

Critical Review:
Is small group narrative intervention effective in increasing narrative forms in preschool children with language impairment?

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This critical review examines the evidence regarding the effect of group narrative macrostructure intervention on increasing narrative forms in preschool children with or at-risk of language impairment. Study designs include: systematic review, quasi-experimental study, descriptive multiple baseline, and single group pre-post- tests. Overall, the literature reviewed indicates that explicit narrative macrostructure group intervention may be beneficial in supporting the development of expressive narrative forms in preschool children. Recommendations for future research and clinical implications are provided.

Introduction

Oral narratives refer to “story telling, as a method of verbally recapitulating past experiences in order to describe, explain, and interpret events” (Crais & Lorch, 1994). Narratives are an important part of language and encompass a broad range of language abilities that have been shown to impact a child both within an academic and a social setting. Throughout child development, demands for narrative ability increase, whereby children are increasingly required to discuss events that are temporally and contextually removed.

The emergence of true narratives typically occurs between the ages of approximately 5- and 6- years of age (Appleby, 1978). However, children with language impairment may fail to keep pace with these developmental expectations, potentially causing difficulty with participation in mainstream settings (Davis, Shanks, & Davies, 2004). Research indicates that narrative abilities facilitate the development of literacy and are predictive of later academic performance, including both language and literacy. Further, it has been noted that oral narratives in language-impaired children differ from typically developing children. Of note, such distinctions of narratives include: fewer total words and fewer words; fewer story grammar components; fewer complete episodes; fewer protagonist attempts, plans, and internal responses; fewer story openings and closings; improper amounts of information; fewer successful repairs; fewer accommodations to uninformed listeners; and more incomplete cohesive ties than narratives by children with average oral language skills (Crais & Lorch, 1994).

Narrative ability includes a comprehensive set of language abilities, including expressive language, receptive language, and working memory (Hayward & Schneider, 2000). The quality of one’s oral narrative ability is commonly measured by assessing the

macrostructure or story grammar/elements (plot, character, setting, conflict, and theme). The macrostructure can be measured by coherence and cohesion levels that consider the number of types of components, the relative frequency of each, the episodic complexity, and the number and sophistication of words and linguistic techniques used to convey story links (Peterson, 2005). Comparatively, one may also consider a story’s microstructure, which considers the local linguistic structure and complexity used in the narrative construction.

Evidence is accumulating to suggest that stimulating narrative ability with explicit focus on narrative macrostructure in a focused classroom or group setting would have a positive academic and social effect on children with language impairments by providing a foundation for language development generally (c.f., Peterson, 2005). Further, given the large caseload of school board Speech Language Pathologists (SLP), establishing a positive evidence base pertaining to narrative intervention could encourage effective and efficient service provision. Providing explicit narrative instruction in small groups provides a structured intervention approach, in a naturalistic context, that can facilitate the generalization of children’s skills to concepts in oral story telling, language comprehension, and discourse.

Past strategies of narrative intervention have primarily focused on children ages 7 years or above; however, research suggests that intervention on narrative structure can be effective in developing oral narratives of children with language delay in their first two years of primary schooling (Davies et al., 2004). Thus, noting the potential impact of untreated narrative ability on long-term language ability across settings, establishing an efficient and effective approach for preschool children with or at risk of language impairment is clinically necessary.

Objectives

The primary objective of this paper will be to critically review the existing literature regarding the effectiveness of explicit oral narrative with macrostructure intervention programs in focused classrooms or small groups for preschool children with or at-risk of language impairments. The secondary objective of this paper will be to propose clinical implications and evidence-based recommendations for professional practice and areas for future research.

Methods

Search Strategy

Computerized databases, including PubMed, PsycINFO, and SCOPUS, were searched using the following search strategy: ((group intervention) OR (classroom)) AND ((story grammar) OR (narrative)) AND ((preschool children) or (kindergarten) or (young children)). The search was limited to English journal articles. No limitations on date of publication were set. Examination of reference lists from retrieved articles revealed further studies for review.

Selection Criteria

Studies selected for review were required to investigate the effects of a small group explicit macrostructure focused narrative intervention on expressive narrative forms of preschool or kindergarten children, who have been identified as or are at-risk of having language impairment. No limits were placed on the method of measuring expressive narrative forms, co-occurring types of microstructure narrative or language intervention, or outcome measures.

Data Collection

Results of the literature search yielded five articles that met the selection criteria described above. These included the following study designs: systematic review (1), descriptive multiple baselines (1), quasi-experimental repeated measures (1), and single group pre-post test study (2).

Results

Hayward and Schneider (2000) implemented a pre- post test AB single subject design group narrative intervention with an emphasis on story grammar to 13 preschool children, age range 4;8-6;4, with moderate to severe language impairment. The researchers evaluated which story grammar components improved narrative ability, when explicitly taught, and if there were listener conditions that affected the children's narrative production. The children all attended a language-based early childhood classroom. In small groups of 2-3

members, the children participated in two 20-minute sessions per week over the span of 8-12 weeks, involving the direct targeting of story grammar elements with pictures and cue cards in a clinician scaffolded, engaging intervention. All children were individually assessed both pre- and post- intervention on recognized measures. Group data was also collected to evaluate the overall effectiveness of the intervention. Specifically, two measures of content: story information and episode level were used to evaluate children's narrative productions.

In order to compare pre- and post- intervention results, Hayward and Schneider (2000) utilized an appropriate mixed group two-way analysis of variance (ANOVA) evaluating time (*pre-*, *post-*) and listener conditions (*familiar*, *unfamiliar*). Group results revealed statistically significant improvement in the children's narrative production, but not in listener condition. In individual single-subject pre-post data analysis, considerable variation was observed, noting that 12 of 13 of the children showed improvement after only eight sessions. As well, qualitative analysis of classroom teacher and parent reports indicated some transfer of the skills explicitly taught, and a general increase.

A limitation of Hayward and Schneider's (2000) study is found in the design itself. The AB design limits confidence for a causal relationship. However, the suitability of clinical presentation for research purpose, where large groups of participants are unavailable is recognized. The stories utilized in the intervention were also utilized during the assessment, meaning that the sole effect of the intervention cannot be isolated. Teacher and parent reports were considered; however, potential for bias should be accounted for, given the knowledge of their child's involvement in the intervention. Further, although story grammar components were not explicitly taught outside of the intervention, the children were all enrolled in the language-based classroom, where stories were central to the current curriculum. Therefore, separating intervention effects is difficult and the validity of the current findings would have benefited from a control group of children who were in the same classroom, but not a part of the group macrostructure intervention.

Strengths of Hayward and Schneider's (2004) study include a well-designed methodology, whereby the researchers used counterbalancing to control for possible baseline story effects. Researcher biases were also considered in the involvement of two raters with high inter-rater reliability, both of who were blind to the timing of the story they were evaluating. Despite the small sample size of 13 children, the researchers provided the individual data for each participant along

with a full description of the procedures for the group intervention. This information allows for intervention duplication to occur in the future. Overall results are suggestive of positive outcomes for preschoolers after narrative-based group macrostructure intervention; but results must be interpreted with caution because study limitations constrain the ability to draw causal inferences of the macrostructure intervention itself. Taken as a whole, the study indicates that preschool children with language impairment benefit from narrative intervention that, in this case involved explicit teaching of macrostructure elements. Teaching story grammar may have contributed positively to their improved narrative and discourse abilities (Hayward & Schneider, 2000).

Davies, Shanks, and Davies (2004) conducted a simple pre-post test comparison design to explore the effect of a group story grammar collaborative teaching intervention targeting the spoken language of 31 kindergarten children (mean age 5;7) identified by teachers as having language difficulty. Intervention occurred over the course of three, 40-minute narrative interventions sessions per week over eight weeks. In this study, the trained SLP worked along side the classroom teacher or support staff to plan and adapt tasks for children. Each week, the SLP provided a cooperative intervention focusing on macrostructure that was well described in the paper. Each element was represented visually (cue cards) numerous times in a variety of contexts. Each participant's oral narratives were assessed pre- and post- intervention using suitable standardized measures, evaluating the amount of information included, the story type classification, the episodic complexity, and the number of 'additive', 'temporal', or 'causative' connections once transcribed.

Results support the findings of Hayward and Schneider (2000). Statistically significant improvements between the pre- and post- assessment measures of the macrostructure quality of the children's oral narratives were reported ($p < .001$). Significant improvements were also noted in story microstructure and cohesion (Davies et al.). The study utilized appropriate statistical analyses. Further qualitative data collection from teachers and support personnel indicated notable improvements in the children's confidence, independence, task completion, learning skills, and overall class participation.

A limitation in this study is found in the design utilized. Due to the absence of a non-treatment control group matched for narrative level, the reader cannot safely conclude that the increase in narrative forms evaluated was caused by the group narrative intervention alone. Additionally, the limited sample size was the result of a

selection process by classroom teachers, who had not received training in the identification of language impairment. Thereby, there is no blinding of the study intervention intention for the selection process, nor of the researcher collecting the outcome measures, which limits finding validity. The researchers did attempt to account for maturation effect of evaluated abilities during the two-month span of intervention; however, not all of the variables were adapted to account for maturation. Although positive results, overall, limited confidence should be placed in the causal nature of this intervention.

Spencer & Slocum (2010) conducted a multiple-baselines single-group study to examine the effects of a narrative retelling intervention on the narrative skills of five preschoolers (mean age 4;7) with risk factors and narrative language delays enrolled in a Head Start Program. The children received three, 30-minute narrative interventions sessions per week over the course of 12 weeks. In this study, the trained Speech Language Pathologist (SLP) worked along side the early childhood special educator to plan and implement the small group intervention for children. Children scored below average (standard score below 85) on a well-recognized standardized test of expressive language and included fewer than three story grammar elements in a personal narrative. The intervention utilized stories created by the researchers to include the same structural elements including five main story grammar components and each story was considered to be at the developmental level of 4- and 5-year old children's narrative ability. Materials, activities, and instructor assistance were systematically adjusted within sessions to facilitate increasingly independent practice of oral narration.

Study appropriate pre- and post- intervention data analysis indicates that the small group preschool narrative intervention produced substantial improvements in the preschoolers' retelling skills. Specifically, all participants' retell scores increased with narrative instruction and the children who remained at baseline did not show change. However, due to researcher uncertainty that participants would produce personal experience narratives, the confidence one can place in the results is slightly weakened by the decision to plot the statistically manipulated generation data for personal experience narratives without data paths.

Strengths of Spencer & Slocum's (2010) intervention are in the clearly described methods, excellent fidelity measures, baseline collection, and multiple-baseline study design. The researcher created stories eliminated potential past exposure to the story that may have confounded findings. However, limitation is present due

to the lack of formal pre-intervention assessment of children's language abilities. Additional limitations include the small sample size and inconsistent subject compliance and motivation that may have impacted the results. Spencer and Slocum (2010) note that measures may not have been culturally sensitive to all participants' narrative performance; however, the diversity of participants and the relatively consistent outcomes enhance the study's external validity. Further investigation with a control group and larger sample size is required. Given that substantial improvements were observed, but there were limitations, the overall results provide suggestive evidence in the nature of the intervention.

Neilsen and Friesen (2012) conducted a quasi-experimental study to explore the vocabulary and narrative production effects of small group storybook based intervention with 28 at-risk kindergarten children (age range 4;3-5;1). In this study, children in the intervention group received three 30-minute storybook based lessons per week for 12 weeks. Students were randomly assigned to the intervention or the control group. Interventions used age-appropriate, engaging books that focused on highlighting characters' goals, attempts to achieve goals, and resolution.

Results of an appropriate repeated measures ANOVA on pre- and post- test scores showed no statistically significant difference between groups on a standardized test of narrative language; however, the children in the intervention group gained approximately twice as many narrative composite points during post-testing using a suitable standardized measure of narrative understanding and production. Significant group differences at post- testing ($p < .001$) were noted for students receiving macrostructure narrative intervention. Based on the gains of the intervention students on the standardized measure, the authors emphasize that repeated, active, and explicit instruction of narrative macrostructure elements is important to enhance children's narrative development. Overall, the study showed that intervention students made greater gains on both standardized and non-standardized measures of vocabulary and narrative development than controls.

Strengths of this study include a control group, randomization, and clear description of methodology. As with the previous studies reviewed, limitations included a small sample size, intervention implementation in a single setting, and lack of a consistent delayed post-test due to the end of the school year. The intervention should be evaluated with a larger sample size, in varied settings, with follow-up testing to evaluate children's skill retention. Based on the results, the authors suggest that it is possible to teach these

aspects of language and that classroom teachers can be taught to do so in order to increase intervention efficiency. However, considering all strengths and limitations, overall moderately low causative effect should be inferred from the intervention findings.

Peterson (2012) conducted a systematic review of the literature pertaining to narrative intervention for preschool or school-age children with language or learning disabilities. A comprehensive search resulted in a total of nine studies meeting inclusion criteria. The studies were coded by one coder for quality, internal and external validity, and methods using an eight-point scale, whereby a higher score represents the greater confidence one may have in interpreting a causal outcome between the intervention and study results.

Results of this good quality systematic review concluded a positive average appraisal score (4.8/8) for the included literature. The majority of studies included a moderate to large effect size for both macrostructure and microstructure (.73 to 1.57).

Overall limitations noted by Peterson (2012) include small sample sizes, limited experimental control, and variation in procedures and materials used. It was acknowledged that the only common procedure among the intervention studies was practice with repeated narrative telling and narrative generation. Pertinent to the current review, Peterson's review included both small group and individual intervention studies. Studies were coded by a sole coder, which thereby limits the extracted reliability of results. Future review of small group intervention in isolation with defined age selection criteria of the preschool cohort and inter-rater coder reliability is recommended. Overall results suggest positive effects of small group narrative training for increasing children's narrative ability; however, cautious interpretation of inferred causative effects is warranted given the small number of studies addressing narrative preschool interventions.

Discussion & Conclusions

Preschool children with language impairments often present with delayed or absent narrative development. Taken together, the results of the five reviewed studies are suggestive of a positive impact of early explicit narrative intervention in small groups for preschool children with or at-risk of language impairment for oral narrative forms. The repeated exposure to stories may assist in providing a foundation for language development. Further, the directing of the learner's attention to the multilayered aspects of the story may permit for a rich integration of the story's complex nature.

Before drawing final conclusions from the research reviewed in this paper, it is necessary to consider several common methodological limitations that occurred across the studies. One limiting factor is the use of small sample sizes in many of the studies. The largest of the four studies meeting criteria for inclusion employed a sample size of only 31 children, without use of controls. Taken in combination with the limited number of studies completed on the topic, this limitation suggests a strong indication of the need for further research. This is particularly encouraged given the reported positive clinical implications.

This type of research is difficult to conduct since children, especially those in preschool, are hearing stories all the time. As such, it is difficult to establish a control group, who is not hearing stories. Further, children this age are developing and narrative skills could be improving over the course of the study for developmental reasons, as a result. This establishes a difficulty in capturing intervention-specific changes. As a result of these confounding variables, effect sizes may be quite small, which can be difficult to capture statistically. It may be that individual differences and effect sizes need greater consideration over more traditional statistical analyses. As such, even small differences are likely important for young children with risk factors. For example, a child who is able to tell a personal story containing a problem, an action, and a consequence is likely to maintain peer attention better than if he or she mentions a problem without closure to the story. This expressive skill structure is also likely to transfer to conveying knowledge in the classroom.

Despite the lack of controlled empirical research, favourable overall results from preschool narrative literature and qualitative reports indicate that narrative intervention is a promising approach to teach oral narration to preschool children who have language impairment, or who are at risk of language impairment. Keeping this in mind, it is important that clinicians are taught to individualize their intervention approach to each individual within the group by drawing on a variety of appropriate scaffolding strategies. Given that narrative intervention research has incorporated a range of materials, activities, arrangements, and participants, and that there are relatively few studies, several dimensions of this group intervention have yet to be adequately examined. Replications and controlled extensions of small group narrative intervention to greater numbers are still needed. Notably, in order to support clinical application in the community, it is important to extract efficient, cost-effective, and sound procedures that provide a positive impact on preschoolers' narrative forms.

Clinical Implications

Given the noted importance of early narrative skills for children with or at-risk of language impairments, this critical review indicates that provision of service for children within a small group setting may provide a new avenue to target at-risk students, promoting a greater likelihood of skill practice, with carryover to other environments, as suggested by qualitative reports.

An important implication for practice is the relatively efficient manner of implementation and relatively modest intervention dosage necessary to positively impact children's narrative forms. SLPs and other support staff often have large caseloads and time restraints that affect their ability to provide extensive intervention to each student individually. This small group intervention format has implications for service delivery. Within preschool and school settings, SLPs commonly provide services within the classroom setting (Spencer & Slocum, 2010). Given that it has been found that classroom-based intervention is associated with affirmative generalization of language skills, the early intervention of narrative macrostructure within this setting not only has efficacy, but also is an efficient new avenue to provide positive early intervention to at-risk or language-impaired preschoolers (Spencer & Slocum). It is vital to establish noted core language narrative skills, which have a role in both expressive and receptive language, along with memory, in order to provide the vital foundation for continued language learning in both academic and social settings.

Future Research Recommendations

Further research is required to empirically explore the potential benefits of group-based narrative intervention for preschool children with or at-risk of language impairment. Such research may include large-scale studies, controlled classroom conditions and teacher training, treatment duration and intensity, along with the consistent inclusion of a matched control group. All studies were from English-speaking, European-American children attending preschool or kindergarten. Future research may further investigate the effects of sustained narrative intervention on children with language impairment who are culturally or linguistically diverse within this age bracket.

Additionally, research is required to further analyze the narrative skills assessed. It may be necessary to examine macrostructure and microstructure intervention independently, their mutual contribution to narrative success, as well as to control for specific skills known to improve narrative ability. Further, the duration effects

of treatment should be assessed, along with the degree to which narrative intervention is beneficial in enhancing children's writing, reading comprehension, and other academic skills. In order to support the validity of discussed findings and to best support clinical practice continued research in noted domains is recommended.

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