further notes that 'children who fall behind in oral language and literacy development are less likely to be successful beginning readers and their achievement lag is likely to persist throughout the primary grades and beyond.'

4. Delvene Neilson 2015, *Why is literacy so important*, 3P Learning (<http://www.3plearning.com/literacy-important/>, accessed 15 December 2015).

5. Elizabeth Palermo 2014, *Who invented the printing press?*, Livescience, <http://www.livescience.com/43639-who-invented-the-printing-press.html>, accessed 14 October 2015).

Gutenberg invented his version of the printing press which was instrumental in facilitating the mass production of printed materials and which therefore heralded the printing revolution that occurred at that time. This was a world-changing event that continues to resonate today because it marked the shift from oral culture to print culture that in turn would have a profound effect on human consciousness. This was largely on account of its ability to disseminate information through publishing but also because the increased accessibility of written materials in turn increased literacy, and therefore cognitive development and the acquisition and retention of the knowledge on a mass scale. For this reason, Gutenberg is often cited as the inventor of the printing press, but in fact many other less effi-

cient versions were in existence from centuries earlier. It was certain features of the Gutenberg press, concerning movable type and mechanical and therefore less labour-intensive processes, that enabled the transfer of ink to paper that were at the core of its genius. As an aside, it is interesting to consider parallels between the print revolution of the 15th century and the digital revolution of the 20th and 21st centuries, especially with regards to the impact of the digital revolution on human consciousness and the dissemination of information.

6. Dorothy S. Strickland 2004, 'The role of literacy in early childhood education'.

In referencing oral traditions and rhymes, Strickland notes that 'What children learn from listening and talking contributes to their ability to read and write, and vice versa. For example, young children's ability to identify and make oral rhymes and to manipulate the individual sounds in spoken words is an important indicator of their potential success learning to read. Phonological awareness begins early with rhyming games and chants, often on a parent's knee.'

7. Clare Kelly [undated], *Action rhymes and the importance of rhyming*, CBeebies, BBC, London (<http://www.cbeebies.com/australia/grown-ups/helpful-articles?article=action-rhymes-and-the-importance-of-rhyming>, accessed 14 October 2015).

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3. Evaluation of Playbook Samples

For the purpose of informing the development of the projects discussed in Chapter 4, several existing playbooks were evaluated in terms of how their special features might contribute, be detrimental, or otherwise impact on a child's learning and development. The evaluations are detailed below, noting that they were informed by the cited research in the preceding chapters. Each evaluation considered the playbook's role in supporting childhood development.

Evaluation approach

Function and themes

The evaluations were largely informed by the conclusion in Chapter 2 which states that well-designed playbooks 'should therefore: (a) provide sound content that promotes literacy, learning, and development; (b) have characters that appeal to children; (c) encourage sensory learning experiences; and (d) encourage play and stimulate imagination.' The six key themes also identified in Chapter 3—literacy, nursery rhymes, anthropomorphism, aesthetic qualities, play, and illustration—were also considered.

Importance of literacy

Given the importance of literacy (see page 20), any playbook that engaged a child's interest was considered beneficial, even if the benefits were not in the intended area of learning or development. As identified by David K. Dickinson, Julie A. Griffith, Roberta Michnick Golinkoff, and Kathy Hirsh-Pasek (2012):

Research on child development has established . . . that the years between birth and age three are critical for children's long-term language, cognitive, emotional, and interpersonal development. To an extent, the power of these years springs from the fact that the brain is maturing rapidly and is sensitive to environmental stimulation or lack thereof. Also, this is the time when linguistic, cognitive, affective, and regulatory systems are developing and becoming interdependent. At this critical juncture, book reading has special power to have enduring impact on parents' patterns of interpersonal interaction with their children in a way that has lasting consequences for them. As parents read with children, they have the opportunity for frequent, sensitively tuned, language-rich interactions that draw children into conversations about books, the world, language and concepts . . . There is evidence that simply providing books has value, especially in settings where very few books are otherwise

available, but evidence is much stronger that the combination of books and guidance for reading has great potential to result in and lead to more frequent and more effective reading and improvements in children's language and self-regulatory competencies.¹

Appropriateness of 'manipulative' or 'playbook' features

Central to the evaluations was the quality of the playbooks' special feature or associated activity, in terms of whether it directed the child's focus towards the intended outcome or whether it was distracting (see pages 13–14 and 25–26 regarding the potential for manipulative features and anthropomorphism to distract children in certain circumstances). Research suggests that features or activity that direct attention towards the desired outcome are more effective than those that direct away (see 'Determining the value of playbooks', page 13). Cynthia Chiong, Judy S. DeLoache (2012) suggest that:

'Instead of being filled with features that draw attention away from the information to be learned, educationally relevant books for young children should be designed to draw their attention to that information.'²

A finger puppet playbook, for example, which incorporates a counting activity while accompanying a text with a counting theme could be considered an integrated project where story, special feature, and the resulting play or activity are all directed towards the same outcome: numeracy skills. Martha Wagner Alibali and Alyssa A. DiRusso (1999) found that the use of gesture and the use of puppets helped children to count more accurately

Children counted more accurately when they or the puppet gestured than when gesture was prohibited. However, children's errors differed . . . [depending on whether they or] . . . the puppet gestured.³

Conversely, shaped books where the shape has no connection with the story or illustration, or a lift-the-flap word book where the flaps introduce an extra activity, are less beneficial. Lifting the flap to expose the name of a pictured object may help with motor skills and might be fun, but might also easily distract:

. . . publishers and parents alike should . . . [consider] the extent to which the features of a book are likely to promote versus distract from learning. Even though children may enjoy interacting with the levers, flaps and other features of manipulative books, their attention to such features comes at the cost of attention to whatever educational goal a parent or teacher might have in the interaction.⁴

Digital knowledge, analogous knowledge, tools and platforms

The fact that manipulative features have been shown to be detrimental in some areas but beneficial in others led to the question, ‘What is it that determines whether a special features in a playbook will be beneficial or detrimental to learning and development?’ Or, ‘Why is it that playbooks are beneficial in some contexts but less so in others?’

Two complementary possibilities are considered here:

Firstly, if original thought (and knowledge) is categorised as being either ‘digital’ or ‘analogous’ in nature, it may be that ‘digital’ tools are the more effective for communicating ‘digital’ thoughts and knowledge outwards, and similarly ‘analogue’ tools, which would include playbooks, are more effective for communicating ‘analogous’ thoughts and knowledge. It may mean, too, that there is a fundamental conflict in attempting to communicate digital knowledge in an analogue format, or to communicate analogue knowledge in a digital format.

In this research, ‘digital’ thoughts and knowledge are regarded as clearly categorised and fact-based information that support logical yes/no or true/false responses and positions. ‘Analogous’ thoughts and knowledge, on the other hand, refers to more conceptual, interpretative, and sensory themes that entail infinite responses and positions. The 20th-century philosopher Gregory Bateson (1979) distinguished between ‘digital’ and ‘analogous’ thoughts as follows:

We are looking for a binary division of thought process that will be stochastic in both of its halves, but the halves will differ in that the random component of one half will be digital and the random component of the other will be analogic.⁵

Secondly, whether a digital or an analogous platform is more effective for communicating is a subject of considerable debate. But, it may be that the effectiveness of the platform itself is of less concern than the alignment of the type of thought (or knowledge) to the type of tool used for communication. As suggested in the previous paragraph, it may be that digital tools are inherently well-suited to the conveying of digital knowledge and information, while analogue tools are best suited for conveying analogous knowledge and information, regardless of platform. The table on page 41 expands further on this idea. Therefore, practical considerations such as cost, accessibility, speed, and capacity may be of the most importance when determining the platform to be used to convey information rather than the effectiveness of that platform itself. Both digital and analogue platforms are effective and one neither excludes nor surpasses the other.

Of note is that the terms ‘digital’ and ‘electronic’ are used synonymously in many contexts. This in turn causes the subtle detail to be overlooked: that not

KNOWLEDGE			
1.FORMS of THOUGHTS AND KNOWLEDGE (Digital and Analogous)			
* The ‘form’ refers to the underlying structure of the thoughts and knowledge within the brain			
Digital Knowledge		Analogous Knowledge	
<i>‘Digital knowledge’ is Yes/No or True/False or binary in nature.</i>		<i>Analogue knowledge’ is not binary and has multiple answers, outcomes, etc.</i>	
<i>For example:</i> <ul style="list-style-type: none">• facts• logic		<i>For example:</i> <ul style="list-style-type: none">• sensory perceptions• experience• concepts	
2. FORMATS (Also Digital and Analogous)			
* The ‘format’ refers to the format of the tool used to transport the knowledge from message sender to message receiver.			
Digital Formats		Analogue Formats	
<i>For example:</i> <ul style="list-style-type: none">• interactive book• video• flip-style mechanical ‘digital’ clocks• scorecards• abacus• lists and statistics by hand• lists and stastics on spreadsheet• factual writing by hand• factual writing on wordprocessor• realistic photography• morse code		<i>For example:</i> <ul style="list-style-type: none">• creative handwriting• creative writing on wordprocessor• creative drawing on tablet• creative illustration on sketchpaper• creative digital photographs• creatively manipulated photographs• playbooks with non-factual content	
Digital platform	Analogue platform	Digital platform	Analogue platform
<ul style="list-style-type: none">• interactive book• video• lists and statistics on spreadsheet software• factual writing on wordprocessor• realisticphotography on digital camera.	<ul style="list-style-type: none">• flip-style mechanical ‘digital’ clocks• scorecards• abacus• lists and statistics by hand• factual writing by hand• realistic photogra-phy on traditional camera.• morse code	<ul style="list-style-type: none">• creative writing on a wordprocessor• creative drawing on a drawing tablet• creatively ma-nipulated digital photographs	<ul style="list-style-type: none">• creative handwriting• creative drawing on sketchpaper• ‘arty’ photograph manipulated man-ually).• playbooks with non-factual content.

FIGURE 9: The possible relationship between form of thoughts and knowledge and the format in which those thoughts and knowledge might best be communicated. It is suggested that digital facts and knowledge might be most effectively communicated through digital tools while analogous thoughts and knowledge might be most effectively communicated through analogous tools, but that platform itself, whether digital or analogous, may be of less relevance to the quality of the communication.

all digital tools (or products) need employ a digital platform. Likewise, not all analogue tools need employ an analogue platform. If the distinction between ‘digital’ and ‘electronic’ is made, the concept explained above is more easily understood.

The evaluated playbooks

The three playbooks that were evaluated were:

- The Early learn-about series;⁶
- *Okey Dokey Karaoke!*;⁷ and
- *Animals of America*⁸

The evaluations are given below. It should be noted that accompanying suggestions are made from an academic point of view and it is acknowledged that they could, in a real-world situation, present specific design problems or be cost-prohibitive. As this chapter deals with the evaluation of pre-existing items rather than the creation and development of new items (discussed in Chapter 4), the question of design solutions is not discussed here.



FIGURE 10: Bulgarian editions of *Franky the Frog Learns about Colours* and *Bella the Butterfly Learns about Shapes*, die-cut children's board books with carry handle. Written and illustrated by Natalie Jane Parker; this edition published by Zlatnoto-Pate under licence to Brolly Books (reproduced with permission).

Description:

A Bulgarian-language edition of a series of Australian children's books. Each book has its own character and each one introduces a particular early learning concept, for example, *Bella the Butterfly Learns about Shapes*; *Dizzy the Dragonfly Learns about Time*, *Curly the Caterpillar Learns to Count*; *Franky the Frog Learns about Colours*.

The Bulgarian edition introduced die-cut shapes into some of the books in the series, whereby each book was given an appealing shape suggestive of a flower. This effect was created by die-cutting each internal page so that each one has a protruding semi-circular shape on either its right or topmost edge that suggests a petal. The 'petals' are on a different position on each page, so that when the book is closed they align one below the other and slightly to the right to create the book's overall shape. Each book is of the same shape. The books are as identifiable as a series not just by the early-learning theme but also by the artwork style, recurring carry-handle feature, and their shared but distinctive shape.

Evaluation:

Appeal: The books are likely to appeal to children because of their bright and cheery colours,⁹ child-friendly characters, the appealing shape and comfortable size,¹⁰ and the accompanying short stories.¹¹ Therefore, in terms of encouraging children's interest in books, they are useful.

Usefulness of special features: Overall, the special feature of petal-like shaped pages seems of little value other than it offers some visual and tactile appeal, and could potentially cause confusion. There is a conflict between each of the books introducing a different early learning concept and each book having the same 'special feature'—identically shaped pages. There seems to be a natural expectation that the special feature of each book would correspond in some way with its particular early learning theme. Therefore, the tactile message of the present design is that all of the books are teaching about shapes when in fact shape only concerns one title in the series: *Bella the Butterfly Learns about Shapes*.

Other comments: The characters utilise anthropomorphism which is often of appeal to children (see page 25).

Suggestions:

To make the books more useful in terms of learning and development, it would be helpful to modify each book so that the special feature directly related to its corresponding early learning concept. On one hand, the removal of this shared feature would weaken the easy perception of the four books as

a unified series, but on the other that could be remedied in other ways. For example, a small series logo on the front cover of each book would identify them as part of the same series. In any case, the existing carry-handle links the series but as it is outside of the book pages themselves it does not seem to create the conflict between content and form observed with the petal-shaped pages. The artwork style also serves to unify the series. Suggested design modification could include:

Bella the Butterfly Learns about Shapes: Adapt the existing book so that the shape on each protruding page (the ‘petal’) corresponds to the shape discussed on a particular page.

Dizzy the Dragonfly Learns about Time: Remove the die-cut ‘petals’. Make each page a regular square shape with rounded corners. Incorporate a toy clockface with movable hands attached to the inside back cover of the book. Cut circular holes through each of the inside pages of the book and the front cover (carefully placed so as not to interfere with the design, illustration, and text of each page) and position the clockface on the inside back cover so it aligns with the holes in the pages. The clock would therefore be visible from the front cover.

As the child reads the book, he or she or a guiding adult can move the hands on the clockface around to show different times, corresponding with the different times of day discussed on each of the internal pages of the book.

A limitation of this approach is that many of today’s young children have had no exposure to old-style clockfaces and know only of digital clocks, hence the clockface method of telling (or, in reality, measuring) time is of little relevance to them. To overcome this, incorporate a ‘flippable’-style toy digital clock, where the 12 hours of each day and the 60 minutes of each hour are each represented in two stacks of ‘flippable’ cards that can be flipped to show different times. This would be possible, but most likely expensive. It might be that the best way to teach digital time is by using digital ‘tools’ such as a digital clock (see pages 40–41).

Of importance, however, is that a ‘digital’ clock does not have to be digital in the sense of computerised. Old-style digital clocks used electricity or batteries to power the mechanisms, and presumably they could also be powered by a simple winding mechanism (like that of older ‘clockface clocks’ and watches).

Curly the Caterpillar Learns to Count: Here, it could be possible to insert an abacus-style feature into the design (which could be made from artboard) in place of the petal motifs

Franky the Frog Learns about Colours: Solutions could including making each of the petals a specific solid color that corresponds with the colour being discussed on each page of the book, while retaining an identically-shaped petal for each pages in order to retain the interesting tactile quality. Strong, bold flat colours should draw attention to the colour, while keeping the petal shapes the same over each page would reduce the chance of muddling learning about colours with learning about shapes.

Okey Dokey, Karaoke!

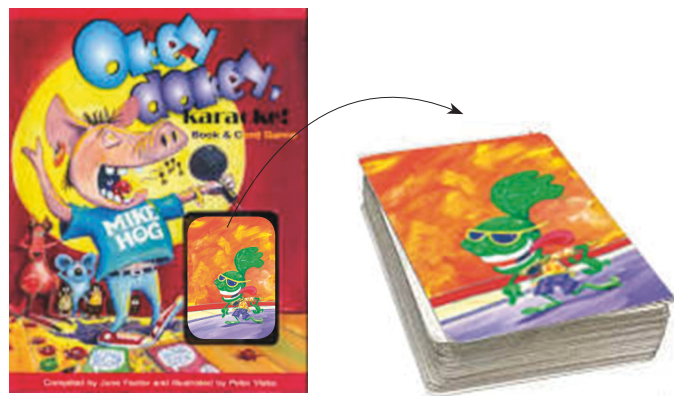


FIGURE 11: *Okey Dokey, Karaoke!* book with built-in memory and literacy card game, compiled by June Factor; illustrated by Peter Viska; designed by Emma Borghesi; published by Brolly Books (reproduced with permission).

Description:

A collection of children's chants and rhymes with humorous and appealing cartoon-style illustrations. The special feature is a built-in card game designed to assist memory and literacy skills, while also having secondary benefits in areas such as social engagement and development. The game works in a similar manner as the game Snap, where the cards are placed face downwards and then turned face-up one at a time. Each card has a corresponding partner in the pack, and the aim of the game is to match up the pairs using memory. The difference between Snap and the Okey Dokey, Karaoke! game is that instead of utilising identical images on two cards which can then be paired, the Okey Dokey, Karaoke! game uses two halves of a well-known children's rhyme. The children needs to 'pair' two halves of the rhyme rather than two identical illustrations.

Evaluation:

Appeal: The book is likely to appeal to children because of its popular chant-and-rhyme content and the humorous illustrations which are very closely integrated with the text itself—so much so that when viewed in conjunction with a reading they spring to life in the mind of the reader so in effect are ‘self-animating’. The game is also appealing and fun, provided it is clear enough how it is to be played. The cards seem slightly too small, meaning the type is also small, in turn making it potentially more difficult to read and/or memorise for some children. Accessibility to the card game is slightly awkward, and this might detract from the book.

Usefulness of special features: The special feature, the card game, utilises rhyme and therefore appears very useful for the purposes of promoting literacy and memory skills. The learning activity is directly related to those intended learning outcomes.

Suggestions:

Superficial adjustments to increase the accessibility of the cards and to make playing the game slightly easier might further enhance this playbook.

Such suggestions could include improving the packaging so the cards were more easily accessed and could then be returned to the book in a ‘storage pocket’ after use, and increasing the size of the cards and in turn the size of the type on the reverse sides of the cards to make them easier to handle and the type more legible (remembering that, in the context of card-playing, the cards would be some distance from the reader’s eye). Ideally, the verses on the back of the cards should be as legible and child-friendly as possible.

Another aspect to consider would be the inclusion of a small illustration on each card that would match to its particular partner card. As a small illustration, it would be secondary to the text, but might help give some clues, which can be helpful especially when introducing a new game concept. While acknowledging that this could lead children to use the illustrations rather than the texts as memory prompts, and hence be of less use in terms of developing literacy, this would be less likely if the illustrations were kept very small. In any case, even if the child focussed on illustration rather than text, he or she would still be exposed to the text in other beneficial ways.

Another way to make children find the game more accessible would be to consider breaking the cards into four different sets, like a traditional pack of cards but instead of using images for the card suites (clubs, hearts, spades, diamonds), make each set in the card pack the shape of the given suite, or other suitable shapes. This introduces an interesting tactile aspect that is not likely to interfere

with the learning aspects. It might, however, by breaking the game's components down into smaller sets, make it a easier for younger children to play and memorise (assuming, for example, that each 'pair' was always in the same suite)

Animals of Africa



FIGURE 12: *Animals of Africa*, illustrated by Garry Fleming with text by Emma Borghesi (under pseudonym of Emma Adam); original book and format design by Emma Borghesi; published by Brolly Books (reproduced with permission).

Description:

A large children's board book about endangered animals. The special feature is a magnetic 'mosaic' puzzle. It sits inside a concealed tray that slides out from between the pages when it is to be used. The puzzle works in a similar manner to a jigsaw, whereby the puzzle pieces are mixed up then rearranged to put the picture back together. The challenge with the mosaic puzzle is to slide the pieces back into their correct positions without lifting them out of tray. The amount of movement available to each piece is restricted. A secondary feature is a carry handle. A third but important feature which, while falling within the definitions of a standard picture book rather than a playbook, is some extraordinarily beautiful, life-like illustration by Australian artist Garry Fleming.

Evaluation:

Appeal: The book's primary appeal is in the stunning illustration. The game is a fun and potentially educative element, but is awkward to access.

Usefulness of special features: The game pieces don't fall out and instead remain flat on the puzzle tray, and so can't be played with in three-dimensional space. They therefore lack the tactile, interactive quality of traditional jigsaw puzzle pieces. Nonetheless, they require 'direct input' by use of the hand to which has been shown to be beneficial in various scenarios. (See also the discussion of research by Alissa N. Antle, Milena Droumeva, Daniel Ha [2009], page 12.¹²) The regular shape of the magnetic pieces also means they do not promote opportunities to explore spatial relationships associated with their size, shape, and fit to each other. Conversely, the restricted movement of the pieces provide different and stimulating challenges to the child, and therefore promote cognitive development and spatial awareness in other ways.

Overall, the puzzle does not seem to provide any additional benefits in terms of learning about the animals of Africa, but it does provide learning opportunities in other areas not directly related to the content of the book. The handle does not appear to add any additional appeal or use to the project, and the overall size of the book is a bit too large and cumbersome while the puzzle itself seems too small. The beautiful and realistic illustrations are very likely to draw children into the project. In reference to research cited in Chapter 2 (see pages 25–26), it is of note that because they are realistic depictions they are less likely to detract from learning factual information about the animals than unrealistic or anthropomorphic alternatives.

Suggestions:

The most important feature of this book in terms of its educative quality would appear to be the artwork. This suggests that, in terms of helping to convey the factual information contained in the text itself, it would work equally well or possibly better if simply standard picture book or board book. The usefulness of the puzzle elements in other learning contexts is still relevant, however, and ways to improve this further could include enlarging the puzzle and make it more accessible (for example, ensuring that it could be fully removed from the book when in use). A jigsaw puzzle instead of a magnetic puzzle would have a similar function as the magnetic puzzle but the additional tactile qualities and the ability to move the pieces around in 3-dimensional space combined with the challenge to make irregular-shaped pieces fit together could make that a better option. That said, that is counteracted by the fact that the novelty of the magnetic puzzle, far less common than jigsaw puzzles, has its own appeal.

Conclusion

The research in the preceding chapters proved useful in evaluating three published playbook samples and for identifying ways in which they could be improved to provide a better learning or developmental experience, without diminishing their appeal to children. Each book was evaluated in terms of the criteria determined in Chapter 2, namely, the degree to which each playbook seemed likely to (a) promote literacy, learning, and development; (b) have characters that would appeal to children; (c) encourage sensory experiences; and (d) encourage play and stimulate imagination. Further, the six key themes identified in Chapter 2—literacy, nursery rhymes, anthropomorphism, aesthetic qualities, play, and illustration—were also considered in this respect. Each evaluated book (or series) was shown to have a mix of beneficial and less-relevant or potentially detrimental features, and hence could be improved in future productions. Finally, it was suggested that in terms of effectiveness, there might be some correlation between the type of thoughts of knowledge being communicated via the playbook or other tool and the format of that playbook or tool itself, and that this could be a more important consideration than whether the platform was digital or analogous. The learning gained from this process contributed to the development of the projects outlines in Chapter 4.

Notes

1. David K. Dickinson, Julie A. Griffith, Roberta Michnick Golinkoff, Kathy Hirsh-Pasek 2012, 'How reading books fosters language development around the world', *Child Development Research*, vol. 2012, Article ID 602807 (<http://www.hindawi.com/journals/cdr/2012/602807/cta/>, accessed 15 December 2015).
2. Cynthia Chiong, Judy S. DeLoache 2012, 'Learning the ABCs: what Kinds of Picture Books Facilitate Young Children's Learning?', *Journal of Early Childhood Literacy*, 13 (2), p. 225 (<http://ecl.sagepub.com.ezproxy.lib.monash.edu.au/content/13/2/225.full.pdf+html>, accessed 14 October 2015).
3. Martha Wagner Alibali, Alyssa A. DiRusso 1999, 'The function of gesture in learning to count: more than keeping track', *Cognitive Development*, 14(1) (<http://www.sciencedirect.com.ezproxy.lib.monash.edu.au/science/article/pii/S0885201499800173>, viewed 15 October 2015).
4. Cynthia Chiong, Judy S. DeLoache 2012, 'Learning the ABCs: what Kinds of Picture Books Facilitate Young Children's Learning?', pp. 239–40.
5. Gregory Bateson 1979, in Edmond Wright 2008, 'Gregory Bateson: epistemology, language, play and the double bind', *Anthropoetics*, 14(1), (<http://www.anthropoetics.ucla.edu/ap1401/1401wright.htm>, accessed 15 December 2015).

6. Natalie Jane Parker 2012, Early learn-about series, Zlatnoto-Pate, Bulgaria

This series of children's books was originally published by Brolly Books, but subsequently published internationally by several publishers including Zlatnoto-Pate in Bulgaria, Zalozba Alica in Slovenia, and Baker and Taylor in the United States.

7. June Factor 2005, *Okey-dokey, Karaoke!*, Brolly Books, Melbourne.

This book was the 6th addition to June Factor's 'Far out' series of children's rhymes and chants which have been consistently in print since the early 1980s. The first five books were originally published by Oxford University Press (Australia) and subsequently Hodder (Australia), before Brolly Books acquired the rights in the early 2000s. Brolly Books was the original publisher for *Okey-dokey, Karaoke!*

8. Garry Fleming and Emma Borghesi (under pseudonym of Emma Adam) 2007, *Animals of Africa*, Brolly Books, Melbourne.

9. Angie Dorrell (undated), 'Toys that teach: making age-appropriate choices', *Early Childhood News*, p. 1 (http://www.earlychildhoodnews.com/earlychildhood/article_view.aspx?ArticleID=678, accessed 27 October 2015).

Dorrell notes that properly selected toys provide young children with 'opportunities to learn about size, sound, texture, cause and effect, and repetition'. It would seem fair to assume that this observation would also apply to playbooks, being books with toy-like elements. Dorrell notes that 'Brightly coloured, lightweight toys with texture encourage baby to touch and explore'.

10. Ibid.

11. Ibid, p. 3

Dorrell notes that 'books with simple, colorful plots and pictures expose toddlers to different speech patterns and new vocabulary'.

12. Alissa N. Antle, Milena Droumeva, Daniel Ha 2009, 'Hands on what?: comparing mouse-based and tangible-based interaction', *IDC 2009*, 3–5 June 2009 (<http://dl.acm.org/citation.cfm?id=1551803&dl=ACM&coll=DL&CFID=738272992&CFTOKEN=81372747>, accessed 15 October 2015).

4. The Projects

Exploration of the concepts and theories discussed in this research involved designing a range of playbooks, each devised with specific stages of early childhood development in mind.

For each project, the first consideration was the age of the child to whom the playbook would be targeted and the developmental stages typically associated with that age. The objective was for the playbooks to support, encourage, and mediate appropriate development for children within the given age groups. The focus was primarily on cognitive, emotional, and social development but where possible some attention was also given to other aspects of development, including those concerned with motor skills, spatial awareness, and creativity.

The second consideration was to devise elements for each playbook that would invite children to incorporate the playbooks and their various components, including the stories, pictures, and inbuilt toys and activities, into their play. Each element was designed to bring focus to the particular area of development with which the playbook was concerned, and conversely avoid distracting activities or games that had little bearing on the educative aspects and were more likely to be detrimental to specific areas of learning than beneficial.

The third consideration was to ensure the playbooks were attractive to children and that their developmental elements were effective but not obtrusive. No child will willingly play with a book or toy that is not appealing and to which he or she cannot relate. To this end, attractive graphics, characters, textures, illustrations, and moving parts were of particular significance. It was important the playbook appeared as a type of toy which in turn would facilitate play rather than as a educational tool which, by its less free and more directional nature, could potentially inhibit free play and the opportunities for development it presents. The importance of play in terms of childhood development is discussed on page 29.

Project 1: The Mother Goose Project

The first project was the Mother Goose Project, so-named because it drew upon the centuries-old traditions of nursery rhymes and the archetypal character of Mother Goose (see page 20 and page 23).

This project itself has five separate parts, or 'levels', with each level corresponding with a particular age group and stage of childhood development (while acknowledging that rates of development vary for all children and so do not strictly correspond with a given age). For the purposes of this research, the number of playbooks developed for each level with the exception of the fifth was limited to one or two only, due to constraints on time and other resources. In a real-world situation, however, it is envisaged that a range of playbooks would be available at each level.

The central theme of nursery rhymes was applied across all five levels that in turn worked together in a progressive sequence to create an integrated programme over a period of approximately five years. Each level is discussed below, commencing from the age of six months. Development of playbooks for children under this age was not considered, primarily because they are less appropriate for infants whose ability to play, interact with others, and to begin to make sense of the world around them is only in the very early stages of development.

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- **Mother Goose Project, Level 1:**
Twinkle Twinkle Little Star and *Hey Diddle Diddle*
Age Range: 6 months–1 year

Background:

At this stage of life, young children are likely to enjoy gentle social play and to observe the world around them more acutely. Copying actions demonstrated by another, such as in games like peek-a-boo, are indicative of this development. These young children are also inclined to explore and enjoy sensory perception, and so will appreciate new textures, scents, tastes, sounds, and pictures. Simple activities that help initiate exploration of wider world and sensory experiences will facilitate cognitive, emotional, and social development and, in some cases, motor skills and coordination. Children of this age will enjoy having books read to them. Hence, books and reading ideally should begin to take their place as an important daily routine that plays a critical role in developing literacy and in turn cognitive development and learning skills.¹

Description:

The first two playbooks for this very young age are only two pages each. Made of cloth, they are more like little pillows than books but nonetheless introduce nursery rhymes to children. The first, *Twinkle Twinkle Little Star*, is in the friendly shape of a soft-cornered star. The second, *Hey Diddle Diddle*, is in the shape of a moon. Both shapes are almost anthropomorphic, presenting the star and the moon as friendly characters. On another level, the star and moon make for perfect companions in an imaginary celestial world. Sewn inside each book

is a little bell that produces a gentle tinkle, in keeping with the celestial theme, when the books are moved around. The gentle illustrations, shapes, and sound effects were designed to attract a young child to the books and then to encourage the child to explore shapes, cause-and-effect, and illustrations. Simultaneously, the child would be introduced to nursery rhymes through the reading by a parent or carer. It was also hoped that, over time, the child would learn to pick up the playbook and play with it without assistance, and perhaps eventually when older begin to recite the verse along with other children and /or an adult, or while playing alone. The simple two-page 'pillow' format also introduces the concept of 'books' to children, but in an easy-to-hold and handle way. The cuddly shapes of the two playbooks also lend themselves to bedtime reading.

Cloth books have long been in existence so, despite minor innovations, there was nothing particularly 'new' about these cloth playbooks, except perhaps their shape. Rather, their role in the Mother Goose project was as a precursor to the playbooks that follow. They would provide an enjoyable and educative introduction to nursery rhymes, sensory perceptions, and to the concepts of books with turning leaves. They are also form part of a cohesive five-year programme that progresses through different stages of childhood development. Cohesion is achieved through the use of the central character of Mother Goose, the nursery rhyme theme, and other elements such as artwork style and use of cloth rather than paper through most levels except for the last.



FIGURE 13: Illustrations for the *Hey Diddle Diddle* two-page cloth book, illustrated and designed by Emma Borghesi.

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- **Mother Goose Project, Level 2:**
Teddy Bear, Teddy Bear

Age Range: 1–2 years

Background:

At this stage, children may build further on earlier learning and experiences and more actively explore concepts such as cause-and-effect and spatial relationships. They may also begin to identify and name familiar items more readily.²

Description:

This playbook incorporates many of the features found in the Level 1 playbooks but goes a step further to support the child through the next stage of development. Once again the central theme is a nursery rhyme, in this case *Teddy Bear Teddy Bear*. It has 8 pages (including the cover). It therefore helps to develop the motor skills for holding and turning pages, while simultaneously beginning to take on more of the appearance of a ‘real book’. The teddy bear on the front cover has a padded nose that gives added dimension and shape.

Research has indicated that young children respond to nonthreatening faces with baby-like features.^{*} The front cover illustration therefore features the large face of a friendly bear. The interior pages relates the *Teddy Bear Teddy Bear* action rhyme, with the character demonstrating the ‘actions’ required. The book therefore also facilitates child–parent and child–teacher (or carer) interaction.

In the original design of this cloth book, a small rubber sound disc was to be sewn and concealed within the middle leaf of the book, so that when the book was squeezed or pushed a small ‘grunt’ would be emitted. This aspect relates directly to exploration of cause-and-effect. Despite its useful elements, however, this feature was abandoned because it was of concern that to make the playbook ‘grunt’ involved asserting considerable physical pressure or even punching the teddy bear’s face, which of course would be inappropriate. To overcome this problem, a little sound disc was sewn into the teddy bear’s nose. While very gentle squeezing is still required to create a sound, it is restricted to the nose area only, and it also introduces humour and therefore facilitates further interaction between the reader and child. Further, it encourages cognitive development as the child experiences action and consequence (cause and effect), while also enjoying the sensory experience of sound. At the same time, the ‘grunt’ gives a voice to the bear, which helps to bring it to life in the child’s imagination.

Of particular interest here is the way that varying amounts of gentle pressure applied to the bear’s nose results in grunts of different volume and duration. This is an analogous rather than digital event that is initiated by the child, not electronically controlled. Hence, to some degree it enables the child to infuse

the bear's voice with nuances and emotions specific to the child and the child's intentions. An analogy in the word of adults might be the way in which adults can beep or toot car horns with varying levels of intensity to communicate a range of messages and feelings, ranging from friendly greetings and goodbyes through to sharp alerts and warnings and even anger and frustration.

In the digital world, advances in touch technology are enabling the more effective use of pressure to elicit nuanced responses. For example, the amount of pressure applied to a digital drawing tablet will result in different results and therefore gives some scope for individual nuances. This might include thicker, thinner, or fading lines. Although these are exciting developments, in the arena of children's playbooks they pose four obvious questions. Firstly, even if touch technology provides more opportunity for nuanced responses, each response is nonetheless contained within and limited by the range of responses determined by the digital technology and hence is one step removed from the more immediate and unlimited range of responses the child may produce naturally. Secondly, the process of evoking the response through electronics remains a process of using controls to execute an action rather than directly executing the action itself. Thirdly, the results achieved by touch technology in this context would appear to only do what the soft toy or playbook already does, but is likely to be much more expensive and provide fewer if any tactile experiences. Finally, an interactive digital device for young children of this age would also require close supervision of electronic equipment, which may reduce the freedom of expression otherwise readily to the child in the playbook. Additional to these concerns are the current guidelines that children under the age of two should not be exposed to digital media on a regular basis (see pages 2–3).



FIGURE 14: Illustrations from the *Teddy Bear, Teddy Bear* cloth book, illustrated and designed by Emma Borghesi.

- **Mother Goose Project, Level 3: Puppet Playbooks**

Three Little Kittens

Two Little Dicky Birds

Age Range: 2–3 years

Background:

Young children at this stage will continue to build on their existing learning while emotional development becomes increasingly apparent and important. Meanwhile, children may become more competent at engaging in literacy and numeracy activities and may gain an awareness of their significance in terms of their developing an understanding of the world around them.³

Description:

In the puppet playbooks, puppets are used to support learning activities associated with emotional development and simple numerics associated with cognitive development. The two puppet books, *Three Little Kittens* and *Two Little Dicky Birds*, are cloth books each with a built-in puppet. They introduce numbers to children and are directly related to the development of numeracy and literacy. They also include aspects of social and emotional development by referencing families and family relationships.

The puppet books provide the opportunity for a child/adult activity that incorporates actions through the puppet coupled with a reading of the verse. So, for example, in the *Three Little Kittens*, the puppet action expresses the emotions of the kittens as they move through concern (at the loss of their mittens), sadness (in response to their mother's annoyance), joy (at finding their mittens), and some sense of redemption when they are reunited with their mother. The puppet can also convey the emotions of the mother. The *Two Little Dicky Birds* displays some other elements: perhaps a show of independence as the two birds each fly away, seemingly of their own accord, and then return and are reunited.

Both puppet playbooks are very engaging but one acknowledged limitation is that the *Three Little Kittens* playbook only has one kitten puppet while the story and illustrations features three, as well as a mother cat. This is a potential source of confusion for the child. Various ways to address this were explored but all failed. Firstly, an attempt was made to incorporate three kitten puppets but it failed because (a) the puppet book became too difficult to manipulate and too difficult to enable each of the three kittens to assert different actions and responses; (b) the scale of the kitten puppets became too small, especially for reading at some distance; and (c) it was not possible to convey the emotions of the mother cat.

An attempt was then made to have three kitten puppets but with only the central one facilitated by puppet movements. This also failed because the central kitten

became too dominant and the kittens at left and right appeared as supplementary, lifeless distractions. Further, the central puppet tended to assume the character of the mother cat, thereby imposing a requirement for a fourth puppet so that all three kittens as well as the mother cat were represented.

Another proposed solution was to make the puppet kitten the mother kitten, so actions of scolding and then praising could be acted out by the puppet. But this idea was abandoned because once the mother became the central puppet character the opportunity for the child reader to identify with the kitten puppet and its emotions would be lost. This in turn would be likely to cause the child to passively observe rather than respond to and interact with the actions of the mother puppet.

Another important consideration was that if a mother puppet replaced the kitten puppet, the first ‘scene’ enacted by the puppet would be a cross mother, which would seem likely to frighten children away from the book rather than attract.

So, while acknowledging the limitations of one puppet, it was decided that it was the most effective manner to engage the child. The scope of the limitation was also put into perspective, in that these books, while they do introduce numbers, are more concerned with the concept of numbers than they are with actual counting (although *Two Little Dicky Birds* does have a simple counting element). This suggests that the use of one puppet instead of three (or four) is not of serious concern. It seems quite likely that given the puppet is outside the book’s page borders and not of exactly the same appearance as the illustrations that children might understand that the puppet is representative—acting out the actions of the kittens or the mother as might a teacher or a parent—rather than actually being one of the kittens depicted in the book. In other words, rather than creating problems with a form of dual representation, the puppet and the illustration are separate and operate on different planes, with one inside the book and the other outside.

The books are also gentle precursors to developing numeracy skills and do provide some optional counting opportunities: counting kittens, counting mittens, and so on.

The *Two Little Dicky Birds* also presented a minor dilemma in that, in showing the puppets ‘flying away’, the fingers operating the puppets actually drop down rather than fly upwards. In this context, however, it was decided that as it was an adult operating the puppet that most adults would be dexterous enough to initiate a flying swoop in the actions of the fingers before dropping them down, and further that it was less of a concern given the adult was the puppet operator rather than the child, where the conflicting actions of flying and dropping would be difficult to execute.



FIGURE 15: Illustrations for *Three Little Kittens* puppet book, illustrated and designed by Emma Borghesi.

- **Mother Goose Project, Level 4: Puppet Playbook Plus**

Age Range: 3–5 years

Background:

At this stage, the developments of earlier stages are further advanced. There is a particular and stronger emphasis on emotions as the child begins to recognise feelings—including negative ones such as anger and frustration as well as happiness and pleasure. Creative activities have a special role in helping children to explore their emotions. Social interactions also become increasingly important. Children at this stage, as well

as the previous stage, have some difficulty with concepts such as sharing, and the development of social skills through interaction can be of assistance in this area and help them to move through it to become more sharing and cooperative as they mature.⁴

Description:

These two puppet playbooks move into the next stage of the child's development, and each one has the additional feature of a small additional puppet that is controlled by the child. Two well-known nursery rhymes, *Five Little Ducks* and *Old MacDonald Had a Farm*, are featured.

In *Five Little Ducks*, the child wears the puppet glove with each finger representing a child duck, while the adult wears the mother duck puppet glove which is also a cloth book. The parent is able to manipulate the actions and expressions of the mother duck puppet while using the other hand to turn the pages of the book. As the adult and child read the book together, the child learns to drop a finger and hence hide a duck for each verse of the book.

In this way, it assists in developing numerical, literary, and motor skills. Hence:

Five little ducks went out one day, over the hills and far away,

(Child holds up five puppet fingers and wiggles them to represent the movement of the ducks.)

Mother duck called quack quack quack quack,

(Adult manipulates mother duck puppet to quacking movements while singing the verse.)

But only four little ducks came back.

(Child drops one finger, to show four only.)

Four little ducks went out one day, over the hills and far away . . .

(Adult continues to sing the verse with the child, counting downwards through the various stages of the verse while the child lowers a finger at each change.)

At the end of the rhyme a dynamic interaction between the two puppets takes place when the five ducks are reunited with their mother. The child puppet (hence the five ducks) races up to the adult puppet (the mother duck), which embraces and enfolds the child puppet. This event touches on the theme of separation,⁵ a common cause of anxiety among young children and particularly so as they approach school age, but it also provides the comfort of the ducks being then being reunited with their mother. Of added interest is the duality of the enactment: on one hand, the story as narrated and performed by the puppets is independent of the child and adult, yet simultaneously the enactment might be an expression of the parent and child's actual emotions.

In the second puppet playbook, *Old MacDonald Had a Farm*, again two puppets are used. The adult puppet is Old MacDonald who, like the mother in *Three Little Kittens* and also in *Five Little Ducks*, is the leader or gentle authority figure. The child puppet shows the animals that live on Old MacDonald's farm. Again, the child and adult move through the verses of the nursery rhyme while manipulating their puppets, with the adult turning the pages of the puppet book for each new verse of the song. The child puppet in this project is quite elaborate as it is multi-tiered, but simultaneously based on a simple concept:

Firstly, each of the five fingers, from the tip of the each finger to the knuckle, is a duck puppet. Secondly, two soft toy sheep are attached to the space between the second knuckle and the base of the fingers, on the back of the hand. Thirdly, two small soft toy cows are attached to the back of the hand itself. This multi-tiered arrangement works in the following way:

Old MacDonald had a farm, ee-i, ee-i, o!

(Parent and child sing song together.)

And on that farm he had some ducks, ee-i ee-i o!

With a quack quack here and a quack quack there,

Here a quack, there a quack, everywhere a quack quack,

Old MacDonald had a farm, ee-i ee-i-o!

(Child holds up hand to show the five duck finger puppets. Child

jiggles puppets around to represent movement and quacking of ducks while

parent moves Old MacDonald puppet in a gentle swaying motion in time with the music.

The movement of Old MacDonald puppet through all the verses and pages of the song is continuous and even and so serves to unify all elements of the song and actions over the different verses, carrying the child through the pages and actions until the end.)

And on that farm he had some sheep, ee-i ee-i o!

With a baa baa here and a baa baa there,

Here a baa, there a baa, everywhere a baa baa,

Old MacDonald had a farm, ee-i ee-i-o!

(Child closes fingers to form a soft fist with the five finger puppets concealed within the fist.

In their place, the two sheep soft-toys pop up on the top of the fist. Parent and child continue to move the puppets so that Old MacDonald and the sheep appear to be singing and dancing along with the parent and child.)

And on that farm he had some cows, ee-i ee-i o!

With a moo moo here and a moo moo there,

Here a moo, there a moo, everywhere a moo moo,

Old MacDonald had a farm, ee-i ee-i-o!

(Child rolls fist forward so that the sheep drop down, the ducks remain hidden, and instead the soft toy cows positioned on the back of the hand now take centre stage.)

*With a quack quack here, and a baa baa there,
Here a quack, there a baa, everywhere a moo moo,
Old MacDonald had a farm, ee-i, ee-i, o!*

(In the last spread of the puppet book the parent and child continue to sing the song, increasingly loudly and with more animation while the Old MacDonald puppet continues to move and sway with the music. The child opens his/her hand fully and moves it around to expose all the animals seemingly quacking, baa-ing, and moo-ing together in a cacophony of sound created by parent and child but representing some cheery chaos in the animal family on Old MacDonald's farm.)

* * *

The Old MacDonald puppet book takes the concept of the puppet as character a step further and enables the puppet to provide both the stage, complete with changing sets, for the action via a device of positioning different characters on different parts of the hand which move in and out of view depending on the which verse is being sung.

It is a very powerful device, but some limitations are noted, as follows:

Firstly, the child puppet is quite cumbersome and difficult to physically accommodate all three stages in its design. The third stage, where the fist is fully rolled over, is more difficult to execute than the two earlier stages of open hand and fist, and is likely to produce varied results. The action of rolling the hand over to expose the cows while, as much as possible, keeping the sheep and ducks hidden is more demanding on the motor skills on the child. This might lead to a disappointing result which undermines the 'magic' of the changing sets, but on the other it is useful in helping to develop motor skills. On balance, it was felt that even if the result was not quite as intended, this would not significantly compromise the engagement and interaction of child with parent. Ideally, for example, the preceding animals (duck and sheep) should not be visible when the cows are 'on stage'... but at the same time, does it really matter if they are partially exposed? Such unintended errors, which reveal reality and structure behind the activity actually taking place on stage, are often enormously enjoyed by children and some of this enjoyment is derived from the collision of reality with fantasy.

Nonetheless, some possible solutions to this problem were explored. The first was to reduce the number of scenes and remove the cows from the story-telling and 'sets'. It was felt, however, that the loss of the cows and the corresponding verse of the song took too much away from the effect without sufficient benefit. Lowering the number of animal types from three to two reduced the much anticipated and enjoyed cacophony of different animals at the end of the song and also disturbed the rhythm and flow of the verse. Like an

extended limerick or a five-line poem, a structure which incorporated five stages of progression through the song itself (the introduction; the three verses featuring respectively, ducks, sheep, and cows; and finally the conclusion) was intrinsically balanced and had a comfortable rhythm. It was felt the removal of one verse and the corresponding spread within the book as well as 'set' from the puppet glove would be less balanced, less noisy, and somehow uncomfortably truncated.

In both these playbooks, an important detail is that the child controls one of the puppets and as such is able to invest that puppet with his or her own emotions, interpretations, and other nuances. In many teaching scenarios, the puppet appears as the teacher, authority figure, or otherwise guides the child through use of gesture and other physical expression. Allowing the child to control one of the puppets develops his/her emerging independence by enabling the child to exercise some control over the puppet's action. It also provides an opportunity for the child to express thoughts and emotions through the puppet that he or she may otherwise have difficulty expressing. With independence comes the opportunity to rebel against the authority figure and prescribed actions of the rhyme and one wonders whether a child exploring that option might decide, for example, not to return one or all ducks to Mother Duck, or decides in free play to have the ducks interact amongst themselves in ways not described in the book, and so on. Beyond the boundaries of the nursery rhyme and its defined range of actions and scenes, the puppet playbooks present opportunities for children to play in different ways which enhance their learning and development.

Both levels 4 and 5 of the Mother Goose Puppet Project make use of puppets for learning and developmental purpose. Mirella Forsberg Ahlcróna (2012) conducted research into their effectiveness in this regard, and concluded that:

. . . the puppet's relational, linguistic, and action-related potential mediated, inspired, and motivated children to participate and create different forms of communicative interactions and contexts, which are important for preschool children's social and aesthetic development. [Her research] points to the properties of the puppet as a versatile tool for communication and learning and defines the puppet as a communicative right for children in the preschool context.⁶

- **Mother Goose Project, Level 5: Mother Goose in the Classroom—A Children's Library**

Age Range: 5–6 years

Background:

While building on all the previous knowledge and learning, this age marks the time in which children are separated from their families, some for the first time, and attend school. So while the child continues to develop various skills, acquire knowledges, and experience senses and emotions, creating a secure environment is of vital importance.⁷

Mothergoose in the Classroom takes the child from the nursery or home environment into the school or kindergarten, while still using nursery rhyme motifs and characters. In fact, Mother Goose effectively accompanies the child to school. Having been present in the child's life from a very early age through her association with the various levels of the Mother Goose Project, she now assists in providing the child with emotional support and security as he/ she takes that very big step of going to school for the first time.

Description:

Here, Mother Goose, is a life-sized puppet or soft toy that resides in the classroom and projects the identity of a gentle teacher and guide.

The character of Mother Goose was chosen for the classroom figure not only because of the obvious. Apart from her association with the other books in the project, her form presents the perfect vehicle for both storing and distributing the collection of rhymes in her pockets within the context of an entirely appropriate and guiding character. She is an archetypal figure that exists in both the past and the present and who through nursery rhymes connects children across different cultures, time and language (see page 23). Hence, she is a comforting, reassuring, unifying, as well as educative presence in the classroom.

For this project, the duck form rather than human form of Mother Goose was chosen firstly because it was felt that a duck was more friendly and accessible than the human form which can, at times, appear too authoritative, witch-like, or scary. Secondly, the use of an animal conveniently sidesteps any human features or stereotypes that may interfere with the child's connection to her. Rather the duck is understood by the child to be an animal, not a human, albeit one with whom he or she can relate to with ease. Because it is an animal, however, the child does not look for features or characteristics with which he or she can personally identify. On the other hand, a human representation of Mother Goose would come with associations of race, language, and culture attached, which can inadvertently be exclusory to some children and more inclusive of others.

The human quality Mother Goose does bring with her is gender—she is female but she is in the truest sense a maternal figure, as embedded in her very name, so this is entirely acceptable. Thirdly, the representation of Mother Goose as a different species to the child means that, as a non-human, it is more readily accepted that she may possess qualities and abilities beyond that of humans. The most important of these, although subliminal, is her ability to transcend time, cultures, and geography. Her enduring presence provides stability and reassurance as in her role of custodian nursery rhymes continue to flourish and evolve freely but within her care. A fourth consideration was that, as an animal figure rather than a human figure, some gentle physical interaction with children, for example, allowing them to select the books of their choice from her pockets from a figure that is at once seen as both toy and human, could be entirely appropriate within the nursery environment. This is generally not possible with adult human figures, even if they are not real, which would require that certain boundaries between the adult and child to be preserved.

Within Mother Goose's many pockets are little books of nursery rhymes. Her gentle (while nonetheless authoritative) nature enables children to select books of their choosing from her pockets, thereby executing choice. Importantly, the books incorporate features of both cloth and paper books, for they are printed on board but have soft cloth spine. They therefore have more of a book-like appearance—it is anticipated that at this stage children will prefer what appear to be 'real books' in the more mature environment of classroom—but would still gain comfort and reassurance from the cloth features that link back to the earlier books in the project.

* * *

All of Mother Goose playbooks draw on the age-old traditions of nursery rhymes with the final Mother Goose in the Classroom level, both full-size and miniature version, helping to consolidated all that has preceded it.

Project 2: The Christopher Bear's Birthday Party Project

Age Range: 3–6 years

Background:

This book brings together elements of a children's picture book with a focus on emotional and societal themes, while simultaneously allowing the child to explore spatial relationships through the post-a-letter feature. This links to a specific stage of a child's development when he or she can be expected to show great interest in 'posting' things through slots and pushing object through openings in other objects. This has been described as the exploration of 'object–aperture' problems and directly relates to the child's increasing awareness and interest in spatial relationships.⁸

Another dimension of the book is the exploration of relationships between characters, primarily Christopher and his sister Isabel, and also the friendships between the characters. Each invitation includes a personal comment by the inviter (Isabel) to the invitees, which reveals aspects of her knowledge of her friends, her relationship with them, and aspects of their personalities.

Christopher Bear's Birthday Party was conceived of, written by, and designed by this writer (under the pseudonyms of Emma Adam and later Luisa Adam), with illustrations she commissioned from Pete Smith. It has successfully been published in two editions to date by Brolly Books. This was before posting letters was largely superseded by email; therefore, in some respects the original editions are less relevant to the children of the following decade.

The new edition discussed in the chapter (and not yet published) was developed because of the continuing relevance of the content and because it neatly incorporates the unique 'posting' feature into a playbook. It has been updated with new illustrations and design.

More importantly, specific problems identified in the early editions have been addressed. Firstly, the posting feature has been made larger to make it easier to use. Secondly, the type has been chosen with more careful attention to what is suitable for young readers. Thirdly, an identified problem with the earlier editions was that when the little greeting cards that are 'posted' through the pages of the book were retrieved by the child, there was then nowhere to put them and they were easily lost. To address this, simple little pockets have been introduced as temporary storage places for each one until reading time is over (at which time they are returned to their original places in the book).

The mechanisms of the book require some explanation to the reader and, while instructions were incorporated in the earlier editions, they were not easy to follow, and hence instead of helping to arouse interest they were potentially off-put-

ting. Simple, clear instructions with accompanying graphics have been included in the new design. Finally, despite the waning use of the mail for posting letters, the posting of invitations, both through the mail or by hand, continues to be very popular. This may be because of their more personal nature than, for example, business mail, and also because they are in anticipation of an event and so often require more presence than email. The sending and receiving of children's birthday invitations is always a source of great enjoyment for children, and so with this in mind it was felt the 'posting' function was still very relevant, especially in the context of hand deliveries. In the new edition, there is less attention to mailboxes, and more attention to hand-delivering.

Another feature of the birthday invitations in the new edition is that they were designed to appear like a children's design, both to further increase the reader's connection to the project and also to promote creative play and tasks. It was though quite likely that this book might inspire children to draw and design their own birthday invitations and other cards to give to their friends.

Description (new edition):

On a simple picture book level, the story explores emotions, primarily those of disappointment, anticipation, anger, delight, and surprise, as well as cognitive processes such as planning. Interestingly, it also reveals a flawed cognitive process, where the character, Christopher Bear, uses inductive reasoning to assume that the lack of birthday wishes or presents from others on the morning of his birthday is because people have forgotten his birthday. Later in this short book his reasoning is shown to be incorrect, as the absences of wishes and presents is explained to be because his sister Isabel was planning a surprise for him.

As briefly described in the introduction, *Christopher Bear's Birthday Party* presents a unique concept whereby birthday party invitations, produced by Christopher's sister Isabel, are included as loose items in the book. They are 'posted' into the letterboxes of the recipients on the right side of each page, and then retrieved by the recipients on the following left page (the reverse side of the leaf) by lifting a flap. This feature is enabled by a concealed cavity between the book's leaves, accessed on one side of the leaf through a slot and on the other by a lifting flap. It plays on the fascination children have with 'posting' at a specific point in their development (see p. 46), but also introduces a 'magical' element whereby the invitations appear to pass magically through the leaves of the book. Casual observation of both children's and adults' responses to this feature suggest that the leaves of a picture book are regarded as impenetrable barriers that separate the distinct stages and scenes represented on each spread. The passage of a physical element from one spread to the next without it moving outside the boundaries of the book itself seems to present a dilemma in logic as readers witness that which should be impossible—an

event where real objects (the physical invitations) and the unreal (the letter-boxes and illustrated the characters of the book)—fleetingly inhabit the same space. It is perhaps because the cards cross the boundaries of reality and fiction and appear to disappear into the pictures in the book. Hence it seems on one hand magical, but on another introduces a new space for children to experience play. The importance of play on children's development is discussed on page 29, and perhaps could be described in part as an extension of the child's imagination into the real world that he or she inhabits.

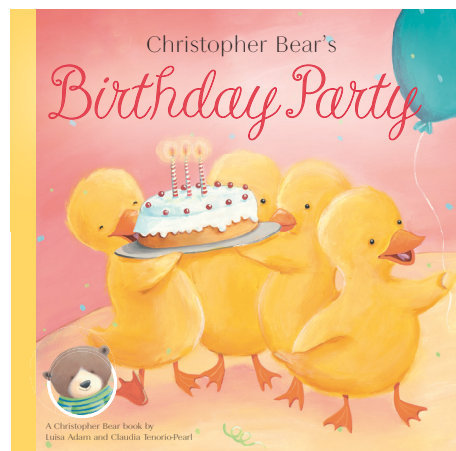


FIGURE 16:
Christopher Bear's Birthday Party,
 written by Emma Borghesi (under pseudonym) and and illustrated by Claudia
 Tonorio-Pearl, unpublished
 (reproduced with permission).

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5. Conclusion

Firstly, and in line with the initial purpose of the research, review and consolidation of the literature confirmed that playbooks offer distinct and valuable experiences to young children. They are of particular relevance to kinaesthetic processes that involve real-life movement and touch and therefore are not available to digital media. In turn, such ‘real-life’ experiences are of special importance to kinaesthetic learners.

Secondly, and perhaps of wider application, is that this research led to a particular angle on learning, thinking, and communication that may be summarised as follows.

The research suggests that determining what learning tools, digital or analogous (for example, computer games or playbooks), are best suited to the acquisition of specific knowledge may first require determining whether the learning objective itself is digital or analogous in nature. The literature suggests that digital learning objectives are best supported by digital learning tools while analogous learning objectives are best supported by analogous learning tools. This simple and natural formula appears to have been clouded by too much emphasis on the platforms used to access the learning tools rather than the content and objectives that initiate the entire process.

There also appears to be some links between thinking styles (specifically, ‘digital’ or ‘linear’ thinking on one hand and ‘analogous’ or ‘global’ thinking on the other)¹ and learning styles where, for example, auditory learners may tend to be digital thinkers and kinaesthetic learners may tend to be analogous thinkers. In this context, three details emerge concerning the effectiveness of educative tools such as playbooks and their digital counterparts of interactive books and games: first, the learning objective should influence the choice of tool rather than vice versa; second, there appears to be a relationship between the individual’s thinking style and his/her learning style;² and third, platform is of less importance in this context, not least because digital learning tools are not, as is often assumed, always accessed via digital platforms and nor are analogous tools limited to analogous platforms. These considerations support the view that playbooks continue to have a valid role in childhood education and development.

Thirdly, the research reinforced the importance of nursery rhymes in early childhood development, not only in areas of literacy but also in nurturing young children and assisting them to develop valuable human qualities, as well

as nurturing and preserving those qualities in the adults who interact with children. Nursery rhymes teach not only the child but also the teacher. Running alongside this was an increasing awareness of the powerful presence of nursery rhymes in the collective unconsciousness, and how, as an oral tradition and like the dances and rituals of various societies, they connect us to our past and to our ancestors as well as to the present and future and so have a defining role in our culture.

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This research concluded that 'a relationship exists between learning styles and cognitive traits' and that 'Future work will include experimental investigations to verify the identified relationship.'

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