Administration of a Literacy-based Curriculum by Teacher and SLP Teams

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Classroom teachers and speech-language pathologists (SLPs) may work as partners in the multi-tiered response to intervention (RTI) model. Klingner & Edwards (2006) describe the need for RTI models that are culturally sensitive and address the needs of children from linguistically diverse cultures. In this study, we designed a literacy-based curriculum for Native American and Hispanic American children who were from low socioeconomic homes. The curriculum was administered by 4 different teacher and SLP teams.

Barriers to Working in the Classroom with Teachers

There are many obstacles that both SLPs and teachers face in developing and maintaining a collaborative, working relationship in order to implement classroom-based intervention. In this presentation we address two of these barriers:

- Limited planning time
- Lack of language-based curricula that promote grade level standards as well as the language needs of the children in the classroom.

One way to facilitate SLPs and teachers working together in the classroom would be to provide them with the curriculum tools and guidelines to promote sharing of language goals in the classroom.

Co-Administration

There are many types of collaboration that can occur between teachers and SLPs. The amount of planning time and the amount of time learning about each other varies depending on the type of collaboration that occurs. In this study, we designed a curriculum to be administered by teachers and SLPs. Three of the four groups had not previously worked with each other. We asked a team of teachers and SLPs to co-administer a program after receiving six hours of training. The premise that underlies co-administration is that SLPs and teachers have unique skills that they can share with one another and learn from one another by working side by side. By providing a curriculum for teachers and SLPs to begin with, they are able to begin or further develop a working relationship.

Unique Expertise of SLPs and Teachers

- SLPs working in the schools have the unique expertise in language development, language disorders, and language facilitation techniques.
- Teachers have unique expertise in school requirements for oral and written language, planning academic lessons, and classroom management.
- Together they can increase the language and emergent literacy skills of children.

Teacher and SLP Training

- We trained teachers and SLPs to work together as teams to administer four storybook units over the course of 4 weeks during the summer.
- A classroom teacher and an SLP jointly administered the literacy-based curriculum.
- The teachers, SLPs and assistants attended two workshops that were three hours long. During these workshops, the teams (i.e., SLPs, teachers and assistants) covered the following topics: cultural diversity, collaboration, language enrichment techniques, and administration of the literacy-based units.
- Prior to administering the program, teachers and SLPs were given curriculum guides for each book that specified how to teach the vocabulary words, the narrative activities, and the phonological awareness activities for each day.
- The teacher and SLP were trained to use the following language facilitation techniques: emphatic stress, focused stimulation, and observe, wait, listen and expand (modified from the Observe, Wait, and Listen procedure used in the Hanen Program (Weitzman & Greenberg, 2002).
- A DVD was developed and provided for the teachers, SLPs and teachers that depicted the activities being carried out with a book unit not used by the teams in this study.
- The teams watched the DVD before the beginning of the program and in the middle of the program.
- The teachers and SLPs carried out the narrative, vocabulary and phonological awareness activities.
- They met at the end of each week with the site coordinators to share ideas and ask questions.

Design of the Study

- There were a total of four classrooms.
- Each class had a different teacher and an SLP team assigned to it as well as classroom assistants.
- In all of the classrooms, the children were between 6;0 to 8;11 (years; months) of age and qualified for free or reduced school lunch.
- There were a total of 30 Hispanic American children randomly assigned to two classrooms and 11 Native Americans randomly assigned to two classrooms.
- The Hispanic American children were mostly first generation immigrants and learning English as a second language.
- The Native American children were from the Kickapoo, Potawatomi Prairie Band, Cherokee, Lakota, Sioux, Sac-n-Fox, and Iowa Tribal Nations. English was their primary language.

Team 1
16 Hispanic American Children
Teacher
17 years experience
SLP
10 years experience
Previously worked together in the classroom

Team 2
14 Hispanic American Children
Teacher
15 years experience
SLP
32 years experience

Team 3
6 Native American Children
Teacher
2 years experience
SLP
3 years experience

Team 4
5 Native American Children
Teacher
2 years experience
SLP
6 years experience

The Literacy-based Curriculum

- The literacy-based language (LBL) program was developed and first reported by Gillam et al. (2008). We modified the program in Gillam et al. (2008) to include culturally relevant stories and activities.
- We chose to use repeated storybook reading as a venue for the curriculum because it could be used for a number of language activities.
- The LBL program used storybooks that depicted positive characters from their respective cultures and story content consistent with cultural beliefs and values.

- The literacy-based program consisted of 4 book units for the Native American classrooms and 4 book units for the Hispanic American classrooms. The units targeted vocabulary, narration, and phonological awareness.
- The children were seen daily for four weeks, two and a half hours each day, during the summer (i.e., a total of 50 hours over 20 sessions).

Teacher and SLP Language Enrichment Techniques

The teachers and SLPs were instructed to use the following language facilitation techniques:

- Emphatic stress: Stressing target vocabulary word (Weismer, 1997).
- Focused stimulation: Repeated models of vocabulary word in meaningful contexts (Weismer & Robertson, 2006).
- Observe, wait, listen and expand (modified from the Observe, Wait, and Listen procedure used in the Hanen Program (Weitzman & Greenberg, 2002).
  - Observe child
  - Wait for child to initiate
  - Listen to child
  - Expand semantic or syntactic aspect of child's sentence

Vocabulary Activities

- A total of 12 words, three words per book were selected from each book to learn. Vocabulary teaching technique was a modified version of *Text Talk* as described by Beck, McKeown, and Kucan (2002). This technique involved introducing the target vocabulary words in contexts associated with the storybook and in contexts not related to the storybook.
- Vocabulary activities took place two times each day for a total of 50-60 minutes daily.
- The teacher and SLP each had their own group of children and worked on the target words in small groups and provided the same vocabulary activities to their groups.

Narrative Activities

- Narrative activities included many suggested by Strong and North (2002).
- Narrative teaching included having the children listen to the story aloud each day.
- Narrative activities took place 25-35 minutes each day in a large group setting.
- The teachers and the SLPs alternated activities each day. For example, Day 1 the teacher would do the narrative activities and Day 2 the SLP would do the narrative activities.

Phonological Awareness and Decoding Activities

- Children were assigned to rhyming, blending, segmenting or making words (decoding) groups depending on their pre-test phonological awareness skills.
- The children were in small groups for the phonological awareness activities (2-5 children) and participated in two different activity periods totaling 40 minutes each day.
- The teacher and SLP each had their own group of children and worked on the target words in small groups.

Teacher and SLP Fidelity

Each day vocabulary, narration, and phonemic activities were videotaped. The videotapes were reviewed and scored by independent judges unfamiliar with the study.

Vocabulary: We evaluated how many times the teacher or SLP provided models of the targeted word.

Table 1. Average Number Vocabulary Words Modeled Per Minute During Vocabulary Activities

	SLP	Teacher
Team 1	1.5	3.4
Team 2	3.0	.8
Team 3	4.7	2.7
Team 4	1.8	3.9

Narration: We evaluated the number of times that the teacher or SLP followed specific items for each narrative task.

For the *Semantic Map*, we evaluated:

- Introduces main concept
- Uses visual map
- Allows for child input
- Number of teacher prompts

For the *Episode Map*, we evaluated:

- Introduces idea that stories have an order to them
- Uses visual map
- Prompts for when, who, where, beginning, middle, problem, resolution and end.
- Allows for child responses.

For the *Internal Feelings Chart*, we evaluated:

- Tells students the feeling words for today's story
- Uses visual map
- Prompts students to discuss why a character might feel a certain way
- Allows for child's responses

Table 2. Percent of Fidelity Items Performed Correctly for the Narrative Tasks

	SLP	Teacher
Semantic Map		
Team 1	100%	100%
Team 2	100%	100%
Team 3	100%	100%
Team 4	100%	No data*
Episode Map		
Team 1	88%	88%
Team 2	88%	75%
Team 3	No data*	88%
Team 4	No data*	83%
Internal Feelings Chart		
Team 1	88%	62%**
Team 2	88%	62%**
Team 3	100%	100%
Team 4	100%	90%

* No data indicates that the professional was not videotaped administering this task.
** Teachers did not prompt students to discuss why a character felt a certain way.

Phonological Awareness: The number of opportunities that a child participated in the task was tallied. As can be seen in Table 3, the teachers and SLPs varied in the amount of times that children were given an opportunity to respond to phonemic awareness activities.

Table 3. Average Number of Opportunities that a Child had to Participate During Phonemic Awareness Activities

	SLP	Teacher
Team 1	2	No data*
Team 2	5.3	2.2
Team 3	15	7.1
Team 4	7.5	4.9

* No data indicates that the professional was not videotaped administering this task.

Summary: Both SLPs and teachers were effective at implementing the vocabulary, narrative, and phonological awareness activities, with no differences between SLP and teacher in the fidelity measures and no differences between treatment outcomes for the four groups.

Outcomes of the Literacy-based Language Curriculum

Prior to and immediately following the administration of the curriculum, the vocabulary, narration, and phonological awareness skills of the children were evaluated.

Table 4. Native American Children

Independent t-test Results for Student Outcome Measures at Posttest*

Outcome Measure	Significance Level	Effect Size
Expressive Vocabulary Probe	p < .01	1.72 Large
Receptive Vocabulary Probe	p < .01	1.47 Large
CREVT-R: Expressive	p = .06	1.34 Large
CREVT-R: Receptive	p = .11	1.08 Large
TNL- Comprehension	p = .41	.71 Medium
TNL- Production	p = .86	.11 Small
PAT-2 Grapheme	p = .33	.63 Medium
PAT-2 Non-grapheme	p = .83	.14 Small
TOWRE- Decoding	p = .46	.60 Medium
TOWRE- Sight Words	p = .30	.69 Medium

* There were no significant differences between groups at pretest.
CREVT-R= Comprehensive Receptive an Expressive Vocabulary Test-Revised
TNL= Test of Narrative Language
PAT-2= Phonological Awareness Test-2
TOWRE= Test of Word Reading Efficiency

Table 5. Hispanic American Children

Independent t-test Results for Student Outcome Measures at Posttest*

Outcome Measure	Significance Level	Effect Size
Expressive Vocabulary Probe	p < .001	2.47 Large
Receptive Vocabulary Probe	p < .001	1.46 Large
CREVT-R: Expressive	p = .54	.23 Small
CREVT-R: Receptive	p = .96	.02 Small
TNL- Comprehension	p = .20	.49 Medium
TNL- Production	p = .86	.11 Small
PAT-2 Grapheme	p = .11	.67 Medium
PAT- 2 Non-grapheme	p = .05	.75 Large
TOWRE- Decoding	p = .45	.29 Small
TOWRE- Sight Words	p = .47	.28 Small

* There were no significant differences between groups at pretest.
CREVT-R= Comprehensive Receptive an Expressive Vocabulary Test-Revised
TNL= Test of Narrative Language
PAT-2= Phonological Awareness Test-2
TOWRE= Test of Word Reading Efficiency

Summary of Student Outcomes

Native American children made gains in:

- Expressive vocabulary - targeted words and standardized measure
- Receptive vocabulary - targeted words and standardized measure
- Narratives: comprehension
- Graphemes
- Decoding
- Sight words

Hispanic American children made gains in:

- Expressive vocabulary - targeted words
- Receptive vocabulary - targeted words
- Narratives: comprehension
- Non-grapheme
- Grapheme

Conclusions

Teachers, when trained and using structured lessons, can and do use language facilitative techniques in the classroom. As SLPS we serve as models, consultants, and mentors for language learning in the classroom.

Future studies should be conducted during the academic year and should include follow-up assessments to determine if teachers maintain that same rate of language facilitation when using their own literacy unit.

Acknowledgments

This research was supported by a grant from the Institute of Education Sciences, Department of Education, Award Number R324L060012. We would like to express our thanks to the children, their families, the teachers, and the SLPs who participated in this study. Thank you also to Jayne Brandel, Kathy Redbird and Veronica Fierro. We thank the students who assisted with the fidelity data analyses: Meaghan Goodman, Samantha Irick, Kara Mitchell and Danielle Thomas.

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CRCLE Summer Program Daily Format

Day One

Time	Duration	Person Responsible	Activity
9:00	5 min	SLP	Good morning circle
	15 min	SLP	Pre-story presentation: Semantic map
9:20	5 min	SLP	Pre-story presentation: Preparatory set
9:25	10 min	SLP	Picture walk
9:35	10 min	ET	Read entire story
9:45	5 min	ET	Narrative Activity Post story Discussion Questions
9:50	20 min	Rhyming & Blending: ET Segmenting & Decoding: SLP	Phon. Awareness Activity
10:10	15 min Snack and Bathroom Break		
		Ed student SPLH student Ed teacher & SLP	Bathroom boys Bathroom girls Snack:
10:25	30 min	2 tables- same activity ET & SLP	Introduce word #1 to New Word Book – Kickapoo word exposure
10:55	20 min	Rhyming & Blending: ET Segmenting & Decoding: SLP	Phon. Awareness Activity
11:15	20 min	2 tables- same activity ET & SLP	Vocabulary Activity: Word #1
11:35	10 min	Rhyming & Blending: ET Segmenting & Decoding: SLP	Phon. Awareness Activity
11:45	5 min	ET	Goodbye circle

Day Two

Time	Duration	Person Responsible	Activity
9:00	5 min	ET	Good morning circle
	15 min	ET	Pre-story presentation: Episode map
9:20	10 min	SLP	Read entire story
9:30	20 min	Rhyming & Blending: ET Segmenting & Decoding: SLP	Phon Awareness Activity
9:50	30 min	2 tables- same activity ET & SLP	Introduce word #2 to New Word Book Kickapoo word dvd
10:20	15 min Snack and Bathroom Break		
		Ed student SPLH student Ed teacher & SLP	Bathroom boys: Bathroom girls: Snack:
10:35	20 min	Rhyming & Blending: ET Segmenting & Decoding: SLP	Phon Awareness Activity
10:55	20 min	2 tables- same activity ET & SLP	Vocabulary Activity: Word #2
11:20	20 min	Rhyming & Blending: ET Segmenting & Decoding: SLP	Phon. Awareness Activity
11:40	5 min	SLP	Goodbye circle

Day Three

Time	Duration	Person Responsible	Activity
9:00	5 min	SLP	Good morning circle
	15 min	SLP	Pre-story presentation: Internal feelings chart
9:20	10 min	ET	Read entire story: Raise hand when hear new word
9:30	20 min	Rhyming & Blending: ET Segmenting & Decoding: SLP	Phon. Awareness Activity
9:50	30 min	2 tables- same activity ET & SLP	Introduce word #3 to New Word Book- Kickapoo word dvd
10:20	15 min Snack and Bathroom Break		
		Ed student SPLH student Ed teacher & SLP	Bathroom boys: Bathroom girls: Snack:
10:35	20 min	Rhyming & Blending: ET Segmenting & Decoding: SLP	Phon. Awareness Activity
10:55	20 min	2 tables- same activity ET & SLP	Vocabulary Activity: Word #3
11:20	20 min	Rhyming & Blending: ET Segmenting & Decoding: SLP	Phon. Awareness Activity
11:45	5 min	ET	Goodbye circle

Day Four

Time	Duration	Person Responsible	Activity
9:00	5 min	ET	Good morning circle
	15 min	ET	Review: target vocabulary in New Word Book
9:20	10 min	SLP	Read entire story: Raise hand when hear new word
9:30	20 min	2 tables- same activity ET & SLP	Narrative Activity: Group Narrative retelling through pictures
9:50	20 min	Rhyming & Blending: ET Segmenting & Decoding: SLP	Phon. Awareness Activity
10:10	15 min Snack and Bathroom Break		
		Ed student SPLH student Ed teacher & SLP	Bathroom boys: Bathroom girls: Snack:
10:25	20 min	2 tables- same activity ET & SLP	Vocabulary Activity: All words Kickapoo word exposure dvd
10:45	20 min	Rhyming & Blending: ET Segmenting & Decoding: SLP	Phon. Awareness Activity
11:05	20 min	2 tables- same activity ET & SLP	Vocabulary Activity: All words
11:25	20 min	Rhyming & Blending: ET Segmenting & Decoding: SLP	Phon. Awareness Activity
11:45	5 min	SLP	Goodbye circle

Day Five

Time	Duration	Person Responsible	Activity
9:00	5 min	SLP	Good morning circle
	15 min	SLP	Review: target vocabulary in New Word Book
9:20	10 min	ET	Read entire story: Raise hand when hear new word
9:30	30 min	2 tables- same activity ET & SLP	Narrative Activity: Individual retell stories in journals- pictures
10:00	10 min	Rhyming & Blending: ET Segmenting & Decoding: SLP	Phon. Awareness Activity
10:10	15 min Snack and Bathroom Break		
		Ed student SPLH student Ed teacher & SLP	Bathroom boys: Bathroom girls: Snack:
10:25	20 min	2 tables- same activity ET & SLP	Vocabulary Activity: All words Kickapoo word exposure dvd
10:45	20 min	Rhyming & Blending: ET Segmenting & Decoding: SLP	Phon Awareness Activity
11:05	20 min	4 tables- each person doing same activity	Vocabulary Activity: All words
11:25	20 min	Rhyming & Blending: ET Segmenting & Decoding: SLP	Phon. Awareness Activity
11:45	5 min	ET	Goodbye circle

(Review Day)- Children could choose Vocabulary and Phon. Awareness activities that they have worked on through the week and on previous weeks