

Shared Book Reading Intervention

An 8-week parent-implemented intervention
program for preschool-age children on the
autism spectrum



Program Handbook

Marleen F. Westerveld, PhD

Kathryn A. O'Leary

Griffith University

Australia



Griffith Health Centre
Parklands Drive, SOUTHPORT
QLD, Australia

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ABOUT THE PROGRAM AUTHORS

Marleen Westerveld, PhD, CPSP

Marleen Westerveld, PhD has been a qualified speech language pathologist for more than 30 years, with extensive clinical experience in working with children and adolescents with language disorders. She leads a program of research into the early literacy development of children on the autism spectrum. Other research interests relate to children's spontaneous language skills that are needed for participation in everyday activities at home, school, and in the community.

Contact: m.westerveld@griffith.edu.au

Website: www.marleenwesterveld.com

Kate O'Leary, CPSP

Kate O'Leary completed her Masters in Speech Pathology Studies through the University of Queensland. After graduating in 2013 she spent several years working as a paediatric speech pathologist, in both the disability sector and private practice. Within these areas she gained experience working with children on the spectrum, an area of particular interest for Kate. This led her into the field of research where she completed work with Dr Marleen Westerveld investigating literacy outcomes and shared book reading interventions for children on the spectrum.

1. INTRODUCTION

The results of this 8-week intervention program have been published:

Westerveld MF, Wicks R, Paynter J. Investigating the effectiveness of parent-implemented shared book reading intervention for preschoolers with ASD. *Child Language Teaching and Therapy*, 37(2), 149-162. [http:// doi:10.1177/0265659021995522](http://doi:10.1177/0265659021995522)

You may download this article for free:

<https://journals.sagepub.com/doi/pdf/10.1177/0265659021995522>

To watch an overview of the program, visit: <https://youtu.be/GpQr8E03QyE>

This document provides you with further information about the intervention itself, including the assessment tasks we used to measure progress, and the intervention materials.

All Supplementary materials and Appendices may be downloaded here:

<https://www.dropbox.com/sh/cj3azp07yvht8h6/AADUSilObDqjENVSexf3zWdYa?dl=0>

1.1. PROGRAM AIMS

The program aims:

- To increase child exposure to book-related language during a shared reading session (e.g. discussing word meanings, introducing new vocabulary).
- To increase child exposure to meaning-related discussions during a shared reading session (e.g. discussing characters outside of the text, predicting what might happen next in the story).

Please note: While this intervention does not target code-related literacy skills, the authors acknowledge the importance of these skills for literacy learning and recommend that they are included within the therapy goals based on the child's current abilities.

1.2 PROGRAM PRINCIPLES & STRUCTURE

This program is designed to be implemented by a speech-language pathologist (SLP) in fortnightly one-on-one sessions with parents/caregivers of preschool-aged children on the autism spectrum over 8 weeks, with pre- and post-intervention assessments completed with the child to monitor progress. The intervention strategies were derived from Whitehurst et al. (1988) dialogic reading approach combined with techniques identified through a comprehensive literature review (e.g., Aram, Fine, & Ziv, 2013).

Principles

All sessions adhered to principles of shared book reading as described in Whitehurst (1988):

- Rich story book reading interactions offer children the opportunity to develop their language. Through training and individualised feedback sessions parents are encouraged to promote the learning of new words and concepts. Shared book reading is to be seen as time for discussion, with a greater focus placed on the pictures and story than the text itself.
- Development of story structure. The children are encouraged to consider the story structure; identifying the central characters, making predictions of possible events,

and identifying how the characters interact with the plot. Use of narrative structure interventions have been well documented in the literature with promising outcomes (e.g., Aram et al., 2013; Fleury, Miramontez, Hudson, & Schwartz, 2014; Westerveld & Gillon, 2008; Whitehurst et al., 1994).

- Use of techniques and resources to ensure that shared book reading is stimulating for the child and parent. Engaging the child in the story is of utmost importance if any of the previous techniques are to have an effect. Stimulating the child by incorporating his/her own interests and praising attempts to interact with the book promote a rewarding shared reading experience.
- The parent’s expectations for their child should show a progressive pattern that is reflective of the child’s developing skills. Use of regular clinician feedback on the application of the strategies ensures that parents continue to challenge their child’s learning abilities throughout the intervention, thus preventing shared book reading from becoming stagnant.

Structure

Week	Activity
Pre-intervention	Assessment session 1. Initial assessment video completed.
0	Training session completed. Intervention materials provided.
1	Follow-up phone call.
2	Feedback meeting.
3	Follow-up phone call.
4	Feedback meeting.
5	Follow-up phone call.
6	Feedback meeting.
7	Follow-up phone call.
8	Feedback meeting.
Post-intervention	Assessment session 2. Final assessment video completed.

1.3 PROGRAM ADAPTATIONS FOR CLINICIANS

This manual describes the intervention structure as per the implementation in our study (Westerveld, Wicks, & Paynter, 2021). Some suggestions as to how this may adapted for the clinical environment are outlined below. As evidence only exists for the current intervention model, however, the efficacy of any adaptations to this design cannot be guaranteed.

- The program may be completed on a weekly basis to align with the family’s therapy schedule, when suitable.
- The clinician may choose to increase or decrease the length of the intervention period on the basis of the family’s understanding and application of the book reading strategies and/or the child’s ability to participate in book reading at the time.
- The clinician may choose to introduce strategies from higher levels as the intervention progresses, in order to accommodate advances in the child’s language abilities.
- The intervention may be used in conjunction with other therapy approaches.

- The clinician/family may select alternative books to include in the intervention based on the child's current therapeutic goals. However, it is strongly recommended that the books:
 - Are narrative stories with a simple storyline and obvious problem and resolution
 - Are not well known to the child and encourage new vocabulary development
 - Are suitable for the child's age and cognitive level
 - Contain colourful illustrations.
- Are of an appropriate length to maintain child engagement
 - The clinician may include additional tasks in the assessment battery.
 - The clinician may select different tasks to measure progress. It is recommended that, at a minimum, the following tasks are completed:
- Pre- and post- assessment of parent/child book reading behaviours.
- An initial assessment of receptive and expressive vocabulary, to determine the appropriate strategy level to implement.
 - The clinician may choose to complete assessments of parent/child book reading at more frequent intervals to assist in providing accurate feedback to the family.
 - The clinician may ask the parent (and child) to conduct the shared book reading session within the clinical environment, with the provision of immediate feedback.
 - The clinician may choose to implement the program as a group or educational session.

2. GETTING STARTED

2.1 DETERMINING THE CHILD'S LANGUAGE LEVEL

To ensure the intervention matched the child's oral language ability level, we assigned each child to a level (1, 2, or 3) based on their performance on the *Peabody Picture Vocabulary Test – Fourth Edition* (PPVT-4) (Dunn & Dunn, 2007) or the PPVT-5 (Dunn, 2018) and their expressive language use during the initial shared book reading observation.

PPVT-4 / PPVT-5: This is a standardised test of receptive vocabulary. This test requires the child to point to the picture (from a choice of four) that matches the spoken word provided by the examiner. The PPVT is a norm-referenced instrument suitable for use with children and adults from 2;6 years.

The following levels were established:

- 1) Level 1: Children with no, or very little, verbal language;
- 2) Level 2: Children with emerging oral language or those able to communicate in short phrases but with a receptive vocabulary age-equivalence [AE] < 36 months (PPVT-4).
- 3) Level 3: Children who were able to communicate in short phrases or sentences with PPVT-4 Age Equivalence > 36 months.

2.2 SHARED BOOK READING OBSERVATIONS

Shared book reading assessments were completed, pre- and post-intervention to determine if changes in reading behaviours occur. During these assessments parents were provided with the 'assessment book' and asked to read with their child "as they typically would". Book

reading sessions were video recorded and parents were asked to email us a copy for analysis. Shared book reading sessions occurred at home or in the clinical setting.

Parent and child book reading behaviours were assessed by observing the parent-child shared book reading video - using the following methods:

- Interval coding: after every 15 second time interval the book reading video is paused and any instances of child or adult book reading behaviours are recorded in the Shared Book Reading Clinical Rating Scale (see [Appendix 1](#)). The presence of a behaviour within the 15 seconds receives a score of 1 on the coding sheet, even if this behaviour is observed more than once during this time. Each 15 second interval of the video may be viewed multiple times if required. See [Appendix 2](#) for detailed scoring guidelines.
- Alternatively you may choose to use the simplified version we have since developed (see [Appendix 3](#)). Observe the video and note whether the behaviour occurs often, sometimes, or not at all.
- Systematic Analysis of Language Transcripts (SALT): shared book reading videos are transcribed into SALT and analysed using the software to calculate the child's mean length of utterance (MLU). Codes from the Clinical Rating Scale may also be entered into the transcription in order to calculate the total number of adult and child behaviours for each subsection of the scale. For further information about SALT, including training videos, visit the SALT website (www.saltsoftware.com) or <https://www.marleenwesterveld.com/salt-webinars/>
- Overall time taken to read the book.

2.3 PROGRAM MATERIALS

Note: Three different strategy sheets were designed to allow for variation in the children's oral language abilities (i.e., Level 1, 2, and 3) and understanding of story structure, thus ensuring that the strategies provided were appropriate for the child's level of development:

Parents who are taught Level 3 strategies should also be provided with a story structure visual to assist in narrative discussions.

- Laminated Shared Book Reading (SBR) Strategy handout** (Supplementary 1)
- Laminated Story Structure Visual A** (Supplementary 2)
- Laminated Story Structure Visual B** (Supplementary 3)
- Shared Book Reading Training Videos (links provided in the Training Schedule overview - [Appendix 6](#)). It is highly recommended you familiarise yourself with the training videos and select the ones you feel will be appropriate for use with your client/s.
- Nine story books with traditional narrative structure[#] (setting, problem, action, resolution). One story to be selected for use as a pre and post assessment. For a list of books that were used in the current study please see [Appendix 4](#).
- Laminated book marks for each story[^] (minus the assessment book) outlining creative ways to apply the shared book reading strategies to the books selected (examples provided in [Appendix 5](#)). You may download more examples from the Dropbox.
- Video camera or mobile phone for video recording purposes[#].
- SALT software for transcription of book reading videos[#]
- Shared Book Reading Clinical Rating Scale ([Appendix 1](#) OR [Appendix 3](#)).
- Shared Book Reading Clinical Rating Scale Guide ([Appendix 2](#))
- PPVT-4 or PPVT-5[#].

- Informal testing of Book Specific Vocabulary[^] (See [Appendix 8](#) for example tier 1 and tier 2 words). This can be used to evaluate progress following intervention (optional).
- Shared Book Reading Log Book ([Appendix 7](#))

NB: ** materials are recommended to be printed in colour. # materials will need to be purchased. ^materials will need to be created by the clinician.

3. INTERVENTION PROGRAM DELIVERY

Intervention is provided over an eight week period and consists of one 45 minute training session and four fortnightly follow-up visits, with phone calls completed on alternative weeks. Parents were asked to record videos of shared reading sessions with their child each week with individualised feedback provided in follow-up visits with the SLP.

The intervention focuses on the following three topics:

- 1) **Words, words, words (vocabulary).** Using a dialogic reading approach (Sim et al., 2014; Whitehurst, 1994; Whitehurst et al., 1988), parents are encouraged to introduce their child to new vocabulary depicted in the books. Strategies such as pointing out and labelling new pictures; providing word definitions; using facial expressions and gestures to demonstrate word meanings; and relating words, pictures and events to the child's own life experiences are key approaches within this topic.
- 2) **What's in the Story (story structure).** These strategies aim to increase children's awareness of story structure. Parents are encouraged to introduce their child to story components through modelling of language and use of questions related to the characters, setting, problem, actions and resolution. A narrative visual aid (see Supplementary 2 and 3) was provided for use as needed. Discussing the story prior to reading and summarising the story once complete are promoted in order to provide continual modelling of the narrative structure, sequence of events and key details. Where possible, parents are encouraged to have their child attempt to retell the story themselves, with scaffolding provided to ensure essential features are included.
- 3) **Fun.** Considering existing research highlighting the lower levels of interest in shared book reading in children with autism (Westerveld et al., 2017), and the importance of social interaction for shared book reading success, strategies are put in place to promote having fun during the book reading sessions.

3.1 PRE-INTERVENTION: ASSESSMENT 1

Resources:

- ✓ PPVT-4 or PPVT-5 (Dunn, 2018; Dunn & Dunn, 2007)
- ✓ Assessment story book (see [Appendix 4](#) for examples)
- ✓ Video recording device
- ✓ Tripod (optional – you can purchase these on eBay for \$3)
- ✓ Shared Book Reading Clinical Rating Scale ([Appendix 1](#) or [Appendix 3](#))
- ✓ Shared Book Reading Clinical Rating Scale Guidelines ([Appendix 2](#))
- ✓ (SALT software)
- ✓ Informal testing of Book Specific Vocabulary (See [Appendix 8](#) for example tier 1 and tier 2 words). This can be used to evaluate progress following intervention (optional).

Goals:

- To determine the child's current oral language abilities.
- To determine the most appropriate strategies to implement based on the child's current receptive and expressive language abilities.
- To evaluate current parent/child's shared book reading behaviours.

Activity

Assessment session one is to be completed, at most, two weeks prior to commencing the intervention. The assessment session should be undertaken in a quiet environment with minimal distractions, with one hour allocated for its completion. At the end of the session the parent/caregiver is asked to conduct a shared reading session. They are provided with the assessment book and asked to read as they normally would. This book reading session may be completed in the clinical setting at the time of the assessment or at home at a time convenient to the family.

3.2 WEEK 0: TRAINING SESSION

See [Appendix 6](#) for a full description of the training session, including links to the videos.

Resources

- ✓ Shared book reading strategy sheet (Supplementary 1)
- ✓ Narrative visual 1 and 2 (if applicable) (download Supplementary 2 or 3)
- ✓ Access to the internet - shared book reading training videos ([Appendix 6](#))
- ✓ Video recording device
- ✓ Tripod (optional)
- ✓ Week 1 and 2 books ([Appendix 4](#))
- ✓ Shared Book Reading Log Books ([Appendix 7](#))

Goals

- To educate the parents on shared book reading strategies that may be appropriate for use with their child.
- To encourage the development of new vocabulary and the understanding of story structure through shared book reading experiences for pre-school children with autism.

Activity

During the training session parents are introduced to the book reading strategies and provided with video modelling and live demonstrations of their use with the first target book. Any anticipated problems identified by the parents (e.g., difficult behaviours) are discussed and brainstorming of potential solutions to these problems is completed. See [Appendix 6](#) for a full description of the training session.

Following completion of the training session the parents are provided with the strategy sheet, narrative visuals (if necessary), week 1 and 2 books, and the log book. They are asked to introduce the strategies to shared reading sessions with their child over the following two weeks whilst reading the target books. It is recommended that the target books are read at least 4 times per week. Once a week, parents are asked to video record a shared reading session for review by the clinician at the next feedback meeting. Shared reading of other

stories in the home may continue throughout the intervention period, with the request that all shared reading sessions be recorded in the log books provided.

3.3 WEEKS 1,3,5,7

At the end of the first week, and all subsequent fortnights, a follow-up phone call is organised to discuss progress with the strategies, resolve any issues, and to confirm the meeting time the following week.

Topics that may be discussed, and issues that may arise, include:

- How often they have been able to share the book with their child
- Discussing the time of day that works best to share the book with the child
- How to make the book more 'interesting' to the child, e.g., what gestures to use, sound effects.
- How to manage 'challenging behaviours' related to book reading. Emphasis on fun.

3.4 WEEKS 2,4,6,8

Resources:

- ✓ Target books (2 books provided for each fortnight)
- ✓ Computer/camera for reviewing weekly reading sessions

Goals:

- To provide parents with individualised feedback on their shared book reading performance.
- To provide parents with recommendations for future reading experiences based on the book reading strategies and the clinician's knowledge of the child's abilities.

Activity:

Fortnightly meetings are completed with parents in order to provide individualised feedback on their progress with the book reading strategies. These visits consist of viewing the latest home reading videos, providing guidance based on the child's level of development and the book reading strategies, resolving any reported problems, supplying new books for the next fortnight, and modelling of shared reading techniques with these new stories.

Points to raise during these sessions include:

- *Did your child like the book? Why do you think that was?*
- *What strategies worked well?*
- *What problems did you encounter?*
- *Reflecting on the shared book reading session with your child what might you do differently next time?*
- *Have you noticed any changes in your child's shared book reading behaviour since introducing these strategies? If so, what changes have you noticed?*

3.5 POST-INTERVENTION: ASSESSMENT 2

Resources:

- ✓ Evaluation of book specific vocabulary (if used)
- ✓ Assessment story book (see Appendix 5 for example)

- ✓ Video recording device
- ✓ Tripod (optional)
- ✓ Shared Book Reading Clinical Rating Scale (Appendix 1 or 2)
- ✓ Shared Book Reading Clinical Rating Scale Guidelines (Appendix 3)
- ✓ SALT software

Goals:

- To determine whether a change occurred in the child's oral language abilities following the shared book reading intervention.
- To determine whether a change occurred in the parent/child's shared book reading behaviours following the shared book reading intervention – using the clinical rating scale.

Activity:

Assessment session two is to be completed, at most, two weeks after the final feedback meeting. The assessment session should be undertaken in a quiet environment with minimal distractions, with 0.5 hours allocated for its completion. At the end of the session the parent/caregiver is asked to complete the assessment shared reading session. They are provided with the assessment book and asked to read with their child as they typically would. This book reading session may be completed in the clinical setting at the time of the assessment or at home at a time convenient to the family.

Analysis:

Based on the shared book reading observation, note the following:

- Total reading time. Did this increase compared to pre-intervention?
- Parent use of book reading strategies: was there a change in parent behaviours on the following measures:
 - Exposure to book language (W1, W2, W3, W4). We would like to see an increase across all four behaviours.
 - Explicit teaching of story structure (EM1, EM2, EM3 / ESS1, ESS2, ESS3)
 - Use of particular types of questions (Q1 to Q4). We would like to see an increase in Q1 type questions.
- Child behaviours (these can be calculated automatically if using SALT):
 - Total number of utterances the child produced during the shared book reading session.
 - Number of different words the child used during the session (as a measure of semantic diversity / expressive vocabulary use).
 - Child's improvement in book-specific vocabulary (if used).

3.6 POST-INTERVENTION: REPORTING RESULTS

To measure parent satisfaction we asked all parents to complete a shared book reading parent satisfaction survey. This can be done via email (e.g., using a Google Form) or using a hard copy ([see Appendix 9](#)).

Upon the conclusion of the program, appropriate documentation of assessment results in a formal report to the family is highly recommended. Pre- and post-intervention assessment results should be included, in addition to a description of any changes in parent and/or child book reading behaviours.

APPENDIX 1: SHARED BOOK READING CLINICAL RATING SCALE

Child ID: _____ Child age: _____	Book Title: _____	Book genre: <input type="checkbox"/> Narrative <input type="checkbox"/> Picture-book <input type="checkbox"/> Other
Date of reading: ____/____/____	Has the book been read before? <input type="checkbox"/> Yes <input type="checkbox"/> No	Book features: _____
Time of reading: ____:____ am/pm	Location/seating arrangement: _____	
Coder ID: _____ Date of coding: ____/____/____	Duration of book reading session: ____:____ (min:sec)	

ELEMENTS	STORYBOOK READING BEHAVIOURS	TIME INTERVALS																								
		0:15	0:30	0:45	1:00	1:15	1:30	1:45	2:00	2:15	2:30	2:45	3:00	3:15	3:30	3:45	4:00	4:15	4:30	4:45	5:00	5:15	5:30	5:45	6:00	
	<i>Start Time:</i> When the book-related discussion began. <i>End Time:</i> When the book-related discussion ceased.																									
Words Words Words! Exposure to book language	How often does the parent display the following behaviours?																									
	W1. Labels/describes pictures using words or gestures. E.g. <i>look! A big, red, round balloon. (Parent gestures for "round")</i>																									
	W2. Links words to another object or event related to the child's own experiences (e.g. <i>you have a ball, that looks like your dog, you know round.</i>)																									
	W3. Explains word meanings and associations in a way the child can understand <i>Definition: An aquarium is a glass box that we fill with water to keep fish in.</i> <i>Association: A Cheetah is like your pet kitten, but it is bigger, faster, has spots, and lives in the wild. A pony is like a small horse.</i>																									
W4. Emphasizes low frequency words (may/may not be those written in the book), not encountered in everyday conversational discourse Provide examples: e.g., <i>aquarium, ferocious, author, illustrator, miserable, grinned, scrambled...</i>																										
Child Interest - Shared Book Focus	How often does the child establish/maintain joint attention with the parent and book through the following behaviours?																									
	C1. Verbally responds to questions, comments, and text (includes echolalia) or spontaneously points, comments, and/or verbalizes (adding new information to the story).																									
Explicit Teaching of Code-Related Skills	How often does the parent make direct references to print-related concepts through the following behaviours?																									
	EC1. Points to a specific word in the text while reading (often to highlight). <i>(Note: does NOT refer to scanning of the text while reading)</i> E.g. <i>This (word) says ...</i>																									
	EC2. Talks about print features <i>Comments, questions, requests about directionality, length etc.</i> E.g. <i>The title of this book is..., The author's name is..., It was illustrated by..., where do I start reading? (note: count the words "title", "author", and "illustrator" as low frequency words (F4)).</i>																									
	EC3. Talks about letter names and sounds <i>parent identifies a letter on the page, and makes link to the letter sound: that's the letter S, it makes a 'sss' sound, it's the same sound at the beginning of your name, SSSam). What letter? What sound does this letter make?</i>																									
	EC4. Talks about sounds in words E.g., <i>rhyming words, words that start with the same sound etc. E.g. Sam and ham are rhyming words, duck starts with... This starts with the letter S just like in your name!</i>																									

		0:15	0:30	0:45	1:00	1:15	1:30	1:45	2:00	2:15	2:30	2:45	3:00	3:15	3:30	3:45	4:00	4:15	4:30	4:45	5:00	5:15	5:30	5:45	6:00
What's in the story? Explicit teaching of meaning related skills	How often does the parent refer to the story structure through the following behaviours?																								
	EM1. Talks about the main character/s outside of the text. E.g., <i>before reading the book - "This story is about a little girl called Alice". Or asking the child "Who is this story about?"</i>																								
	EM2. Asks questions and/or makes comments about what happens next in the story. E.g., <i>what do you think will happen next? Let's see what happens next!</i>																								
	EM3. Comments or summarises the story, referring to the characters, setting, problem, events, and ending E.g., <i>making connections - who was the story about? What happened in the beginning? He's sad because his balloon popped! How did they fix the problem? This story was about...</i>																								
Q. Child interest: Asks the child questions related to the story/book	How often does the parent use the following questioning techniques?																								
	Q1 Open ended questions E.g. <i>who, what, where, when, why, how? Can you tell me what happened in the story?</i>																								
	Q2 Parent requests that the child label a picture/action, imitates a word/phrase and/or asks a sentence completion questions related to the story or book E.g. <i>What's this? This is a... What's he doing? Pip had a... You say...</i>																								
	Q3 Closed ended questions (yes/no questions/forced choice) E.g. <i>which, is this..., did he... can you see the...?</i>																								
	Q4 Tag questions (e.g. <i>he's happy, isn't he? Planes can fly, can't they?</i>)																								
	Describe how often the child establishes/maintains joint attention with the parent and book. E.g. <i>glances away occasionally but mostly engages well. Child engaged throughout. Child engages intermittently.</i>																								
	Describe how often the parent attempts to maintain the child's attention in a positive manner? <i>(such as pointing out things of interest, pausing for response, body language, eye contact, facial expression, tone of voice, warm affect) e.g. throughout, mostly, occasionally</i>																								
	How often does the parent point to track the text while reading?																								
			1							3											5				
			Never							Sometimes											Always				

Examples (by time and item number, e.g., C4, EC4, EM1, F2.1)

APPENDIX 2: SBR CLINICAL RATING SCALE GUIDELINES

CODING GUIDELINES

Start time: Once the book has been selected and when the book related discussion begins. Do not code video footage preceding this time (e.g. parent setting up the camera); you may choose to cross out time intervals before the book related discussion to assist with the coding process.

End time: Once the book related discussion has ceased. DO code post-book discussions about the story, questions about the story structure, child retells, summarisations, second readings, and time spent looking at/discussing pages (including the back cover).

Words Words Words: Child exposure to book language

W1 – Parent labels and/or describes pictures

- Points to pictures while reading word (labelling)
- Look at the little dog (while pointing to picture)
- Reading text and pointing to balloon *“it was big and red and round”*
- Uses gestures or facial expressions to demonstrate the meaning of the word
- Does NOT include imitations of the child’s utterance (e.g. P: what’s he doing? C: playing. P:playing).
- Does include the parent expanding the child’s utterance or adding information to the what the child has previously said e.g. C: *baby bear*. P: *baby bear is in the stroller*.
- Must be describing or labelling the picture e.g. NOT *look at them all*.

W2 – Parent links words to another object or event

- You have a puppy too
- This puppy looks like (child’s dog’s name) doesn’t he?
- That’s why mummy makes sure she ties your balloon to your wrist.
- It popped, just like your balloon!
- You know round.
- You know about....
- Parent must explicitly link to an object or event child recognises.

W3 – Parent explains word meanings and associations in a way the child can understand

- Definition:
 - o *a kennel is a house for doggies*
 - o *an aquarium is a glass box that we fill with water to keep fish in*
- Association:
 - o *it’s a bucket, it’s like a box*
 - o *a pony is like a small horse*
 - o *Orange is similar to yellow*
 - o *Pip and Posy chased the balloon, they ran after it.*
 - o *He’s sad, upset* (parent uses a different word the child might know).

W4 – Parent emphasises low frequency words, or ‘book language’ (may or may not be written in the book), not encountered in everyday conversational discourse.

Provide examples:

- *Ferocious, aquarium, kennel, author, illustrator, shop keeper, grinned, dashed, fox, crow, badger*

NOTE: include *burst* if the parent repeats and emphasises the word.

Child Interest – Shared Book Focus

C1 – Child verbally responds to questions, comments, or text

- Comments in response to parental questions, comments, or the text
- Labels pictures in the book when asked “What’s this?”
- Include echolalic responses
- Include incorrect responses
- Include questions used to clarify the parent/caregiver’s initial question. E.g. P: what colour is the flower? C: which one?
- Do not include unintelligible utterances unless it is very clear that the child is attempting to respond.

C2 – Child spontaneously points, comments, asks questions, and/or verbalises on the text, storyline, pictures, or print concepts.

- Child SPONTANEOUSLY comments/verbalises/labels
- Child asks a question (not in response to parent comment/question/text)
- Child makes a request regarding the book (“*Mummy say*”)(“*I want my turn*”)
- Includes instances when the child rephrases a parent’s utterance using different words (e.g. P: the end. C: it’s finished)
- Do NOT include unintelligible utterances.
- Include instances when the child ignores the parents question/comment and spontaneously labels or comments e.g. is looking at a different picture to the parent.
- Do not include unintelligible utterances, at least part of the utterance must be able to be understood.

Explicit Teaching of Code-Related Skills

EC1 – parent points to text

- While parent or child is reading, parent points to specific words (often to highlight)
- Parent points out words on the pages and comments about them (E.g. *This says...*)

NOTE: you must be able to clearly see the parent pointing to each word.

EC2 – parent talks about print features (i.e., title, author, illustrator, directionality, length, complexity,)

- *The title of this book is “Pop Up Peekaboo, Woof Woof!”*
- *This book is called*
- *This one is called*
- *The author’s name is Axel Sheffield*
- *It was illustrated by (count the words ‘author’ and ‘illustrator’ as low frequency words & book language (F4))*

EC3 – parent talks about letter names and sounds

- Parent identifies a letter on the page and makes link to the letter sound: “*that is the letter S, it makes a sssss sound!*”
- *What letter? (also coded as F2.1)*
- *P says...?*
- *What sound does D make?*

EC4 – parent talks about sounds in word

- Parent talks about words that sound the same (rhyming words), or words that start with the same letter (e.g., this word starts with the letter S and your name starts with the letter S!)
 - o *Duck starts with?*
 - o *Pip, Pop, Posy. Lots of /p/ sounds. They all start with the letter P.*
-

**What's in the Story:
Explicit Teaching of Meaning-Related Skills**

EM1 – parent talks about the main character/s outside of the text

- *This story is about pip and posy and a big balloon / a puppy dog / etc.*
- *Who do you think this story will be about?*
- *Who were the characters in the story?*
- Note: questions should also be recorded under F2

EM2 – parent asks questions and/or makes comments about what happens next in the story to encourage the child to make predictions.

- *What do you think will happen next?*
- *What do you think he will do?*
- *Let's see what happens next!*
- *Do you think they'll catch it or will it get away?*
- Include questions which prompt the child to make a prediction in order to answer e.g. *what should she do now? What do you think her great idea is?*

NOTE: questions should also be recorded under F2. Does NOT include comments by the parent such as *it's going to fly away or they need to run after it.*

EM3 – parent comments about or summarises the story, referring to the characters, setting, problem, events, and ending

- Makes connections:
 - o *Pip is sad because his balloon popped! (if discussed at the end of the book)*
 - o *He needs a new balloon because his one burst!*
 - o *Oh no! His balloon burst! That's a big problem!*
 - o *How will they fix the problem?*
 - o *What happened at the beginning of the story?*
-

Child Interest: Asking Questions

Q1 Parent asks the child open ended questions related to the story or book e.g. *who, what, where, when, why, how.*

- *Who is this story about?*
- *What will happen next?*
- *Where are they going?*
- *How will they fix the problem?*
- *Why is he crying?*
- Include "can" questions which suggest an open ended answer is required e.g. *can you tell me what happened in the beginning?*
- DOES NOT INCLUDE requests to label e.g. *What is this? What is he doing?*

Q2 Parent requests that the child label a picture/action, imitate a word/phrase, and/or asks a sentence completion question related to the story or book

APPENDIX 3: CODING SBR VIDEOS – SIMPLIFIED VERSION

CODING GUIDELINES FOR SHARED BOOK READING VIDEOS

Start time: Once the book has been selected and when the book related discussion begins. Do not code video footage preceding this time (e.g. parent setting up the camera).

End time: Once the book related discussion has ceased. DO code post-book discussions about the story, questions about the story structure, child retells, summarizations, second readings, and time spent looking at/discussing pages (including the back cover).

Please note: Story book related behaviors should only be coded if they are directed towards the target child. Any questions, answers or comments directed to anyone else in the video should not be included.

Behaviors	Categories	Examples
Words Words Words: Exposure to book language	W1: Labelling/describing pictures using words or gestures,	Points to pictures while reading word (labelling) "Look at the little dog" (while pointing to picture) Does NOT include imitations of the child's utterance
	W2: Linking words to another object or event related to the child's own experience	"This puppy looks like (child's dog's name) doesn't he?" "That's why mummy makes sure she ties your balloon to your wrist". "It popped, just like your balloon"!
	W3: Explaining word meanings and associations in a way the child can understand	May include a definition: "A kennel is a house for doggies". Associations: It's a bucket, it's like a box A pony is like a small horse
	W4: Emphasizing low frequency words, not encountered in everyday discourse.	Examples include: Ferocious, aquarium, kemel, author, illustrator, shop keeper, grinned, dashed, fox, crow, badger
Explicit Teaching of Print-Related Skills	EP1: parent points to text	While parent or child is reading, parent points to specific words (often to highlight) Parent points out words on the pages and comments about them (E.g. <i>This says...</i>)
	EP2: parent talks about print features	The title of this book is "Pop Up Peekaboo, Woof Woof" It was illustrated by ... (Note: count the words 'author' and 'illustrator' as low frequency words & book language)
	EP3: parent talks about letter names and sounds	Parent identifies a letter on the page and makes link to the letter sound: "that is the letter S, it makes a sssss sound!" P says...?

2

SHARED BOOK READING BEHAVIORS

Explicit Teaching of Story-Structure	ESS1: parent talks about the main character/s outside of the text	<i>This story is about pip and posy and a big balloon / a puppy dog ...</i> <i>Who do you think this story will be about?</i> <i>Who were the characters in the story?</i>
	ESS2: parent asks questions and/or makes comments about what happens next in the story to encourage the child to make predictions.	<i>What do you think will happen next?</i> <i>What do you think he will do?</i> Include questions which prompt the child to make a prediction in order to answer e.g. <i>what should she do now? What do you think her great idea is?</i>
	ESS3:parent comments about or summarizes the story, referring to the characters, setting, problem, events, and/or ending	Parent makes connections: <i>Pip is sad because his balloon popped! (if discussed at the end of the book)</i> <i>He needs a new balloon because his one burst!</i> <i>Oh no! His balloon burst! That's a big problem!</i>
Asking Questions	Q1: Parent asks the child open ended questions related to the story or book e.g. <i>who, what, where, when, why, how.</i>	<i>Who is this story about?</i> <i>What will happen next?</i> <i>Where are they going?</i> Note: does not include requests to label e.g. <i>What is this? What is he doing?</i>
	Q2 Parent requests that the child label a picture/action, imitate a word/phrase, and/or asks a sentence completion question related to the story or book	<i>What's this?</i> <i>What is he doing?</i> <i>Pip has a....</i> <i>And then...</i>
	Q3 Parent asks the child closed ended questions related to the story or book (e.g. yes/no, forced-choice questions, requests to point)	<i>Is this his balloon?</i> <i>Is he happy or sad?</i> <i>Should he play bubbles or go home?</i>
	Q4 Parent asks the child tag questions related to the story or the book	<i>He's happy now, isn't he?</i> <i>Balloons are supposed to pop, aren't they?</i> <i>You can see it in the picture, can't you?</i>

Shared Book Reading Behaviours Observation Sheet

Behaviors	Categories	Often / Sometimes / Not at all
Words Words Words: Exposure to book language	W1: Labelling/describing pictures using words or gestures,	
	W2: Linking words to another object or event related to the child's own experience	
	W3: Explaining word meanings and associations in a way the child can understand	
	W4: Emphasizing low frequency words, not encountered in everyday discourse.	
Explicit Teaching of Print-Related Skills	EP1: parent points to text	
	EP2: parent talks about print features	
	EP3: parent talks about letter names and sounds	
Explicit Teaching of Story-Structure	ESS1: parent talks about the main character/s outside of the text	
	ESS2: parent asks questions and/or makes comments about what happens next in the story to encourage the child to make predictions.	
	ESS3:parent comments about or summarizes the story, referring to the characters, setting, problem, events, and/or ending	

SHARED BOOK READING BEHAVIORS

Asking Questions	Q1: Parent asks the child open ended questions related to the story or book e.g. <i>who, what, where, when, why, how.</i>	
	Q2 Parent requests that the child label a picture/action, imitate a word/phrase, and/or asks a sentence completion question related to the story or book	
	Q3 Parent asks the child closed ended questions related to the story or book (e.g. yes/no, forced-choice questions, requests to point)	
	Q4 Parent asks the child tag questions related to the story or the book	

From: Westerveld, M. F., Paynter, J., & Wicks, R. (2020). Shared book reading behaviors of parents and their verbal preschoolers on the autism spectrum *Journal of Autism and Developmental Disorders*, 50, 3005-3017. doi:10.1007/s10803-020-04406-6

APPENDIX 4: BOOKS

Week	Book
Pre- & Post Ax	Scheffler, A. (2012). <i>Pip and Posy the big balloon</i> . London: Nosy Crow.
1	Bland, N. (2012). <i>The Very Hungry Bear</i> . Gosford, NSW: Scholastic Australia.
2	Moore, M. (2014a). <i>Jack and the Beanstalk</i> . Sydney, NSW: Franklin Watts Australia.
3	Vaughan, M. (1984). <i>Wombat Stew</i> . Gosford, NSW: Scholastic Australia
4	Moore, M. (2014b). <i>The Three Little Pigs</i> . Sydney, NSW: Franklin Watts Australia.
5	Fox, M. (1983). <i>Possum Magic</i> . Gosford, NSW: Omnibus Books.
6	Velthuijs, M. (1995). <i>Frog is a hero</i> . London: Andersen Press.
7	Donaldson, J. (2003). <i>The Snail and the Whale</i> . London: Macmillan Publishers Ltd.
8	Bourgeois, P. (1989). <i>Hurry Up Franklin</i> . Toronto, ON: Kids Can Press Ltd.

Note: These are the books we used during the intervention. Any book that has a clear narrative structure (Setting, Problem, Actions, Resolution, Conclusion), will be appropriate.

APPENDIX 5: EXAMPLE STORY BOOKMARKS

You may download additional bookmarks from the Dropbox folder.

Level 1 & 2:

The Three Little Pigs

Easy words: waved, laughed, pig, house, carry, build, wolf, blow, watched, shouted, roof, pot, water, tail

Harder words: straw, bundled, cosy, crept, grinned, growled, squealed, scrambled, galloping, bellowed, furious, tumbled, wailed.

Who is the story about?
3 little pigs and the wolf.
Pause to allow your child to indicate using words or gestures, then model the correct response if necessary.

Fun times: Act out the characters actions e.g. *huff*

Level 3:

The Very Hungry Bear

Easy words: hungry, fish, strong, catching, smile, trees, cave, hot, fire, ice, small, nest, sneeze, snow.

Harder words: grumpy, yanked, flicked, waved, shrinking, sinking, resist, melting, cooler, squinted, hook, wound, allergic.

Characters: Brown bear, Polar Bear.

Setting: Brown Bear is out fishing, because he is hungry, and meets Polar Bear.

Problem: The polar bear needs somewhere to live.

Action: Brown Bear and Polar Bear go looking for a home, but none are quite right.

Ending: Brown Bear takes polar bear to the snowy mountain. They build him an igloo to live in. Everyone is happy.

APPENDIX 6: TRAINING SESSION OVERVIEW

Time	Activity	Resources
Time	Activity	Resources
30sec	<p>Explain the importance of SBR for language and literacy development.</p> <p>Active participation in book reading <i>has been found to positively benefit language outcomes and can assist with early literacy development necessary for later reading and writing skills.</i></p>	Nil
10min	Go through strategy sheet. Discuss strategies and link to examples on the back as you go.	Strategy sheet (Supplementary 1)
15 – 20 min.	<p>Provide video examples of 3 main areas:</p> <ol style="list-style-type: none"> 1. Words, Words, Words 2. What’s in a Story 3. Having Fun <p>Alternatively, you may demonstrate these strategies live. Or you can view some of these strategies in our demonstration video: https://youtu.be/GpQr8E03QyE</p> <p>Note: these videos are not meant to show ‘perfect’ shared book reading behaviours and can also be used to evaluate / appraise behaviours, for example: reading speed, language use, engagement of the child, responding to the child’s attempts to engage etc.</p>	<p>Level 1 / 2: Word Words Words: Gestures: https://youtu.be/wsKCMi62wiA Link to experiences x3: https://youtu.be/21Ky_brnZiU Pointing out ‘black’: https://youtu.be/_9o_4PxWax0</p> <p>What’s in the Story: Post book discussion 1: https://youtu.be/KX-ZH6q9cfg Post book discussion (M&A): https://youtu.be/gSqFm4M2nc4</p> <p>Level 3: “Impenetrable”: https://youtu.be/RvlbUa5rmlw Link to experiences x3 video: https://youtu.be/21Ky_brnZiU Story structure: https://youtu.be/IHCOOLVRnXM Predictions: https://youtu.be/146FLlu9UTE Post book discussion (M&A): https://youtu.be/gSqFm4M2nc4</p> <p>Last – Practice identifying: Mixed strategies: https://youtu.be/OfhCuR9hf9A</p>
10min	Introduce the first book. Discuss which strategies could be used and when.	Book 1
10min	Practice reading the story using the strategies with the clinician.	Book 1

10min	Watch videos with no strategies. Discuss which strategies could be used and when.	Training Video: Practice B1: https://youtu.be/srHSVn1hKPg Training Video: Practice B2: https://youtu.be/UgFP9YR3tpI Training Video: Practice J1: https://youtu.be/PCkuKcso7QE
5 -10min	Parent and clinician discuss potential hurdles, questions or concerns.	Nil
2min	Clinician provides parent with folder containing log book, strategy sheet, narrative visual (L3 only), intervention schedule, and book 2 in sealed envelope. Discuss log book.	Parent folder Strategy sheet Log book Book 2 schedule
2min	Conclude session. Remind parents to ideally read the target book with their child 4x per week, record details in log book, and video 1x session per week.	Nil

APPENDIX 7: SHARED BOOK READING LOG BOOK



Shared Book Reading Intervention: Home reading log
 Please include ALL shared reading experiences completed with your child

Child's name:

Week starting: / / 20

Day	Time/s	Book/s	Duration	Was this a typical reading session for your child? If not, please describe.
Monday				
Tuesday				
Wednesday				
Thursday				
Friday				
Saturday				
Sunday				

APPENDIX 8: EXAMPLES OF TIER 1 AND TIER 2 WORDS

Tier 1 words:

Hurry up, Franklin: slow, turtle, bridge, rabbit, bubbles, splashed, quiet, snail, cry, shouted, birthday, fast, hiding

Frog is a hero: Frog, Pig, Duck, hungry, river, wet, rain, swim, boat, friends, dirty, sun, home.

The very hungry bear: hungry, fish, strong, catching, smile, trees, cave, hot, fire, ice, small, sneeze, snow.

Wombat stew: water, laughed, mud, tipped, danced, sang, feathers, flies, blue, tongue, bugs, tail, licked, fat

The three little pigs: waved, laughed, pig, house, carry, build, wolf, blow, watched, shouted, roof, pot, water, tail, pulling

Jack and the beanstalk: poor, cow, sell, man, magic, window, grew, climb, castle, shake, loud, hen, egg, ate, hide, shouted, chased, fell.

Possum magic: Blue, pink, smile, snake, books, thin, fat, tall, small, sea, tail, kitchen, Plate, beach, legs

The snail and the whale: Whale, rock, stars, wave, sharks, snail, thunderstorm, swim, big, small, digging, sand,

Tier 2 words

Jack and the beanstalk: beanstalk, giant, crept, grind, huge, golden, squawk, axe, peep, clumsy,

The three little pigs: straw, bundled, cosy, crept, grinned, growled, squealed, scrambled, galloping, bellowed, furious, tumbled, wailed.

Wombat stew: banks, gooey, billabong, bill, ambling, brewing, grin, waltzing, graceful, boasted, chewy, quills, creepy crawlies, platypus, slurp, poisoned, dashed. Echidna

The very hungry bear: grumpy, yanked, flicked, waved, shrinking, sinking, resist, melting, cooler, squinted, hook, allergic, nest.

Frog is a hero: soaking, cosy, worry, banks, Hare, guest, concerned, current, bravely, sink, treacherous.

Hurry up, Franklin: Otter, hurried, rustle, berry patch, sobbed, rushed, bravely

Possum Magic: Invisible, miserable, wombat, dingo, shrink, claws

The snail and the whale: Trail, bay, sniffed, tiny, stripy, gazed, enormous,

APPENDIX 9: PARENT SATISFACTION SURVEY

Shared Book Reading Parent Satisfaction Survey

Name:

Date:

Child's name:

Child Experience: Please take a minute to consider your child's overall experience during shared book reading sessions over the last 8 weeks.

To what extent do you agree with the following? (circle one)	Strongly Disagree	Disagree	Unsure	Agree	Strongly Agree
I believe that my child's attention was better during the shared book reading using the strategies learned when compared to our traditional book reading sessions.	1	2	3	4	5
I believe that my child enjoyed reading more during the shared reading sessions then compared to our traditional book reading.	1	2	3	4	5
I believe that my child participated more in the shared book reading experience when strategies were used (e.g. pointing, commenting, asking Q's, making noises, turning the page).	1	2	3	4	5
I believe that the strategies I was taught were appropriate for my child and his/her current abilities.	1	2	3	4	5
I believe that the books provided were appropriate for my child's age and current abilities.	1	2	3	4	5
I believe that my child talked more during the shared reading sessions when the strategies were used.	1	2	3	4	5
I believe that my child learned some new words from the stories we read in the study.	1	2	3	4	5
I believe that my child is more interested in books because of this study.	1	2	3	4	5

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