

Critical Review: Does dialogic book reading improve overall language skills in preschoolers?

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This critical review examines the effects of dialogic book reading among preschoolers ranging from average to at risk of being language impaired. A number of agents including parents and teachers worked with preschoolers throughout the various studies. Study designs include: mixed (between and within) experimental designs and a meta-analysis. Overall, the results provide both compelling and suggestive evidence that dialogic book reading improves expressive and receptive language skills in preschoolers, with more positive effects demonstrated by measures of expressive language. Differences in effectiveness were found for various environments, specific types of agents, and preschoolers with specific characteristics.

Introduction

Exposure to books is a major factor in the development of both expressive and receptive language in children. Dialogic book reading is a form of shared reading and more specifically, is an interaction between an adult and a child in which they take turns in a conversation about a book (Whitehurst et al., 1988). This technique involves reading with, rather than to, the child (Fielding-Barnsley & Purdie, 2002). It is a strategy that can be used within the home or classroom environment and is known to be highly effective compared to other styles of shared book reading. According to Arnold, Lonigan, Whitehurst, & Epstein (1994), this book reading strategy is based on three broad principles: (a) encouraging the child to participate, (b) providing feedback to the child, and (c) adapting one's reading style to the child's growing linguistic abilities.

Many of the studies involve training the parents to use this intervention strategy, as it is suggested that most parents do not apply these interactive reading techniques spontaneously (Britto, Brooks-Gunn, & Griffin, 2006). As much as the quality of the book reading is important, the frequency is also essential (Mol, Bus, De Jong, & Smeets, 2008). Therefore, training the parents is an important aspect of this intervention, as they are the primary caregiver(s) in the child's life and spend the most leisure time with them.

In addition to promoting expressive and receptive language development, dialogic book reading has also been suggested to have an impact on preliteracy skills, and promote social interaction, which can further lead to increased oral and receptive language. This review will critically examine the evidence pertaining to improvements in overall language skills related to dialogic book reading in preschoolers from various backgrounds.

Objectives

The primary objective of this paper is to critically evaluate existing literature regarding the impact of dialogic book reading on preschooler's expressive and receptive language. The secondary objective is to propose evidence-based practice recommendations for which type of agent, environment, and preschooler this strategy is most effective.

Methods

Search Strategy

The computerized databases PsycINFO, PubMed, and SCOPUS were searched using the following search strategy: [((dialogic reading) AND (expressive language)) AND ((shared book reading))]. In addition, relevant articles referenced in acquired articles were obtained.

Selection Criteria

The studies selected for inclusion in this critical review paper were required to involve a dialogic book reading intervention with preschoolers from a variety of backgrounds and to be implemented by one of the children's parents or teachers.

Data Collection

Results of the literature search yielded the following types of articles congruent with the aforementioned selection criteria: meta-analysis (1) and mixed (between and within) experimental designs (3).

Meta-analysis

Mol, Bus, de Jong, & Smeets (2008) conducted a meta-analysis to determine if dialogic reading facilitated an improvement in children's receptive and expressive vocabulary compared to typical shared book reading. A total of 16 studies were analyzed, with 8 of the studies

focusing on both expressive and receptive vocabulary, 7 studies testing only receptive vocabulary and 1 focusing solely on expressive vocabulary. The meta-analysis tested five hypotheses. Two of these hypotheses are relevant to this review.

Firstly, does dialogic reading intensify the effects of shared book reading and how strong is the additional effect? The dialogic reading intervention had a moderate effect size of 0.59 on the children's expressive vocabulary and a small effect size on the children's receptive vocabulary. Therefore, the dialogic reading intervention affected the children's expressive vocabulary significantly more than their receptive vocabulary. These results display a larger effect of dialogic reading on preschooler's overall vocabulary compared to typical shared book reading.

Secondly, does dialogic reading have more significant effects on children who are at risk compared to those who are not at risk for language impairment? Children at risk were defined as families who received governmental support, who had low incomes, or who had less educated mothers. It was demonstrated that dialogic reading has a greater effect ($d = .53$) on children not at risk for language impairments on measures of expressive vocabulary. The moderator did not remain significant when measuring the children's receptive vocabulary. The results of the meta-analysis indicated that dialogic reading can improve preschooler's expressive vocabulary, but socioeconomic status of the preschooler must be considered.

Search strategies were well-described and pertinent to gathering all relevant studies for the review. Each study was coded by two different coders using specified criteria. Inter-rater reliability was acceptable. Appropriate meta-analytic analyses were employed to evaluate effects across studies. The majority of studies included in the review were level 2 evidence, and included relatively small numbers of participants ranging from 18-55, with a single study including 115 participants. Overall, this evidence, along with the compelling validity of this study, provides highly suggestive evidence that dialogic book reading can have a significant effect on preschooler's expressive vocabulary, with a smaller effect on receptive vocabulary.

Mixed (between and within) design

Arnold et al. (1994) examined the effectiveness of the dialogic reading intervention for preschool children's language skills. Participants included 64 children (31 boys and 33 girls) ranging in age from 24-34 months. All participating children had average or above average

expressive and receptive language skills as rated on appropriate standardized tests, and were from middle-to upper-SES families. Children were randomly assigned to one of the three conditions: no training control, direct training, or video training. The intervention program lasted a total of 4 weeks and was provided by the mothers of the children.

The Expressive One-Word Picture Vocabulary Test, the Verbal Expression subtest of the Illinois Test of Psycholinguistic Abilities, and the Grammatical Closure subtest of the ITPA (ITPA-GC) were used to assess expressive language post-test. Receptive language abilities were examined using Form-M of the PPVT-R. The participants' language skills were analyzed using an appropriate analysis of covariance by comparing the three groups on each of the four posttests.

The video group outperformed the control group by scoring 5.1 months ahead on the EOWPVT and 3.9 months ahead on the ITPA-VE. For the direct versus control group, the initial language scores were used as covariates. The direct training group performed better than the control group on the ITPA-VE, but did not differ on any of the other outcome measures. The video group was also contrasted with the direct training group by using the pretest scores as covariates. The video group performed significantly higher on the EOWPVT and the PPVT-R, but no significant difference was shown on ITPA-VE. The results of this study indicated that videotape training was the most efficient way to implement the dialogic reading program and to yield successful outcomes in overall language skills.

Based on research design and methodology, level II evidence was provided for the impact of dialogic reading on preschoolers' expressive and receptive language. Participants were specified and a description of treatment procedures was included. However, the study had a few weaknesses, which reduces the overall strength of the evidence. The outcome measures used in this study were solely standardized tests, and therefore may not reflect the children's spontaneous language productions. There was also potential for confounding effects of the intervention being administered by multiple trainers. This may have led to increased improvements in the video training program. Another interesting finding was that despite the fact that parents were middle-to upper-SES, they were not all ideal readers.

The study provides some suggestive evidence regarding the effects of dialogic book reading when provided by parents, on preschooler's overall language skills.

Mixed (between and within) design

Valdez-Menchaca & Whitehurst (1992) examined the effects of a 7-week dialogic reading intervention for improving language skills in preschoolers from low-income families. Participants included 20, 2-year-olds attending a daycare in Mexico who spoke Spanish. All parents were literate and had an average monthly income of 480,000 pesos. All parents differed in how frequently they read to their child, as only 2 of the children were read to biweekly. All children were developing normally, but with poor linguistic abilities as measured by standardized tests of vocabulary. Children were matched into pairs based on their average language scores, age, family income, level of maternal education, family size, and gender. Children from each pair were then randomly assigned to the experimental and control conditions. They attended 30, 10- to 12-minute individual training sessions every weekday for 6 to 7 weeks depending on their attendance. The sessions were conducted by a graduate student, referred to as the "teacher."

The experimental condition consisted of dialogic reading strategies similar to those of Whitehurst et al (1988). The control condition involved the child and teacher engaging in activities that are typically used in daycares such as building puzzles, colouring, etc. with no specific language stimulation provided.

The PPVT-R Form M, the EOWPVT, and the Verbal Expression subscale of the Illinois Test of Psycholinguistic Abilities were administered at post-test to examine any changes in the children's language. The average effect size of all three standardized tests was 1.56, indicating large effects produced by the dialogic reading intervention. Effect sizes were calculated by dividing the average difference between groups by the standard deviation for the control group. A spontaneous language sample was also conducted. The analyses of these transcripts revealed a significantly greater number of utterances, longer and more complex sentences, a greater variety of nouns and verbs, and significant differences in their productions of answers, initiations, and topic continuations in the children who received the dialogic reading intervention compared to the control condition.

Limitations in the present study include: the interpretation of results with respect to both internal and external validity. Firstly, the research design did not separate the effects of dialogic reading with an increased frequency of reading and children's familiarity with the book used at posttest. Secondly, the training was provided by a doctoral student, which raises issues of instruction and organization. It is unknown whether or not the technique would be

teachable to day-care workers. Another issue is how to implement the book reading strategy in a typical daycare classroom, as the group size within the present study was much smaller.

This study provides Level II evidence that is suggestive for the positive impact of this shared book reading strategy on a wide range of preschoolers' expressive and receptive vocabulary including the use of various nouns and verbs, MLU, as well as the ability to initiate and maintain conversations.

Mixed (between and within) design

Huebner (2000) compared the language skills of 129 preschoolers, ranging from 24-35 months of age, with 22 of the children considered at risk for language problems and the remaining 83% not at risk. The children received differing interventions, a dialogic reading approach and a comparison approach. Both approaches were provided by the parent(s) of the children following training given by a librarian held in a library. The families were randomly assigned to each group: 88 to the dialogic reading group and 41 to the control group. The parents were trained on the dialogic reading program for two 1-hour sessions, in small groups, that occurred three weeks apart. The sessions utilized videotapes, role-play, and corrective feedback to illustrate the dialogic reading strategy. The dialogic reading method was based on the program described by Whitehurst et al (1988). In the control condition, the parents did not receive any instruction to alter their reading style, but they were still required to attend two 1-hour sessions involving description of story books and craft projects. To monitor the parents' use of the dialogic reading techniques at home, both the experimental and control groups were required to audiotape at least one reading session per day.

The children's language skills were assessed at pre-test, post-test and follow-up using standardized tests of receptive and expressive vocabulary, and verbal expression.

Differences in post-test scores were determined by appropriate ANOVA. Verbal expressive scores were significantly higher for the group receiving dialogic intervention. No group differences were found in vocabulary measures. Additional measures taken at 3-months post also revealed no significant group differences.

The author noted some limitations to this study. The study used a limited number of standardized tests to assess the children's expressive language skills. Also, there were limited families and children who were at a

higher socioeconomic risk for language problems included in the study.

There are also some strengths that can be acknowledged. A high inter-rater reliability of 90% and close monitoring of the intervention program were reported.

The study provides Level II evidence that is equivocal regarding a dialogic reading intervention and its effects on preschoolers' oral language based on the results of a single subtest. No differences were found in measures of receptive language. Therefore, this study does not provide any existent support for the dialogic reading intervention, but rather, the quality time spent reading books between parent and child.

Discussion

Overall, the critical appraisal of the evidence included in this review suggests that dialogic book reading may have an effect on improving preschoolers' expressive and receptive language. All four studies have suggested that this specific book reading strategy has positive effects on increasing preschoolers' expressive language skills. Only two of the studies displayed positive effects on measures of receptive language.

Mol, Bus, de Jong, & Smeets (2008) presented compelling Level II+ evidence that dialogic book reading interventions intensify the effects of children's expressive vocabulary and has a more significant impact on children who are not at risk for language impairments.

Arnold et al (1994) presented suggestive Level II evidence that dialogic book reading has large effects on children's language when provided by parents. Videotape training was demonstrated to be more effective than the traditional direct training techniques. Valdez-Menchaca & Whitehurst (1992) also presented suggestive Level II evidence suggesting that this shared book reading strategy, when provided by a day-care teacher, is effective for children who come from low-income families. Heubner (2000) also demonstrated with Level II evidence that a dialogic book reading intervention was effective for preschoolers when delivered by parents who were efficiently trained.

Therefore, all studies reviewed suggest that, in general, dialogic book reading utilized with preschoolers enhances overall language skills, with a more significant effect on expressive language skills. The intervention strategy was most effective for preschoolers not at risk for language impairments, and

best utilized by trained professionals in a day care setting.

Some of the studies failed to find differences between dialogic book reading and other activities involving books. This finding underscores well known evidence that any form of shared book reading is better than none at all. Children from low SES families are known to be at risk for language impairments because of the role that the environment plays in children's learning (Rice & Schiefelbusch, 1989). Therefore, this dialogic book reading strategy, when implemented, can have positive effects on children's language skills despite the type of environment they are exposed to. The study by Valdez-Menchaca & Whitehurst (1992) supports this theory by demonstrating that demand for verbal production within socially meaningful verbal exchanges are major facilitators of the language-learning process (Whitehurst & DeBaryshe, 1989). Therefore, dialogic book reading, and book reading generally, is beneficial to children of all different backgrounds and environments. The length and intensity of the program may simply have to be altered based on the preschoolers' needs.

Recommendations

Further research would be beneficial to provide additional information on the effects of dialogic book reading on preschoolers' overall language skills. This research should focus on the following:

- 1) The long term effects that dialogic book reading has on preschoolers' language skills.
- 2) Monitoring the frequency and quality of the dialogic reading strategies that are being implemented by parents.
- 3) The frequency of dialogic reading that is necessary to induce changes in preschoolers' expressive and receptive language skills
- 4) The type of agent, environment, and preschooler that yields the most effective outcome in preschoolers' overall language

Clinical Implications

Despite the large amounts of research based around this topic, it is still difficult to conclude for which type of child, environment, and agent this reading strategy is most effective. However, dialogic reading is still an effective technique no matter in what circumstances it is provided. The main consideration is that speech language pathologists work closely with parents and/or teachers to provide them with the skills they need to use this strategy effectively when reading books with their children or students. Although it is difficult to monitor whether or not parents are implementing the technique

at home and with teachers in the classroom, all we can do is provide them with the opportunity to enhance their children's and/or students' overall language and literacy development.

References

- Arnold, D., Lonigan, C., Whitehurst, G., & Epstein, J. (1994). Accelerating language development through picture book reading: Replication and extension to a videotape training format. *Journal of Educational Psychology, 86*(2), 235-243.
- Britto, P., Brooks-Gunn, J., & Griffin, T. (2006). Maternal reading and teaching patterns: Associations with school readiness in low income African American families. *Reading Research Quarterly, 41*, 68-89.
- Fielding-Barnsley, R., & Purdie, N. (2002). Developing pre-literacy skills via shared book reading: The assessment of a family intervention program for preschool children at risk of becoming reading disabled. *Australian Journal of Learning Disabilities, 7*, 13-19.
- Huebner, C. (2000). Promoting toddlers' language development through community-based intervention. *Journal of Applied Developmental Psychology, 21*(5), 513-535.
- Mol, S., Bus, A., de Jong, M., & Smeets, D. (2008). Added value of dialogic parent-child book readings: A meta-analysis. *Early Education and Development, 19*(1), 7-26.
- Rice, M., & Schiefelbusch, R. (1989). *The teachability of language*. Baltimore: Paul Brookes.
- Valdez-Menchaca, M. & Whitehurst, G. (1992). Accelerating language development through picture book reading: A systematic extension to Mexican day care. *Developmental Psychology, 28*(6), 1106-1114.
- Whitehurst, G., & DeBaryshe, B. (1989). Observational learning and language acquisition. In G.E. Speidel & K. E. Nelson (Eds.), *The many faces of imitation* (pp. 251-276). New York: Springer-Verlag.
- Whitehurst, G., Falco, F., Lonigan, C., Fischel, J., DeBaryshe, B., Menchaca, M., et al. (1988). Accelerating language development through picture book reading. *Developmental Psychology, 24*, 552-558.