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Learning from Word Books: Does the Type of Illustration Matter?

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Abstract

Picture books are a popular medium through which to promote language acquisition in young children. However, not much is known about how the pictorial context in which words are introduced in such books impacts word learning in toddlers, or how joint book reading further mediates this relationship. The present study introduced words to 19-23-month-old toddlers through books in either contextually rich, semantically relevant illustrations, or on a white background in isolation. Children and their parents participated in three lab visits during which a range of language and environmental measures were taken. Parents read our intervention materials at home between the first and second visits. We found that the pictorial context in which vocabulary words are presented was significantly related to language measures throughout our study. Further, this context also influences parents' reading techniques, with longer interactions and more target words produced when reading contextually illustrated books. Our minimal book intervention shows promise in promoting vocabulary development in typically talking toddlers.

Keywords: joint reading; word learning; illustration

Background

One of the main tasks in a young child's life is to learn the language of their environment. In typical development, children learn the words they hear and the names of things in their environment, demonstrating that children do not need explicit instruction to develop their vocabularies but are rather greatly influenced by their surroundings (van Veen et al., 2009; Weizman & Snow, 2001). Being able to successfully accomplish this task in the first years of life sets up children for later learning.

In general, vocabulary size at age two is related to reading and academic achievement in elementary school and beyond (Fewell and Deutscher, 2004). For this reason, there have been many efforts to better understand vocabulary development and how to motivate language acquisition in preschoolers. Specifically, researchers have investigated parent-child joint book reading, which has become one of the essential mediums through which to help children develop language and literacy skills (Dickinson et al., 2012; Kassow, 2006). However, little research has specifically examined whether the way vocabulary words are presented in books impacts the way parents read books with their children, and whether differences in vocabulary presentation influences a child's vocabulary development.

Much of the past research on joint book reading focuses on parent-child interactions and engagement. After 18 months of age, most parents attempt to engage children in conversations about the illustrations and stories in books, more so than when children are younger (Fletcher et al., 2005; Sénéchal, Cornell & Broda, 1995). Similarly, children's own vocalizations and joint attention impacts the amount of joint book reading at home (Lyytinen, Laasko & Poikkeus, 1998).

Many studies have investigated not only how parent reading style impacts child engagement, but how reading style further impacts language development. Children's exposure to books is related to their vocabulary and comprehension skills, as well as reading ability in grade three (Sénéchal & LeFevre, 2002). Joint book reading in general predicts linguistic advancement, over and above other demographic and parent characteristics (Lyytinen et al., 1998). In other words, parent-child interactions during joint book reading matters.

Hindman et al. (2008) found that caregivers focus their interactions with children mostly on the concepts in the book rather than on sounding out words. Hindman, Skibbe, and Foster (2014) also found the same focus on semantics, but further found that a wider variety of such meaning-related talk, like relating the story to their child's own experiences, was associated with more advanced language skills.

Multiple studies find that tactics engaging children and encouraging active participation through dialogic reading have the greatest impact on vocabulary in general (Flack, Field & Horst, 2018; Trivette, Dunst & Gorman, 2010). In addition, research shows that different reading styles are differentially associated with gains in production and comprehension measures of vocabulary. More specifically, parents following child comments with elucidating questions tend to have the greatest impact on expressive (naming) language (Sénéchal, 1997; Trivette et al., 2010). On the other hand, other aspects of the interactions, such as pointing and positive feedback have been noted to have an impact on receptive (pointing) vocabulary skills.

A few studies have delved into how the book itself can impact joint reading interactions. For example, Sénéchal et al. (1995) also found that mothers use more language during joint reading of books with no text, compared to books with text. Other studies found that parents engage in more questioning, labeling and positive feedback when reading simple word books compared with narrative books (Potter & Haynes, 2000; de Mendoza, 1995). Further, Fletcher and

Finch (2015) found that parents use more positive feedback and questions while reading both word books (isolated images with a word label) and no-narrative books (illustrations tell a story with no text) compared to narrative books (illustrations and text tell a story). The use of more positive feedback and questions in turn elicited more responses from the child. The authors posit that these simple word books may require more active reading strategies on the part of the caregiver and thus encourage richer parent-child interactions. Further, young toddlers enjoy books that use highly predictive language, such as that found in word books (Dwyer & Neuman, 2008), and in fact child responsiveness increases with repeated readings of the same word book (Fletcher & Finch, 2015). These results support the conclusion that simple word books that show a picture of an object in isolation accompanied simply by the object's name may promote interactions that lead to better word learning.

In another vein of language research, interventions seek to alter natural development to impact language outcomes. By explicitly teaching caregivers to use the techniques described previously (e.g., questions and comments) to engage learners, many interventions have found some success. In a meta-analysis of vocabulary interventions for preschoolers and kindergarteners, Marulis and Neuman (2010) found that instruction through definitions and examples increased intervention efficacy. Further, combining explicit instruction with implicit instruction, such as simply using the vocabulary word more often, was even more effective. Interestingly, the authors did not find that longer, more intensive, or more frequent interventions were more effective, lending support for the use of minimal vocabulary enrichment paradigms.

Though many families already regularly read books together, more targeted reading techniques may benefit word learning. In interventions where parents are taught techniques to aid in joint book reading, such as dialogic reading, children become more interested in shared reading compared to those children whose parents did not get such education (Ortiz, Stowe & Arnold, 2001). Further, a meta-analysis by Mol et al. (2008) found that dialogic reading interventions can change home literacy activities (frequency of reading, etc.) in families of two-to-three-year-old toddlers. We hypothesize that manipulating book characteristics may result in parents naturally adopting different reading styles without the need for extensive parental training, and that this in turn can impact children's word learning.

It is useful to note here that the previous discussions have differentiated between comprehension and production measures. Children understand many vocabulary words prior to producing the words themselves, and this asymmetry is revealed in tasks assessing one skill or the other (Hendriks & Koster, 2010). Though comprehension tasks typically require a child to find the correct image representing a word among a few foils, production tasks require the child to correctly name the target image out loud. Because production follows comprehension, production ability may reflect a deeper understanding of the word. The present work will utilize both

types of measures to understand if our manipulation differentially impacts these two language skills.

The present study aimed to better understand how different types of illustrations, while holding text constant, impact 1) joint book reading interactions and 2) vocabulary growth. We use two types of illustrations accompanying the same simple word-book style text: contextually rich, semantically relevant illustrations, as compared to an isolated object without background illustration. On the one hand, rich illustrations could offer parents with more things to talk about during joint book reading, creating longer interactions and providing children with a better understanding of the ways in which the target words are used in real-life situations. This could promote generalization to new contexts and perhaps even encourage children to learn other related words within that category. On the other hand, for children this young, seeing objects in isolation, without other distracting elements could also be beneficial to word learning. The positive impact of the rich illustrations relies heavily on the mediating factor of parent scaffolding and talk, while learning the target words in the isolated condition relies on parent support less. Because of these factors, we expect that children will learn to identify the target words better in the isolated condition (comprehension), but children will produce more target words and related words in the illustrated condition.

Method

Participants

A total of 39 children (25 female) were recruited into the study between 19.0 and 23.4 months of age ($M=20.50$, $SD=1.18$), and randomly assigned to one of two conditions. However, 10 children already recruited into our study were dropped due to the onset of the COVID-19 pandemic, and further recruitment stalled. Of the remaining children who were able to complete our study, 15 were assigned to the rich illustration group and 14 to an isolated illustration group. The two conditions did not differ in their age ($t(27)=0.47$, $p=.644$) or language proficiency as defined by the MacArthur-Bates Communicative Development Inventory (CDI) standardized percentile score ($t(27)=0.81$, $p=.423$) at the first visit.

Ten children fell below the 16th percentile on the CDI and will be categorized as late talkers in some of our analyses. This 16th percentile cutoff, or one standard deviation below the mean, has been traditionally used in studies assessing late-talking child characteristics (for discussion see Rescorla, 2011). Late talkers are children who fall behind on productive language development without any other known underlying factors, such as cognitive or motor deficits. Further, past research has found little to no differences in parent characteristics (Fisher, 2017). However, because of low language skills and possible differences in word-learning mechanisms (e.g., Colunga & Sims, 2017), late talkers may obscure patterns seen in typically developing children. Though we planned to separate the typically developing children from those late talkers in our sample, due to a small sample size and lack of past research for late talkers

specifically, we were reluctant to make strong hypotheses regarding learning patterns in this group. After removing late talkers from the sample, there are 11 children in the illustrated condition and 10 in the isolated.

Design

The study totaled 16 weeks in length. There were three visits to the lab; a pre-intervention visit at time zero, a post-intervention visit after eight weeks of at-home book reading, and a final follow-up another eight weeks after visit two (16 weeks from the first visit). See Figure 1. During the first part of the study from weeks one to eight, the intervention phase, families received four books to read at home with a total of

32 target words across 2 themes, vehicles and foods. Parents were told to incorporate the books into their typical book-reading routine but were given no further instructions as to when and how to read the books provided, save for documenting the dates and number of times each book was read. Though parents knew they were participating in a word-learning study, they were not told to explicitly teach the target words and were not told about the illustration manipulation.

At each visit, parents checked words their child produced, and children participated in a comprehension task. Parents also read the books with their child in the lab, replicating typical reading practices at home. Though this was completed at all three visits, present analyses will focus on joint reading interactions from the first visit.

Visit 1	Week 0 – Book 1 opened	Vocabulary Checklists, Short comprehension, StimQ-Toddler, Joint Book Reading	← Pre-Intervention
	Week 2 – Book 2 opened		
	Week 4 – Book 3 opened		
	Week 6 – Book 4 opened		
Visit 2	Week 8 – Books returned to lab	Vocabulary Checklists, Comprehension, Production, Joint Book Reading	← Post-Intervention
Visit 3	Week 16	Vocabulary Checklists, Parent Memory, Comprehension, Production, Joint Book Reading	← Follow-Up

Figure 1: Experiment timeline

Materials

Books were created in-lab with hand-drawn illustrations. The target images were identical in both conditions, though the surrounding illustration differed. In the rich-illustration condition, for instance, popcorn was presented in a picture of a popcorn bucket in a movie theater. The isolated book depicted the same popcorn pieces but on a white background. See Figure 2. Vocabulary was chosen so less than 10 percent of typically developing 20-month-olds would know the word based on prior piloting. The word books were disguised as either counting or color books (e.g., “white popcorn”, “2 cupcakes”); all children got two counting books and two color books.

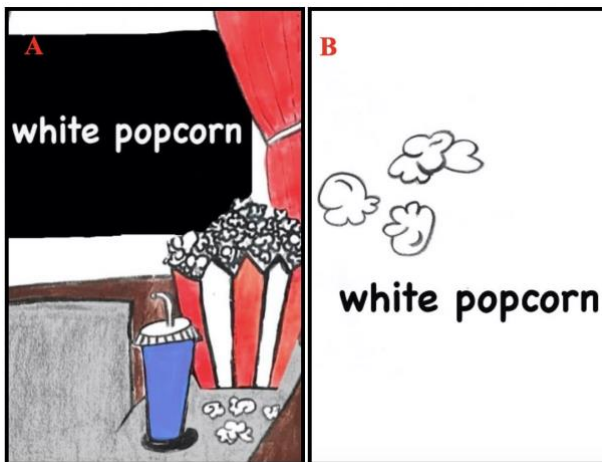


Figure 2: Example book pages for the target word “popcorn”. A) a page from the illustrated condition; B)

the isolated condition. Each item was presented with a corresponding color or number (1-4) for engagement.

The parent checklists consisted of 1) the CDI and 2) a list of an additional 100 food and vehicle words. The CDI was used to characterize the child’s initial language proficiency according to norms. The food-vehicle checklist was used to assess the child’s learning of the target words presented in the books compared to their learning of control words, that is, similar food and vehicle words that were not in the books. For both checklists, parents indicated which words their child produced. To note, children were also tested in a production task using the exact images from their respective books, but too few children were able to complete this task for analysis.

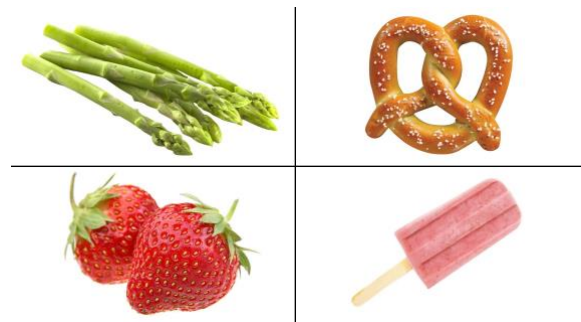


Figure 3: The test trial for the target word “popsicle”

Analyses

We employed general linear mixed models using the Lmer package in R version 4.0.0. The LmerTest package was

further used to estimate degrees of freedom as well as t and p-values using Satterthwaite's method.

Transcriptions of parent-child joint book reading interactions were completed in ELAN 7. From these transcriptions, average and total speaking time were calculated for both the parents and children, as well as average interaction length and number of target words produced by both parents and children.

Results

Joint Reading Interactions

The total time parents talked during joint book reading was significantly different between the two conditions, $t(24)=2.28, p<.05$. Parents, in general, talked for almost twice the amount of time when reading a richly illustrated book than when reading a book with illustrations showing objects in isolation. Parents reading rich-illustrated books also produced roughly double the number of target words than parents in the isolated illustration condition, $t(25)=2.29, p<.05$. Though children did not talk for different amounts of time between the two conditions ($t(24)=1.40, p=.173$), children did produce significantly more target words in the rich-illustrated than in the isolated condition, $t(25)=2.13, p<.05$. See Table 1.

Table 1: General interaction measures. Number of seconds spent talking and number of target words said.

Measure	Illustration type	
	Rich M (SD)	Isolated M (SD)
Parent Speaking Time	92.02 (48.14)	55.90 (30.74)
Child Speaking Time	16.49 (18.77)	8.4 (8.9)
Parent Target Words	30.79 (16.85)	18.69 (9.19)
Child Target Words	2.79 (3.09)	0.77 (1.48)

Similar to past research, no differences were found between the parents of children considered late talkers and those falling in the typical range of language development, both in the amount of time spent speaking ($t(24)=0.08, p=.936$), and in the number of target words produced ($t(25)=0.20, p=.846$). Further, there were no differences between the isolated ($M=74.73$) and illustrated ($M=61.17$) conditions ($t(23)=0.67, p=.510$) or between late talkers ($M=56.79$) and their typical counterparts ($M=72.67$) in the total number of times the books were read to them at home, as reported by parents using book-reading logs ($t(23)=0.71, p=.488$).

Vocabulary Checklists (Production)

Food-Vehicle Checklists. We conducted a 2 (condition) by 3 (timepoint) by 2 (theme: in theme, out theme - foods vs. vehicles) by 2 (target: in-book, out-book) mixed effects model. Children produced more words at each subsequent visit, $t(26)=9.09, p<.001$. Children also produced more of

our target words (in-book) than control words (out-book) (in-book: $M=22\%$; out-book: $M=15\%$), $t(27)=4.04, p<.001$. However, there was no difference between the illustrated book and the isolated book conditions ($M=23\%$ and 27% respectively), $t(27)=1.21, p=.239$. Further, a visit by target interaction was found, with children learning more of the target words in our books over time than control words not in the books, $t(27)=5.89, p<.001$. The analyses also found differences between the two domains. In general, children also produced a larger percentage of the total foods ($M=24\%$) compared to vehicles ($M=14\%$), $t(27)=5.85, p<.001$. This difference between foods and vehicles is smaller for target words than for control words, $t(19)=2.74, p<.05$.

To test if late talkers, or those children with low percentile scores on the CDI, showed different patterns of word-learning or if a lack of learning could be obscuring patterns in the typically developing children, we conducted the same analyses including this distinction as a factor. We ran a 2 (condition) by 3 (timepoint) by 2 (theme) by 2 (target) by 2 (talker type: typical, late) mixed effects model. The same relationships as before were again found, along with new main effects and interactions involving talker type. Typical talkers produced a more total words compared to their late talking peers, $t(26)=3.44, p<.01$. Significant two-way interactions were subsumed by a three-way interaction between visit, talker type and target, $t(26)=3.34, p<.01$. See Figure 4. Over time, typical talkers make greater strides in learning target words found in their books than late talkers do, though control foods and vehicles are learned at about the same rate by both typical and late talkers.

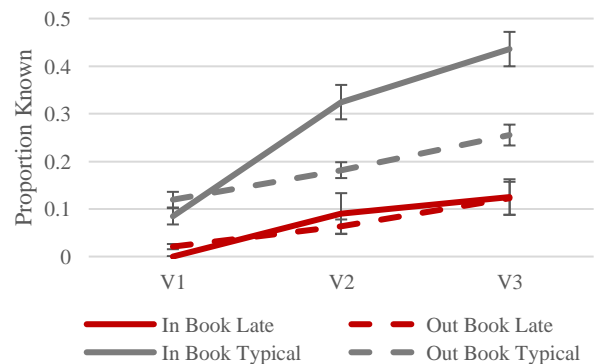


Figure 4: Difference between late and typical talkers in target words (in-book) and related words (out-book) produced based on parent-report checklists.

Due to differences in learning seen between late talkers and typically developing children, we re-ran the first analyses excluding the late talkers. In addition to the same trends as before, we also found a visit by target by condition interaction, $t(19)=2.17, p<.05$. Children in the rich-illustrated book condition make greater strides in learning to produce target words (in-book) than children in

the isolated condition. For related food and vehicles not pictured in our books (out-book), there is no difference in learning over the course of the study. See Figure 5.

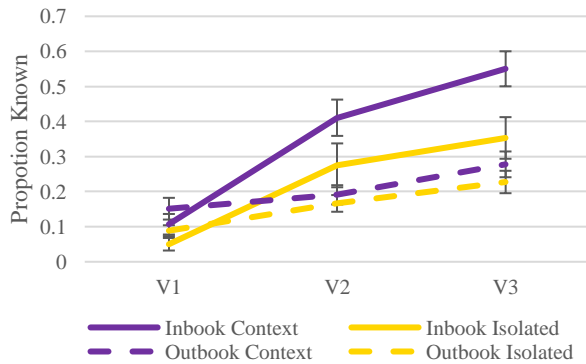


Figure 5: Difference between the illustrated and isolated book conditions on target words (in-book) and related words (out-book) produced.

Pointing Task (Comprehension)

We conducted a 2 (book condition: illustrated, isolated) by 2 (test type: isolated, in context) by 2 (timepoint: Visit 2, Visit 3) mixed effects model on our full sample (including late talkers), controlling for each child’s visit 1 comprehension score. A main effect of visit was revealed, $t(26)=3.32, p<.01$; children on average knew more words at the third visit ($M=11.29$) than the second ($M=9.63$). That is, children are both retaining words they learned and learning new comprehension words in the interim before the follow-up visit. A further main effect of test type indicated that children correctly identified more words when they were tested with images in isolation ($M=11.27$) than when the item was tested in a rich context ($M=9.63$), $t(26)=4.88, p<.001$. However, there was no main effect of condition, $t(25)=0.26, p=.795$ or any significant interactions.

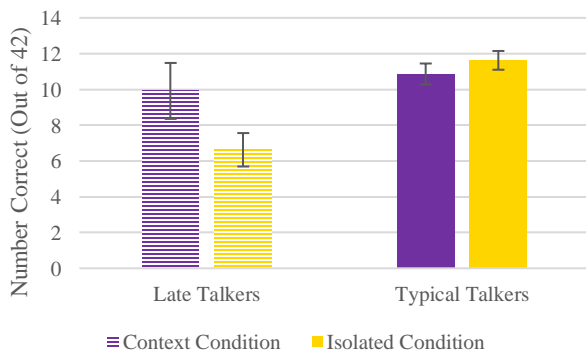


Figure 6: Late and typical talker comprehension scores in the illustrated and isolated book conditions.

As before, we next included talker type as an additional factor in our analysis and discovered that late talkers

showed a different learning pattern compared to their typically developing peers. A book condition by talker type interaction indicated that the effect of book type was different for late talkers than for typically developing children, $t(23)=2.69, p<.05$. See Figure 6.

We conducted a final analysis excluding late talkers due to these differing trends, and in addition to the same main effects found previously, we also found a significant main effect for condition: Children who received books with target words presented in isolation learned more words ($M=23.25$) than children in the rich-illustrated book condition ($M=21.73$), $t(18)=2.14, p<.05$.

Discussion

The current study presents a longitudinal investigation of word learning in young children through word books. We manipulated the illustrations on the page between two conditions, while holding the language presented in the books constant, to investigate 1) whether the two types of illustrations elicited different joint reading behavior and 2) whether word learning differed when target items were presented in isolation versus when they were presented embedded within rich illustrations. Due to the global pandemic, more children were unable to complete the present study, though future cohorts or studies with similar materials may still move forward. Though the overall sample size was small, this study still reveals how small manipulations to children’s books could initiate lasting differences in learning.

Pertaining to the first question, the present analyses support the idea that different types of illustrations encourage different degrees of engagement, at least as measured by time spent speaking and number of target words used by parents and children during the interaction. In all of these measures, the books that present objects in richly illustrated contexts resulted in more talk and more naming than the books that show the target words with isolated illustrations of the object on a white background.

On the second question, if illustration type impacts word learning outcomes, the findings are less clear cut. First, the patterns emerging are different for late talkers and for typically developing children. Second, the pattern of results is different for the production measure (vocabulary checklist) than for the comprehension measure (pointing task). We will return to the issue of late talkers later.

For typically developing children, which illustration type is better for word learning depends on how we measure word learning. In the vocabulary checklist, which measures production as reported by parents, children in the rich-illustrated book condition learn more target words than children in the isolated book condition; this condition effect is significant only for the target words, not for the control words. In contrast, in the pointing task measuring child comprehension, the pattern is the opposite: Across visits, typically developing children who were exposed to our target words in books with isolated illustrations performed better in the pointing task than children who saw

these target words in richly illustrated books. Why these two different patterns? There are a few, non-mutually exclusive possibilities. On the one hand, we know that richly illustrated books are interacted with longer and result in more instances of naming the target objects on the part of both the parent and the child. This extra practice saying the words in the rich illustration condition could explain why children in this condition reportedly learn to produce more target words than children in the isolated condition. On the other hand, the simple presentation of isolated objects in the isolated condition might offer the training necessary to perform well in the comprehension task. Without extraneous pictorial details while reading the books, children might form the sort of representations that are best suited to be compared and contrasted with the array of pictures in the pointing task. For example, the rich condition showed the popsicle in the context of a summer day at the pool. This might bring to mind, and to conversation, other related foods or activities relating to summer. In contrast, a child in the isolated condition will only see a popsicle and focus on physical characteristics of the object; the parent, without a competing context present, might point out the defining features of the object, like the stick. Then, at the time of test, when looking at an array like the one in Figure 3, a child in the rich condition might think of strawberries as another summer food, whereas the child in the isolated condition will attend to the stick and correctly choose popsicle. Word learning does not happen in isolation, and children's interactions with the environment and caregivers shape their present learning as well as future interactions with the world.

We now return to the issue of late talkers. There were different patterns of performance for typically developing children and late talkers. Not surprisingly, typically developing children learn more words than late talkers overall. Interestingly, the performance of late talkers compared to typically developing children also varies depending how we measure language. For the vocabulary checklists measuring production, typically developing children learn more target words at a much greater rate than control words. In contrast, late talkers did not learn more target words than control words. This suggests that this study, as a vocabulary intervention, was successful for typically developing children, but not for late talkers. Any growth observed in late talkers could be attributed to natural growth over the 2-month period.

Typically developing and late talking children also show different patterns of performance in the pointing task measuring comprehension. Although overall children perform well above chance in the pointing task, as discussed above, typically developing children in the isolated condition outperform those in the rich-illustration condition. This is not the case for late talkers. Although the difference is not significant, late talkers who were in the rich-illustration condition tend to outperform those who were assigned to the isolated condition. Late talkers not showing any gains in the production measure is perhaps to

be expected given research that shows that production is particularly challenging for this population, and in fact late talkers' deficit might be confined to production (Rescorla, 2011). The findings in the comprehension task are harder to explain and should be taken with a grain of salt given the small number of late talkers. However, one possibility is that, as previous work suggests, late talkers learn through a different mechanism (Weismer, 2017). In addition, these findings support the idea that late talkers require more intense interventions (Meyers-Denman & Plante, 2016).

Overall, the pictorial context in which words are presented does impact word learning, though it may impact production differently than comprehension, and typically developing children differently than late talkers. Further, these different presentations also impact parent-child interactions, which in turn may have cascading effects on later language skills. Future studies should continue to look at both joint book reading and its direct relationship to child learning, more in-depth investigations of caregiver reading style. Despite different illustration impacts, minimal book interventions such as ours show promise in promoting vocabulary development in typically talking toddlers.

References

- Ard, L. M., & Beverly, B. L. (2004). Preschool word learning during joint book reading. *Commun. Disord. Q.*, 26(1), 17-28.
- Colunga, E., & Sims, C. E. (2017). Not only size matters: Early-talker and late-talker vocabularies support different word-learning biases in babies and networks. *Cognitive science*, 41, 73-95.
- de Mendoza, O. A. P. (1995). Developmental changes and socioeconomic differences in mother-infant picturebook reading. *Eur. J. Psychol. Educ.*, 10(3), 261-272.
- Dickinson, D. K., Griffith, J. A., Golinkoff, R. M., & Hirsh-Pasek, K. (2012). How reading books fosters language development around the world. *Child Dev. Res.*
- Dwyer, J., & Neuman, S. B. (2008). Selecting books for children birth through four: A developmental approach. *Early Child. Educ. J.*, 35(6), 489-494.
- Fewell, R., & Deutscher, B. (2004). Contributions of early language and maternal facilitation variables to later language and reading abilities. *J. Early Interv.*, 26(2), 132-145.
- Fisher, E. L. (2017). A systematic review and meta-analysis of predictors of expressive-language outcomes among late talkers. *Journal of Speech, Language, and Hearing Research*, 60(10), 2935-2948.
- Flack, Z. M., Field, A. P., & Horst, J. S. (2018). The effects of shared storybook reading on word learning: A meta-analysis. *Dev. Psychology*.
- Fletcher, K. L., & Finch, W. H. (2015). The role of book familiarity and book type on mothers' reading strategies and toddlers' responsiveness. *J. Early Child. Lit.*, 15(1).
- Fletcher, K. L., Perez, A., Hooper, C., & Claussen, A. H. (2005). Responsiveness and attention during picture-

- book reading in 18-month-old to 24-month-old toddlers at risk. *Early Child Dev. Care*, 175(1), 63-83.
- Hendriks, P., & Koster, C. (2010). Production/comprehension asymmetries in language acquisition. *Lingua*, 120(8), 1887-1897.
- Hindman, A. H., Connor, C. M., Jewkes, A. M., & Morrison, F. J. (2008). Untangling the effects of shared book reading: Multiple factors and their associations with preschool literacy outcomes. *Early Child. Res. Q.*, 23(3), 330-350.
- Hindman, A. H., Skibbe, L. E., & Foster, T. D. (2014). Exploring the variety of parental talk during shared book reading and its contributions to preschool language and literacy. *Read Writ.*, 27(2), 287-313.
- Lyytinen, P., Laakso, M. L., & Poikkeus, A. M. (1998). Parental contribution to child's early language and interest in books. *Eur. J. Psychol. Educ.*, 13(3), 297.
- Marulis, L. M., & Neuman, S. B. (2010). The effects of vocabulary intervention on young children's word learning: A meta-analysis. *Review of educational research*, 80(3), 300-335.
- Meyers-Denman, C., & Plante, E. (2016). Dose schedule and enhanced conversational recast treatment for children with specific language impairment. *Lang Speech Hear Serv Sch*, 47(4), 334-346.
- Mol, S., Bus, A., De Jong, M., & Smeets, D. (2008). Added value of dialogic parent-child book readings: A meta-analysis. *Early Educ. Dev.*, 19(1), 7-26.
- Ortiz, C., Stowe, R. M., & Arnold, D. H. (2001). Parental influence on child interest in shared picture book reading. *Early Child. Res. Q.*, 16(2), 263-281.
- Potter, C. A., & Haynes, W. O. (2000). The effects of genre on mother-toddler interaction during joint book reading. *Infant Toddler Interv.*, 10(2), 97-105.
- Rescorla, L. (2000). Do late-talking toddlers turn out to have reading difficulties a decade later? *Ann. Dyslexia*, 50, 87-102.
- Rescorla, L. (2011). Late talkers: Do good predictors of outcome exist?. *Dev. Disabil. Res. Rev.*, 17(2), 141-150.
- Sénéchal, M. (1997). The differential effect of storybook reading on preschoolers' acquisition of expressive and receptive vocabulary. *J. Child Lang.*, 24(1), 123-138.
- Sénéchal, M., & LeFevre, J. A. (2002). Parental involvement in the development of children's reading skill. *Child Dev.*, 73(2), 445-460.
- Sénéchal, M., Cornell, E. H. & Broda, L. S. (1995) Age-related differences in the organization of parent-infant interactions during picture-book reading, *Early Child. Res. Q.*, 10, 317-337.
- Trivette, C. M., Dunst, C. J., & Gorman, E. (2010). Effects of parent-mediated joint book reading on the early language development of toddlers and preschoolers. *CELL Rev.*, 3(2), 1-15.
- Van Veen, R., Evers-Vermeul, J., Sanders, T., & Van den Bergh, H. (2009). Parental input and connective acquisition: A growth curve analysis. *First Lang.*, 29(3), 266-288.
- Weismer, S. E. (2017). Typical talkers, late talkers, and children with specific language impairment: A language endowment spectrum?. In *Language disorders from a developmental perspective* (pp. 83-101). Psyc. Press.
- Weizman, Z. O., & Snow, C. E. (2001). Lexical output as related to children's vocabulary acquisition: Effects of sophisticated exposure and support for meaning. *Dev. Psychol.*, 37(2), 265