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practices in speech-language pathology

MAKING EVIDENCE-BASED DECISIONS REGARDING
SERVICE DELIVERY FOR SCHOOL-AGE STUDENTS
PARTICIPATING IN NARRATIVE INTERVENTION

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Structured Abstract

Clinical Question: Do students with language disorders and those who have low language skills benefit more from classroom-based instruction on narratives or from instruction outside of the classroom to improve comprehension of and retelling of narratives?

Method: Systematic Review

Search Terms: narrative intervention AND service delivery, school-age, OR classroom

Number of Studies Included: 5

Primary Results:

Limited research has been done in regard to service delivery for narrative skills of school-age students with or without language disorders.

Emerging evidence indicates that students with and without language disorders benefit from classroom-based instruction.

Current studies indicate that two to three sessions per week for 30 to 45 minutes over a 6- to 8-week period significantly improve narrative comprehension and expression.

Conclusions: A significant need for research exists regarding the delivery of previously evaluated interventions in different settings and with varying intensity levels (i.e., session frequency, length, and number of sessions). Despite this deficit, emerging evidence (Gillam, Olszewski, Fargo, & Gillam, 2014) indicates that students with language disorders can receive classroom-based intervention two to three times a week. In addition, services in the classroom may help to enrich and prevent difficulties for other students with regard to their English language arts performance.

Making Evidence-Based Decisions Regarding Service Delivery for School-age Students Participating in Narrative Intervention

Jayne Brandel, PhD
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Clinical Scenario

Lydia has been working in schools for the past 13 years as a speech-language pathologist. Working within a Title I elementary school where there are two classes per grade with up to 25 students per class, she has begun participating in the building curriculum meetings to better understand the classroom curriculum in which her students on Individualized Education Programs (IEPs) participate. In addition, she has observed that she sees most of her caseload one to two times a week for 30 minutes in the speech room in small groups. Typically, she has grouped the students by age and/or the target behavior (e.g., /r/ vs. language). While this has been somewhat effective based on student progress on goals, she has begun to include more children who are not yet on IEPs to satisfy the multitiered system of supports required by the state and because her population includes many students who have overall low language skills (i.e., most students in the school have poor language skills as observed in their vocabulary knowledge as well as lower average scores on writing and reading comprehension general education curriculum assessments).

Due to the increased demands on her time, Lydia has decided to modify her delivery of services to address the needs of her students while providing some language enrichment and prevention activities to the other students simultaneously rather than adding more groups to her weekly workload. In addition, she would like to work on the students' deficits in relation to the English Language Arts (ELA) standards of the Common Core State Standards (CCSS; National Governors Association [NGA] Center for Best Practices & Council of Chief State School Officers [CCSSO], 2010) as outlined in the Individuals With Disabilities Education Act (IDEA; 2004) and the American Speech-Language-Hearing Association's (ASHA) recommendations for best practice in the schools (ASHA, 1991; ASHA, 2010). In reviewing the ELA standards, she has found that she can address many of her students' areas of difficulty (e.g., organization, sentence complexity, grammar, vocabulary) using the CCSS Reading Standards for Literature: Key Ideas and Details, Speaking and

Listening Standards, and Language Standards (NGA & CCSSO, 2010). The teachers and principal have asked Lydia to review the literature to see if inclusive classroom intervention will be effective in addressing the needs of the students on IEPs as well as the general education students and to determine the intensity of services needed.

Background

Language Disorders and Academic Performance

Language disorders greatly impact a student's academic performance due to the need for language skills throughout academic content. Students with language impairments struggle with narrative comprehension and production (Bishop & Adams, 1992; Boudreau & Chapman, 2000; Fey, Catts, Proctor-Williams, Tomblin, & Zhang, 2004; Gillam & Johnston, 1992; Scott & Windsor, 2000), and therefore struggle with any academic content that uses a narrative format (Bishop & Adams, 1992; Gillam & Johnston, 1992). Narratives are typically discussed in terms of their macrostructure (i.e., story grammar and organization) and microstructure (e.g., adverbs, elaborated noun phrases, subordinating conjunctions, coordinating conjunctions; Hughes, McGillivray, & Schmiddek, 1997).

Students' difficulties with language extend beyond the spoken form to reading and writing as well. There is evidence that students who exhibit reading and writing deficits later in their academic careers may have underlying spoken language deficits that were not discovered at an earlier age (Scarborough & Dobrich, 1990; Snow, 1983). These theories have been supported with the simple view of reading proposed by Catts, Adlof, and Weismer (2006) that identified listening comprehension as one of the two skills that should be assessed in students with reading difficulties in order to differentiate the types of reading disabilities. In addition, researchers have found that children with language disorders are at greater risk for difficulties associated with reading and writing (Boudreau & Hedberg, 1999; Greenhalgh & Strong, 2001). Therefore, Lydia wanted to

explore the provision of language instruction (e.g., narrative instruction) within the general education classroom. By providing intervention in this setting, Lydia could offer prevention activities and enrich language instruction within the natural context (Ehren & Nelson, 2005; Nippold, 2012).

Types of Service Delivery and Current Practice

Service delivery refers to the decisions made about a student's intervention regarding the place where intervention is provided, individual versus group intervention, and the intensity of services (i.e., length of session, frequency of session, and number of teaching episodes in a session). In addition, for speech-language pathologists (SLPs) working in schools, service delivery decisions can also include the SLP's role as a direct or indirect provider of intervention. Service delivery in the schools has become a topic of interest among researchers and practitioners. Nippold (2012) posited that school-based speech-language pathologists need to consider different service delivery models for students with different types of speech and language disorders. Specifically, students with language-based disorders should have their services delivered within the classroom given the link between language ability and success in school (Catts, Bridges, Little, & Tomblin, 2008; Catts, Fey, Tomblin, & Zhang, 2002; Fey et al., 2004; Gillam & Johnston, 1992).

Brandel and Loeb (2011) determined that most students in schools participate in services once or twice a week for 20 to 30 minutes per session. These services are most often provided outside the classroom in groups with little differentiation for disability type or severity despite the IDEA's requirement that students' services be provided in the least restrictive environment (2004). Brandel and Loeb (2011) presented a theoretical model for making these service delivery decisions based upon three components: the student, the workplace, and the clinician. While clinicians reported that the student characteristics (i.e., nature/severity of the disorder, the student's communication needs related to his/her general education curriculum, and the student's strengths, needs, and emerging abilities) had the greatest impact on service delivery decisions, an evaluation of their reported decisions regarding student services did not support their supposition. The importance of these decisions could explain the lack of progress observed for students participating in school services in regard to language outcomes (Tomblin, Zhang, Buckwalter, & O'Brien, 2003).

Clinical Question

Lydia used the PICO (population, intervention, comparison, outcome) format as recommended by the American Speech-Language-Hearing Association to formulate her clinical question.

P – students with language disorders and those who have low language skills

I – classroom-based instruction on narratives

C – outside-of-the-classroom instruction on narratives

O – improved comprehension and retelling of narratives

PICO question: Do students with language disorders and those who have low language skills benefit more from classroom-based instruction on narratives or from instruction outside of the classroom to improve comprehension of and retelling of narratives?

Search for Evidence

Prior to beginning the search for relevant research articles, Lydia developed criteria that she wanted the articles to meet when answering her PICO question. First, she decided to include experimental design or quasi-experimental design research, randomized or nonrandomized design, as well as single-subject or multiple-baseline design studies. In addition, she determined that she would only use research studies that included students between 6 and 10 years of age, considering the students with whom she would apply her findings. Lydia decided to use *narrative intervention* in combination with the following search terms: *service delivery*, *school-age*, and *classroom*. Studies could include narrative instruction to students with language disorders as well as those at risk for language disorders. Given the paucity of research regarding effective school-age interventions, Lydia did not limit her findings by publication year. The initial searches identified 102 articles, 29 of which were duplicates, leaving a total of 73 articles. The titles and abstracts were reviewed and 65 were excluded because they did not meet research design criteria or did not evaluate narrative intervention for school-age students (i.e., 6 to 10 years old). A total of eight research articles remained for Lydia to review.

Evaluating the Evidence

Lydia first reviewed the articles for their research design. One was a review of the literature (Law et al., 2012) that examined interventions used in the United Kingdom, and another (Petersen, 2011) was a systematic review of narrative interventions. Petersen (2011) included three articles that Lydia had also located (i.e., Davies, Shanks, & Davies, 2004; Peña et al., 2006; Petersen, Gillam, Spencer, & Gillam, 2010). Due to time limitations, Lydia eliminated these articles from her personal review given the higher level of evidence for systematic reviews (Dollaghan, 2007; Gillam & Gillam, 2006). This left Lydia with five articles to review in answering her PICO question. Because Lydia was not able to identify research articles that evaluated classroom-based intervention as compared to other service delivery models, she examined each study for the service delivery model used when providing narrative intervention and the resulting impact on students' narrative skills.

Because Lydia's question focused not on the efficacy of narrative intervention but rather the effectiveness of varying service delivery models, she reviewed the method sections in detail regarding the place of service delivery, session length, and frequency. Petersen (2011) included a variety of group sizes (i.e., individual, small group, and classroom), but the length of time varied greatly among the studies, as did the impact on narrative abilities. All group sizes within the studies demonstrated effectiveness. However, Petersen (2011) reported that the length of time did appear to be a factor, citing the lack of change observed in one reviewed study where there were two sessions (for a total of 60 minutes) as compared to 10 to 36 sessions (320 to 2,160 minutes). In addition, Petersen observed that specific components of the interventions appeared to impact the degree to which change occurred. For instance, intervention to improve macrostructure needed to provide students with the opportunity to practice retelling and creating their own stories. Petersen was unable to determine the extent that direct instruction of microstructure was necessary as opposed to exposure to stories with multiple exemplars of these structures.

Law et al. (2012) reviewed one intervention that was provided in a classroom setting and found the intervention approach to be "indicative" of improving student skills related to narratives. The authors provided no information about the length or frequency of the sessions. However, due to the limited research that

had been conducted at that time, the authors did not classify the intervention as strong or moderate in the data available to support that specific intervention.

Paris and Paris (2007) provided narrative instruction within the classroom twice a week for 5 weeks to first graders in order to improve student comprehension skills. The intervention included five units presented over the course of 1 week. Unit 1 taught story grammar components. Units 2 and 3 addressed the ability for students to make inferences regarding feelings, thoughts, and desires as well as inferences related to predictions, dialogue, and themes. Unit 4 focused on retelling (summarizing and sequencing) stories. Unit 5 reviewed the previous units' lessons. The authors found significant improvements in macrostructure concepts after the whole-class instruction, but microstructure elements were not evaluated.

Gillam, Gillam, and Reece (2012) provided small-group intervention three times a week over 6 weeks. The intent of the research study was to evaluate narrative intervention that is contextualized (literacy based) versus decontextualized commercially available games and drill cards designed to increase vocabulary, sentence complexity, and social language. The contextualized intervention used explicit and implicit questions, vocabulary, and syntax thematically tied to literature. The results indicated that students' comprehension and story retelling/generation skills improved more with the contextualized intervention as compared to decontextualized intervention.

In contrast, Gillam et al. (2014) compared narrative instruction provided within the classroom to a classroom where no narrative instruction was provided. The narrative instruction was provided three times a week for 30 minutes over 6 weeks. Students were compared based on their risk for difficulties as measured by their performance on the *Test of Narrative Language* (Gillam & Pearson, 2004) prior to intervention. Following intervention, significant improvements were observed in the high-risk group that participated in the narrative instruction as compared to the high-risk group that received no narrative instruction. In addition, greater gains were also observed by the low-risk students who had the narrative instruction.

To evaluate the level of evidence that she had found, Lydia used the framework described by Gillam and Gillam (2006) in which randomized control trials and systematic reviews are higher (Level 1) than experimental design research (Level 2) or multiple single-subject design studies (Level 3). Single case studies are considered Level 4

evidence, followed by expert opinion as the lowest level of evidence (Level 5). While Petersen (2011) and Law et al. (2012) would be considered the highest levels of evidence (i.e., Level 1), their applicability to Lydia's PICO question regarding service delivery within the classroom for narrative instruction and intervention was not directly addressed. Rather, Paris and Paris (2007) and Gillam et al. (2014) provided the best evidence regarding the effectiveness of narrative intervention provided in the classroom. As Level 2 evidence, Gillam et al. (2014) and Paris and Paris (2007) did provide suggestive evidence that the classroom could be an appropriate place to provide intervention for students with language-based disorders or weaknesses given the significant changes observed by both the high- and low-risk students. In addition, Gillam et al. (2012) indicated the importance of providing contextual intervention (e.g., context of literature) rather than decontextualized drill or games (e.g., language games) for students with language disorders to extend skills into related content areas.

The Evidence-Based Decision

Lydia set out to determine if she could provide intervention within the classroom for students with language disorders as well as the students who were at risk for school failure due to low language skills. Lydia discovered that there is very little research regarding classroom-based intervention and the provision of services for improved narrative skills. Despite the direct relation between narrative instruction and the ELA Reading Standards for Literature K–5 of the CCSS (NGA & CCSSO, 2010), the majority of interventions that have been evaluated have provided services in small groups or individually. The small-group approach does not meet the needs of Lydia's students, both those with IEPs and those being referred or at risk for academic failure due to low language skills. Furthermore, despite the regulations of IDEA (2004) to provide services within a student's least restrictive environment, Lydia was not able to locate a research study that directly compared the narrative intervention within the general education classroom against narrative intervention outside the classroom for students with diagnosed language disorders.

Despite the dearth of research available, Lydia was encouraged by emerging evidence based on the findings of Gillam et al. (2014) and Paris and Paris (2007) that she could work within the classroom during language arts instruction to target the goals of her students on IEPs

as well as provide enrichment and prevention activities for the other students in the classroom. Lydia's desire to provide a wider scope of services to students in the Title I elementary school beyond her caseload aligns with the recommendations of ASHA (2010). By conducting intervention within the classroom she will meet the IEP requirements for those students on her caseload. In addition, Lydia will ensure that her students with an IEP are making adequate progress by maintaining a systematic progress monitoring schedule in which the students will demonstrate progress through appropriate activities such as the retelling of stories read in class and development of their own stories. These activities can be evaluated for each student's specific behavior being targeted (e.g., organization, inclusion of story grammar elements, sentence complexity).

Lydia is willing to structure her services to more closely replicate the research conditions in which narrative intervention was provided. Therefore, she has decided to propose to the principal and teachers that she will conduct narrative instruction within the classroom twice a week for 30 minutes over 9 weeks. Upon completion of the instruction, she will then evaluate the progress of the students with IEPs to determine their strengths and needs. Given the findings of Gillam et al. (2012), instruction will then move to small groups during the same time as the previous classroom sessions to focus on the students' IEP goals in contexts related to the ELA standards of CCSS (NGA & CCSSO, 2010). There is no direct research regarding the delivery of services within the classroom, and Lydia must consider the current student body, the recommendations of ASHA, and the regulations of IDEA (2004). She plans to propose to the principal and teachers that she begin in the classroom and then shift outside for students who are unable to make progress within their least restrictive environment.

Author's Note

Jayne Brandel is Associate Professor and Chair of the Department of Communication Disorders at Fort Hays State University. Her research and teaching focus on intervention and assessment for children with language disorders, particularly later developing language. You may contact her via email at jmbrandel@fhsu.edu.

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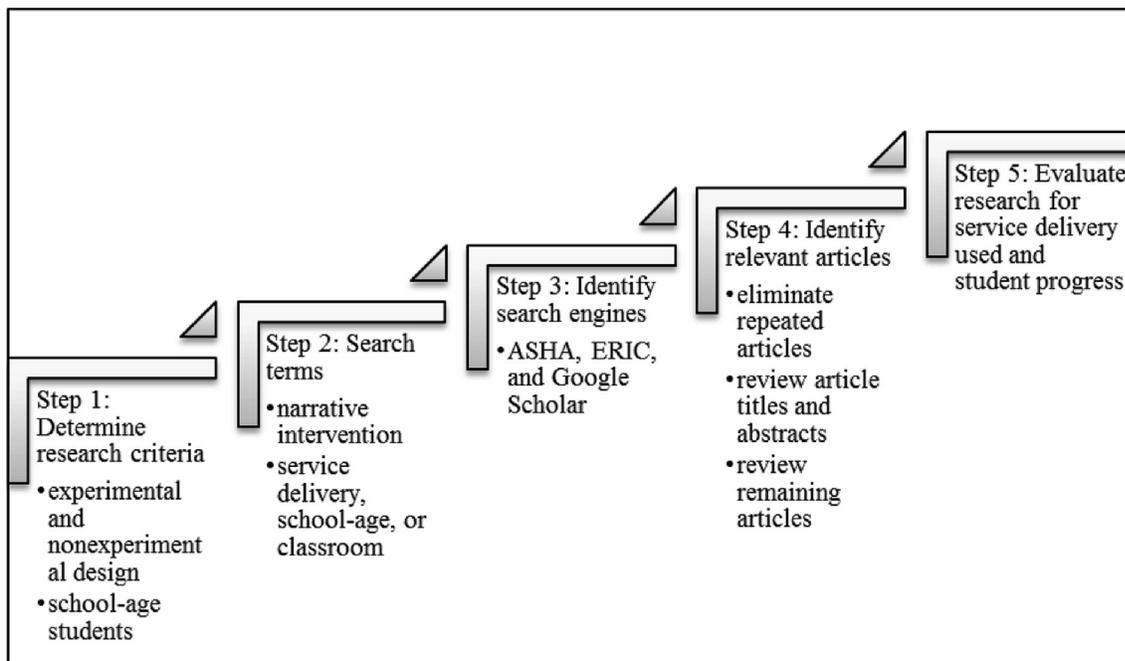


Figure 1. Process for selecting relevant research

Table 1. Selected Research Articles

Study	<i>n</i>	Student Ages	Design	Settings	Duration	Effect Size(s)
Petersen (2011)	9 research studies	Preschool to 12 years of age	Systematic review	Individual, group, or classroom	60 minutes to 2,160 minutes	Overall effect sizes: Macrostructure Cohen's $d = 0.73$ to 1.57 Microstructure Cohen's $d = -0.97$ to 1.33
Davies, Shanks, & Davies (2004)				Small group, classroom	Three 40-minute sessions per week for 8 weeks	
Gillam, McFadden, & van Kleeck (1995)				Small group	Three 120-minute sessions per week for 6 weeks	
Hayward & Schneider (2000)				Small group	Two 20-minute sessions for 8 to 12 weeks	
Klecian-Aker, Flahive, & Fleming (1997)				Individual	Three 30-minute sessions per week for 12 weeks	
Peña et al. (2006)				Individual	Two 30-minute sessions	
Petersen, Gillam, & Gillam (2008)				Individual	Ten 90-minute sessions	
Petersen, Gillam, Spencer, & Gillam (2010)				Small group	Four 90-minute sessions per week for 4 weeks	
Swanson, Fey, Mills, & Hood (2005)				Individual, lab, school, home	Three 50-minute sessions per week for 6 weeks	
Tyler & Sandoval (1994)		Individual	Two or three 45-minute sessions for 12 weeks			
Law et al. (2012)	1 narrative intervention approach	Not specified	Systematic review	Small group and classroom	Not specified	Indicative
Paris & Paris (2007)	6 classrooms (4 treatment, 2 control) ($n = 123$; 83 in treatment classrooms, 40 in control)	First graders (Average age at beginning was 6.7 years.)	Experimental (classrooms randomly assigned as treatment, no treatment)	Classroom	Two 45-minute sessions per week for 5 weeks	Macrostructure Cohen's $d = 0.52$ to 0.92

Table 1. Selected Research Articles (continued)

Study	<i>n</i>	Student Ages	Design	Settings	Duration	Effect Size(s)
Gillam, Gillam, & Reece (2012)	24 students (16 experimental, randomly assigned to contextualized or decontextualized intervention; 8 control)	6:0–9:0 years of age	Experimental (random assignment)	Small group (3 to 4 students per group)	Three 50-minute sessions per week for 6 weeks	Overall Cohen's <i>d</i> = 0.97 to 1.19 for contextualized versus decontextualized intervention Comprehension 0.3 to 0.93 Macrostructure –0.24 to 0.45 Microstructure 0.97 to 1.19
Gillam, Olszewski, Fargo, & Gillam (2014)	2 classrooms (1 treatment, 1 control) (<i>n</i> = 43; 21 in treatment, 22 in comparison)	First graders (6:6–7:4)	Experimental, (nonrandomized)	Classroom	Three 30-minute sessions per week for 6 weeks	Overall Cohen's <i>d</i> Experimental 0.82 Comparison 0.21