

Progress monitoring: Tying it to the curriculum

SANDI GILLAM PHD., CCC-SLP

Sandi.gillam@usu.edu
www.childlanguageresearch.com



Sandi Gillam has a financial interest in Supporting Knowledge in Language and Literacy (SKILL), sold by USU, and the progress monitoring tools associated with the intervention program.

The program and SKILL PM tools were developed with funds awarded by the Institute of Education Sciences R324A100063

This presentation will cover various methods by which narrative discourse may be measured for monitoring progress toward curricular goals.

Story structure and specific literate language features that contribute to narrative proficiency will be discussed.

The presentation will also address some of the factors that contribute to how rubrics may best be designed to measure aspects of language intervention in school-based settings.

Learning Outcomes

After completing this program, you will be able to . . .

Describe story elements and literate language features

Describe measures for monitoring change in the use of story grammar elements and literate language features during story telling & story composition

Describe factors and issues that contribute to outcomes using progress monitoring tools

Curriculum-based assessment & intervention

IDEA ensures access to general curriculum for children with speech and language needs

What does this entail?

- Children and adolescents with disabilities and their teachers are accountable for student progress in the general education curriculum.
- Specific instruction should be designed to ensure access of the child to the general curriculum so that he or she can meet the education standards that apply to all children.

Curriculum-based assessment & intervention

These changes are designed to lead to integrated speech and language service delivery that includes curriculum-based assessment and intervention.

Because the heart of the IEP has changed, its design and implementation have also changed.

Fundamental to this paradigm shift is the underlying assumption that educators and parents must collaborate & work together on the student's behalf.

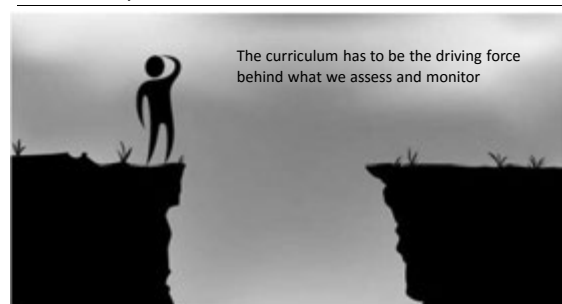
- *Whitmire, K. (2002). The evolution of school-based speech-language services: A half century of change and a new century of practice, *Communication Disorders Quarterly*, 23, 68-76.

This leads to a need for...

Contextually based assessment
Educationally relevant intervention
Collaboration

*Whitmire, K. (2002). The evolution of school-based speech-language services: A half century of change and a new century of practice, *Communication Disorders Quarterly*, 23, 68-76.

Shifting focus for monitoring progress requires:
Contextually based assessment



Improve expressive language skills to be developmentally appropriate (measured by EOWVT)

Improve receptive language skills to be developmentally appropriate (measured by PPVT)

Improve general language proficiency (measured by CELF)

Carlos will produce the conjunction word "and" to connect two SVO clauses in 8 out of 10 sentences produced in obligatory contexts during play given clinical models and growth-relevant recasts.

Steve will point to pictures representing nouns, verbs, and adjectives from his vocabulary list with 80% accuracy when two foils are present.

Steve will produce nouns, verbs and adjectives from his vocabulary list with 80% accuracy given picture cues and clinician questions.

In the 90's, I taught students to write learning goals - to make them think about what children would have to learn rather than just what they do. Here are some examples. R. Gillam

Learning Goal: John will learn that assertions expressing possibility beliefs based on inferences about narratives are produced with the surface form "NP + Modal could + V + (NP)." in response to predictive questions posed while reading a book.

Behavioral Goal: To increase expressive use of the modal could as demonstrated by the ability to produce "NP + Modal could + V + (NP)." given auditorally presented texts, visual cues, clinician questions, and peer models with 80% accuracy over 20 trials.

Learning Goal: John will learn that the modal "can" can express the ability to perform an action in the form "NP + can + VP."

Behavioral Goal: To increase use of "can" as demonstrated by the ability to produce "NP + can + VP." with 90% accuracy given auditory and visual cues.

Learning Goal: Susan will learn that the semantic notion of intention can be expressed by the catenative "gonna" in the sentence construction "N + catenative + V + N."

Behavioral Goal: To increase use of "gonna" as demonstrated by the ability to produce "N + catenative + V + N" with 95% accuracy given clinician models.

Narrative		
Kindergarten	Grade 1	Grade 2
Ask & answer questions about key details (with support)		Ask & answer questions: wh- & h questions about key details
Retell stories w/detail	Retell stories w/detail & understand central message/lesson	Retell stories, fables, folktales w/detail & understand central message/lesson
Identify character, setting, major events in story	Describe character, setting, major events in story using key details	Describe character goals in story.
Ask/answer questions about unknown words	Identify words, phrases that highlight "feelings"	Describe how regular beats, alliteration, rhymes, repeated lines give "rhythm" and meaning to stories
Recognize common text types	Explain differences between texts	Describe text structures
 EZ common core (app) http://www.148apps.com/app/407436412/		

Educationally relevant intervention

Ask & answer questions about key details (with support)

Retell stories w/detail

Identify character, setting, major events in story

Ask/answer questions about unknown words

Retell stories w/detail & understand central message/lesson

Describe character, setting, major events in story using key details

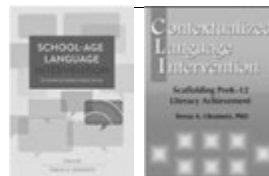


What are the language skills that need to be targeted to get us to retelling?

Retell stories with detail

- Memory for story elements
- Memory and attention to the causal framework connecting the character to his or her goals and motivation
- Attention to the actions taken by the character as a result of his or her goals and motivation
- The success or failure of the actions taken to achieve the goal
- Details that contribute to the quality of the story
 - What did the character look like?
 - Was he nice, mean, funny?
- Attention to the internal response of the character as he or she carried out actions in service of the goal
- Knowledge of words that signal temporal & spatial relationships
- Knowledge of pronouns and how to use them to refer to characters
- Knowledge of vocabulary specific to the content of the story

Broader goals situated in authentic contexts



Contextualized skill intervention involves **identifying the skills needed to participate in communicative activities** for particular reasons under specific conditions (Wolter, Ukrainetz, & Ross, 2016).

Ukrainetz, T.A. (2006). *Contextualized Language Intervention: Scaffolding PreK-12 Literacy Achievement*. Austin, TX: Pro-Ed.
 Ukrainetz, T.A. (2015). *School-age intervention: Evidence-based practices*. Austin, TX: Pro-Ed.

Broader goals situated in authentic contexts

Wolter, Ukrainetz, Ross (2016). School-Age Language Intervention: Writing Meaningful Goals & Monitoring Progress. The Game is Still the Aim. ASHA presentation.

- | | |
|---|---|
| 1. Bounce a ball | 1. Play a chaotic, poor, but fun whole basketball game |
| 2. Dribble a ball | 2. Work on a dribbling drill, a passing drill, a shooting drill |
| 3. Dribble and shoot | 3. Play a less chaotic, but still fun basketball game |
| 4. Dribble, move, and shoot | 4. Work on skill drills a bit more |
| 5. Dribble, move, and pass | 5. Play an almost orderly, almost skillful, fun game |
| 6. Dribble and pass with an opposing player | 6. Work on dribbling in the game, passing in the next game, shooting in the next game |
| 7. Dribble, move, and pass with an opposing player | 7. Take a break and just play the game |
| 8. Dribble, move, and pass with three on each side | 8. Back to skill drills, but no worries, another game is coming up... |
| 9. Play the game – uhoh, too late, the year is over, maybe next year... | |

Collaboration

Collaboration

- Who are the members of the team? Parents, teachers, siblings, peers



Where to start?



The purpose of this presentation is to focus on assessment & monitoring of narrative proficiency

Recognition & Response

Buyse et al., (2015) used a process of identifying students who were struggling using one or more standardized measures (recognition) and then providing them with targeted instruction and measuring their response to that instruction

For narrative discourse we might use the TNL-2 as our measure of recognition, and then use language sample, narrative analysis, and holistic judgement procedures to determine the student's response to intervention

Buyse, V., Peisner-Feinberg, E., Soukakou, E., Fettif, A., Schaaf, J., & Burchinal, M. (2015). Using recognition and response (R & R) to improve children's language and literacy skills: Findings from two studies. *Early Childhood Research Quarterly*, 36, 11-20.

Recognition

Test of Narrative Language—Second Edition

TNL-2

Ages 4-15

Components of Language - Language Use

Formats:

- Script-like stories (no picture cues)
- Personal narratives (sequence pictures)
- Fictional narratives (single picture of a scene)

Modality:

- Comprehension (literal and inferential questions)
- Oral Narration

Validated against story grammar analysis (NSS)

- .70 correlation (production scale)

21

Assessment Contexts

Recognition

Scoring

No transcription - scored while listening to audiotapes

Comprehension vs. Production

Macrostructure and Microstructure elements

Scores

- Narrative Comprehension
- Oral Narration
- Narrative Language Index

22

Table 5.6 Summary of TNL-2 Reliability Relative to Three Types of Reliability (Decimals Omitted)			
	Type of reliability coefficient		
TNL-2 values	Coefficient alpha	Test-retest	Scorer
Comprehension	81	85	99
Production	87	82	99
Narrative Language Ability	90	93	99
Sources of test error ^a	Content sampling, content heterogeneity	Time sampling	Interscorer differences

Note. ^aThese sources of error variance are from *Psychological Testing* (7th ed., p.101), by A. Anastasi and S. Urbina, 1997, Upper Saddle River, NJ: Prentice Hall.

Recognition

Script-like narrative format

McDonalds Story

- Comprehension
 - Examiner tells a script-like story
 - There is an unsolved problem at the end
 - Solve problem
 - respond to literal and inferential questions

24



Section 7. Comprehension and Production Subtest Tasks

Comprehension Subtest, Task 1: McDonald's

Directions: Lay down your eyes at a fast food restaurant like McDonald's or Burger King? Y N

What do you like to order?

Place McDonald's picture in front of the child. Then say, I want you to listen to a story about two children who go out to eat with their mother. Listen carefully because I'm going to ask you some questions about it. After you answer the questions, I'm going to ask you to retell the whole story to me. Are you ready?

On Tuesday, Lisa and Raymond ran in and threw their backpacks on the floor. Their mother said, "Let's go out to eat. Where do you want to go?" Lisa and Raymond both yelled, "McDonald's!" It took them only five minutes to get to their favorite restaurant. As usual, Lisa couldn't decide what to order. She liked the hamburgers, but she also liked the chicken nuggets. When they got to the counter, Raymond ordered a cheeseburger, French fries, and a large vanilla milk shake. Their mother ordered a salad. Lisa finally made up her mind. She told the clerk, "I'll have chicken nuggets, a Coke, and an ice cream cone."

Lisa's mom paid the clerk and went to sit down. When she looked up, Lisa was standing there with a big brown stain down the front of her shirt and skirt. Lisa started crying and said, "Look what I did!" Her mom hugged her and said, "It's O.K., I can get that stain out." She bought Lisa another ice cream cone. Then they drove home.

Comprehension Items

Scoring Directions: Score 1 point for each correct response. No repetitions or prompts are allowed. Note: Total possible points for each question are listed next to the blanks.

- Correct Responses
- ____ (C) 1. What day of the week was it?
 ____ (C) 2. What time of the day was it?
 ____ (C) 3. What were the children's names?
 ____ (C) 4. Who answered the door?
 ____ (C) 5. Where had Lisa and Raymond been before they talked to their mother?
 ____ (C) 6. Where were the children when they talked to their mother about eating out?
 ____ (C) 7. What did Raymond order?
 ____ (C) 8. Why do you think their mother ordered a salad?
 ____ (C) 9. What did Lisa decide to get?
 ____ (C) 10. What kind of ice cream cone did Lisa order?
 ____ (C) 11. Why was Lisa crying?
 ____ (C) 12. What do you think happened to make her spill her ice cream cone?
 ____ (C) 13. What was a problem in the story?
 ____ (C) 14. How did Lisa's mom get the stain out?

Correct Responses

Saturday _____
 Dinner/tea/eating/after school/specific time (e.g., 5:00) _____
 Lisa _____ Raymond _____
 Their mother _____ the clerk _____
 School/camping/fishing _____
 At home (their house) _____
 Cheeseburger _____ French fries _____ milk shake _____
 On a diet/likes healthy food/likes salad/dietary like _____
 Hamburgers/steak _____ Cake _____ ice cream cone _____
 Chocolate _____
 Spilled ice cream/get stain on clothes _____
 Tripped/dropped ice cream/someone bumped her _____
 Couldn't decide what to order/spilled ice cream/stain on clothes _____
 Wash clothes/detergent/stain remover _____

Total (out of 20) for Comprehension Subtest, Task 1: McDonald's

2

Production Subtest, Task 2: McDonald's

Directions: Leave the McDonald's picture in front of the child. Say, Now tell the story back to me. Tell me everything you remember, even the things I just asked you. Try to say the story the same way I said it.

Allowable starting probe: What happened to the boy and the girl in this story? (May be said only once)

Allowable ending probe: Is there anything more? (May be said only once)

Production Story Format

Story Content Scoring: Score 1 point for each item included in the child's story. No repetitions or prompts are allowed.

Settings/ Characters	Factors That Motivate Actions (Beginning)	Actions	Consequence (Ending)
1. McDonald's 2. Lisa 3. Raymond 4. Mom	5. Mom asked where Lisa and Ray wanted to eat. 6. Lisa couldn't decide what to order. 7. Lisa liked hamburgers. 8. Lisa also liked chicken nuggets.	9. Raymond ordered a cheeseburger. 10. Raymond ordered French fries. 11. Raymond ordered a milk shake. 12. Mom ordered a salad. 13. Lisa made up her mind. 14. Lisa ordered chicken nuggets. 15. Lisa ordered a Coke (pop, etc.). 16. Lisa ordered an ice cream. 17. Lisa had a stain on her clothes/ spilled ice cream. 18. Lisa started crying.	19. Lisa's mom and she could get the stain out. 20. Lisa's mom bought her another ice cream cone.

Total (20) for Story Content Items

Story Complexity Scoring: Circle the ones next to the phrase that best describes the child's narrative in the following areas. No repetitions or prompts are allowed.

Connections	Summaries	Story
21. Indicates temporal relationships between events: a. No time relationships stated 1. Uses "and" or "then" 2. Uses one or more time adverbs (e.g., before, after, when) 22. Indicates causal relationships between events: a. No causal relationships stated 1. One causal relationship stated (e.g., because, since, so, therefore, as a result, etc.) 2. Two or more different causal relationships stated	23. Uses grammatically correct sentences: a. Three or more grammatically correct 1. One or two grammatically correct 2. No grammatically correct 24. Includes dialogue: a. No dialogue 1. Dialogue for one character 2. Two characters talk to each other (e.g., Lisa said, "Look what I did!" then mom said, "It's O.K.")	25. Story makes sense: a. Two or more statements do not make sense or are out of sequence. 1. One statement does not make sense or is out of sequence. 2. All statements make sense. 26. Story is complete or complex: a. Incomplete — missing a beginning, action, or an ending 1. Complete — has a beginning, action, or an ending, and an ending that follows the McDonald's story that was modeled

Total (11) for Story Complexity Items

Total (out of 31) for Production Subtest, Task 2: McDonald's

3

Recognition

Personal Narrative format

Shipwreck

- Comprehension
- Sequence of 5 pictures
- Examiner reads a story
- Child answers literal and inferential questions about the story

28

Shipwreck

Recognition



Comprehension Subtest, Task 3: Shipwreck

Directions: You're going to tell me a story that goes with the pictures you see here (point at the pictures from left to right). When I'm finished, I'll ask you some questions about my story. Remember, stories have a beginning, things that happen in the middle, and an ending.

I'm going to call this story "The Shipwreck." Last month, Maria's class was studying the ocean. Each child was supposed to build an art project that had something to do with the ocean. Maria thought she should make a ship. Maria and her mother worked on the ship all weekend. The next day, Maria got ready to take her ship to school. Her mother said, "That sure is a great-looking ship. I'll bet you got an A!" As Maria was walking to school, she tripped on a rock and dropped her ship into a mud puddle. Her ship was dirty and broken. She started to cry, but then she thought, "I'm not going to cry about this. I'll just have to take my ship to school and fix it."

When Maria got to school, she got busy putting her ship back together. It wasn't as good as it once was, but it was certainly better than nothing. When her teacher came over, she was surprised to see a muddy, partially broken ship. After Maria told her what happened, her teacher said, "Maria, you deserve an A for the way you handled that problem."

Comprehension Items

Scoring Directions: Score 1 point for each correct response. No repetitions or prompts are allowed. Note: Total possible points for each question are listed next to the blanks.

- | | |
|---|---|
| ... (1) 1. What was the girl's name? | Correct Responses |
| ... (2) 2. Who else was in this story? | Maria _____ Teacher _____ |
| ... (3) 3. Where did Maria and her mom build the ship? | On the weekend/Thursday/Sunday _____ |
| ... (4) 4. What was Maria's class studying? | The ocean/Ocean _____ |
| ... (5) 5. Why did Maria build a ship? | Art project/built something related to the ocean _____ |
| ... (6) 6. What did Maria take her ship to school? | Muddy _____ |
| ... (7) 7. What was the problem in the story? | The ship fell in the mud/puddle _____ |
| ... (8) 8. Why do you think there was a mud puddle beside the road? | Rain/snow/sprinkler/etc. Something that could create a puddle _____ |
| ... (9) 9. What did Maria decide to do with her ship after it fell in the mud? | Take it to school _____ Fix it _____ |
| ... (10) 10. What do you think Maria used to fix her ship? | Glue/tape/paint/any other art supply _____ |
| ... (11) 11. What grade did the teacher give Maria? | A _____ |
| ... (12) 12. Why do you think the teacher gave Maria a good grade for a broken project? | She handled it well/worked hard on it/fixed her best _____ |

Total (out of 14) for Comprehension Subtest, Task 3: Shipwreck

11

Personal Narrative Format

Recognition

Late for School

Production

- Sequence of 5 pictures about a boy who is late for school.
- Child creates a story.

31

Late for School

Recognition



Fictional Narrative Format

Dragon Story

- Story comprehension
- Fantasy picture (single scene) about a dinosaur in a cave.
- Examiner tells a story
- Child answers literal and inferential questions

Production Subtest, Task 4: Late for School

Directions: Present the Late for School pictures. Say, "Now I'm going to show you five pictures that go together to tell a story (back along from left to right with your finger). I'd like you to look at them carefully and then tell me the story that goes with the pictures. Make your story as long and as complete as you can. You can start anytime you are ready."

Allowable starting point: What happened to the boy in the story? (May be said only once)

Allowable ending point: Is there anything more? (May be said only once)



Production Items:

1. ... Boy's name	6. ... Notes time	11. ... Misses time
2. ... Wakes up	7. ... Spills milk	12. ... Rushes to school (books, notes, shoes, gets ride)
3. ... Attention clock/time/rate	8. ... Gets dressed	13. ... Teacher/Principal
4. ... Goes to eat	9. ... Breaks chocolate	14. ... Late for school
5. ... Breakfast/meal	10. ... Leaves house	15. ... Punishment/Teacher reaction

Total (15) for Story Content Items

Story Complexity Scoring: Circle the score next to the phrase that best describes the child's narration in the following areas. No repetitions or prompts are allowed.

Complete Items	Sentences	Story
16. Indicates temporal relationships between events 0 The time relationships stated 1 Uses "and" or "then" 2 Uses one or more time adverbials (e.g., before, after, when, as, during)	18. Uses grammatically correct sentences 0 Three or more grammatical errors 1 One or two grammatical errors 2 No grammatical errors	20. Story makes sense 0 Two or more statements do not make sense or are out of sequence 1 One statement does not make sense or is out of sequence 2 All statements make sense
17. Indicates causal relationships between events 0 No causal relationships stated 1 One causal relationship stated (e.g., because, since, so, therefore, as a result, etc.) 2 Two or more different causal relationships stated	19. Includes dialogue 0 No dialogue 1 Dialogue for one character 2 Two characters talk to each other (e.g., the principal said, "Make late again." "I'm sorry," Johnny said.)	21. Story is complete or complete 0 Incomplete—missing a beginning, middle, or an ending 1 Complete—has a beginning, middle, and ending 2 A complete story with elaboration that goes beyond what is pictured

Total (12) for Story Complexity Items

Total (out of 27) for Production Subtest, Task 4: Late for School



Comprehension Subtest, Task 5: Treasure

Directions: Say, "Now I'm going to tell you a story that goes with this picture. After that, I'll ask you some questions about my story. Then I'll show you a different picture for you to make up a story about. When you make up your own story, try to make it even better than mine."

I'm going to call my story "The Treasure." One Saturday morning, when Erika and Michael were playing in the park, they found a trail they had never seen before. They decided to follow it to see where it led. As they came around a bend, they heard a strange hissing sound. Michael stuck up behind a large rock and peeked over. He whispered to Erika, "I can't believe it! I think there's a dragon by the cave over there." Erika peeked over the rock to see for herself. She dashed down quickly and said, "That's a dragon all right, and he's guarding a treasure chest full of gold!" Michael said, "Let's get out of here!" He started to run off, but Erika grabbed his arm and said, "Wait. Nobody will ever believe us. Let's get some proof."

Just then, they saw the dragon going back into his cave. Erika said, "Now's our chance!" She dashed around the rock, ran toward the treasure chest, and grabbed a gold coin. The dragon heard her and blew blasts of fire out of its mouth. Seeing the flames fly toward her, Erika screamed and ran as fast as she could, right past Michael. Michael turned and ran after her as fast as his legs would carry him.

When Erika and Michael told their parents about their adventure, they rolled their eyes and laughed. Their father said, "I find this pretty hard to believe." "We can prove it!" Michael and Erika yelled. Erika reached into her pocket to get the piece of gold, but it wasn't there. "We'll take you back to the trail," Erika said.

The family walked back to the spot where Erika and Michael remembered seeing the dragon. But the dragon and the treasure chest weren't there. To this day, Erika and Michael are not sure if their experience with the dragon was real or just a dream.

Comprehension Items

Scoring Directions: Score 1 point for each correct response. No repetitions or prompts are allowed. Note: Total possible points for each question are listed next to the blanks.

- ... (2) 1. What were the children's names?
... (2) 2. Where were they walking before they saw the dragon?
... (2) 3. Where was the cave?
... (2) 4. How do you know Michael was scared when he saw the dragon?
... (2) 5. Why did Erika run toward the treasure chest?
... (2) 6. When were they going to show the gold coin to their parents?
... (2) 7. Where did Erika and Michael run after the dragon scared them?
... (2) 8. What do you think happened to the gold coin that Erika thought was in her pocket?
... (2) 9. How do you know Erika and Michael's parents were doubtful when they heard about the kids' adventure?
... (2) 10. What did their father say?
... (2) 11. How do you think Erika and Michael felt when they couldn't find the dragon or the treasure?
... (2) 12. Why do you think they felt that way?

Correct Responses

Erika _____ Michael _____
On a walk to the park _____
In the park by the trail behind a rock _____
Said let's get out of here/started to run off _____
To get gold/he got proof _____
Parents/when and/or did _____
Down/back down the trail _____
Said it happened to him/approved _____
Rolled their eyes/laughed _____
Found it pretty hard to believe/thought it wasn't true _____
Confused/frustrated/didn't want to believe _____
Parents thought they had/dragon wasn't there/knew it wasn't real _____

Total (out of 12) for Comprehension Subtest, Task 5: Treasure



Production Subtest, Task 6: Aliens

Directions: Read the *Alien* picture. Say, *Now I'm going to show you a picture. Fill the box to look at it carefully and then tell me the story that goes with the picture. Make your story as long and as complete as you like.* You can remember that stories have a beginning, things that happen in the middle, and an ending. You can start anytime you are ready.

Allowable starting point: What happened to the boy and the girl in the story? (May be said only once)
Allowable ending point: Is there anything more? (May be said only once)

Production Score House
Story Content Scoring: Score 1 point for each item included in the child's story. No repetitions or prompts are allowed.

Settings/ Characters	Facts That Motivate Action (Background)	Actions-Reactions	Consequence (Ending)
1. _____ Park	7. _____ (space/supernatural)	10. _____ Action in response to alien	16. _____ Alien starts/leaves
2. _____ Boy/girl	8. _____ Alien comes and	11. _____ Girl goes to meet alien	17. _____ Parents discuss alien
3. _____ Girl	9. _____ Girl wants to go into/ meet alien	12. _____ Alien actions (friendly or mean)	18. _____ Boy/girl's feelings about the ending
4. _____ Alien mother/father		13. _____ Child listens	
5. _____ Alien (child)		14. _____ Child tells parents about alien	
6. _____ Describes alien(s)		15. _____ Parents come to park	

Total (16) For Story Content Items

Story Complexity Scoring: Circle the score next to the phrase that best describes the child's narrative in the following areas.
 No repetitions or prompts are allowed.

Complexity Items	Scoring Area	Story
19. Indicates temporal relationships between events 0 No time relationships stated 1 Uses "then" or "there" 2 Uses one or more time words (e.g., before, after, so, and)	23. One grammatically correct sentences 0 There are more grammatical errors 1 One or two grammatical errors 2 No grammatical errors	23. Story's source 0 Two or more statements do not make sense or are out of sequence 1 One statement does not make sense or is out of sequence 2 All statements make sense
26. Indicates causal relationships between events 0 No causal relationships stated 1 One causal relationship is stated (e.g., because, since, so, therefore, as a result, etc.) 2 Two or more different causal relationships stated	22. Includes dialogue 0 No dialogue 1 Dialogue for one character 2 Two characters talk to each other (e.g., "Kids," she said, "I'm screaming!" "I guess so," said Michael.)	24. Story is complete or complex 0 Incomplete—missing a beginning, middle, or ending 1 Complete—but a beginning, middle and ending 2 A complete story with elaboration that goes beyond what is pictured

Total (12) For Story Complexity Items

7

Test of Narrative Language—Second Edition				TNL-2		
Examiner Record Booklet						
Ronald B. Gilliam Jills A. Pearson						
Section 5. Identifying Information						
Name		Year _____ Month _____ Day _____		Female ☐ Male ☐		Grade _____
State Rated		_____		School _____		
Date of Birth		_____		Examiner's Name _____		
Age ^a _____		_____		Examiner's Title _____		
*When entering the examiner's address, use years and months. Do not round up.				Parent/Location (Required) _____		
Section 2. Record of Raw Scores for Subtests						
Comprehension						
1. McDonald's		_____		Production Item		_____
3. Sitcoms		_____		2. McDonald's		_____
5. Treasure		_____		4. Late for School		_____
Total Raw Score		= _____		6. Aliens		_____
				Total Raw Score		= _____
Section 3. Subtest Performance						
Raw Score		Age Equivalent		Scale Score		SEM
Comprehension		_____		_____		Descriptive Score _____
Production		_____		_____		_____
Section 4. Composite Performance						
Subtest Scaled Scores		Sum of Scaled Scores		Scale Score		SEM
Comprehension		_____		_____		_____
Production		_____		_____		_____
Section 5. Descriptive Scores						
Narrative Language Ability Index		= _____		= _____		_____
Scaled Score		1-3		4-5		6-7
Descriptive Score		Very Poor		Poor		Better Average
Index Score		<70		70-79		80-89
						90-110
						111-120
						121-130
						>130
Section 6. Observations						
Speech Production						
Fluency _____						
Voice _____						

The TNL-2 can function as a measure of Recognition to identify narrative discourse level issues

- Standardized instructions & scoring procedures
- Norms
- Valid items related to narrative discourse

Response

Monitoring progress

Now we need reliable, consistent, valid measures for measuring progress in discourse level skills, in authentic contexts

- Language Sample Analysis
- Narrative Sample Analysis
 - NAP
 - NSS
 - MISL
- Holistic Scoring

Measuring discourse skills with criterion referenced measures

- **Language sample analysis** has been the “gold standard” for evaluating oral language skills in children
- Measures that have been used to analyze language change
 - mean length of utterance (MLU)
 - total number of words (TNW)
 - total number of different words (TDW)

• (Heilmann et al., 2008)

Measuring discourse skills with criterion referenced measures

- **Language sample analysis**
 - percent grammatical utterances
 - percent of complex sentences (or subordination index)
 - SI is a measure of syntactic complexity which produces a ratio of the total number of clauses to the total number of C-units (or modified C-units for samples of bilingual Spanish/English speakers). A clause, whether it is main or subordinate, is a statement containing both a subject and a predicate.

• (Heilmann et al., 2008)

Hurdles for LSA

4-6 minutes per each minute of audio is required to transcribe samples from typically developing speakers

7-8 minutes per each minute of audio is required to transcribe samples from speakers being evaluated for services or receiving services

Miller, Andriacchi, & Nockerts (2016). Using language sample analysis to assess spoken language production in adolescents. *Language, Speech, and Hearing Services In Schools*, 47, 99-112.

Factors that contribute to time spent in LSA:

Intelligibility, mazing, pausing, errors, and overlapping speech

Familiarity with transcription conventions

Play back equipment

Typing skill

Quality of the recording

Sample length

Context (retell, spontaneous)

Number of nonstandard features that are coded

Advantages of LSA

Listening to the sample provides the clinician with greater insight into strengths and weaknesses

Clinical observations can shape our approach to analysis, to attend to details that might have been overlooked during elicitation

SALT staff have worked with districts to set up transcription services by SLP aides or assistants using de-identified samples and secure websites

- Dedicated transcriber
- <http://saltsoftware.com/transcription/services>
- (\$35 an hour, you upload your file, they transcribe it. SI, NSS, and custom coding available)

New news: samples do NOT have to be 100 utterances or be 15 minutes in length in order to accurately capture and assess natural language

Rule of thumb: a 5 minute conversational sample, 40-50 utterances is sufficient to yield meaningful results (Heilmann, Nockerts, & Miller, 2010).

Systematic Analysis of Language Samples

<https://www.saltsoftware.com/>

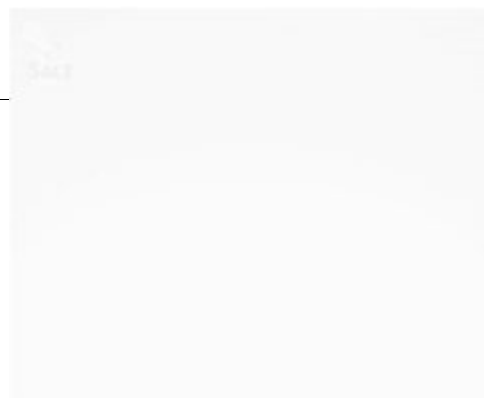
SALT 16 for Windows® and Mac includes a transcription editor, **standard reports**, and **reference databases** for comparison with typical peers. Accessories include the **SALT reference book** and **elicitation materials**.

Free! Online training courses take you through each step in the language sample analysis process.

<https://www.saltsoftware.com/case-studies/>

<http://saltsoftware.com/training/self-paced-online-training>

<http://saltsoftware.com/training/howtovideos/si>



<https://www.saltsoftware.com/case-studies/>

Case Study - Alex

- * 16 years 7 months old
- * Mental adjusted age 13
- * Conversational sample



Narrative sample analysis

Advantages

- Eliciting a narrative is an authentic context to obtain a language sample for school age children
- Tends to yield more complex language (than conversation)
- Representative information from a much shorter sample
- You can calculate TNW, TDW, MLU, grammaticality and syntactic complexity from a narrative sample
- You can "control" the content of the narrative by choosing the stimuli for assessment
- You gather information specifically relevant to the curriculum (in order to design educationally relevant intervention)**

(Justice et al., 2010; Leadholm & Miller, 1992)



The length of a narrative has often been used as an estimate used diagnostically, however, it is not always a good predictor of story quality

Stories that are concise and contain specific structural and linguistic features may be shorter and more sophisticated than longer, winding, disorganized stories.



Can elicit a story retell (Frog stories) in 4 minutes on average, to generate reliable estimates of spoken language skills (Miller, et al., 2016).

Hadley, P. (1998). Language sampling protocols for eliciting text-level discourse. Language sampling protocols for eliciting text-level discourse. *Language, Speech and Hearing in Schools*, 29, 132-147.

Interview format – time efficient, promote more advanced language structures than unstructured conversational samples

3 blocks:

Blocks 1 & 2 = 4 minutes each, conversational protocol to elicit conversation, personal narratives and expository discourse in the form of explanations of games and sports

Block 3 – 4 minutes, narrative protocol to elicit retellings of stories, programs or movies

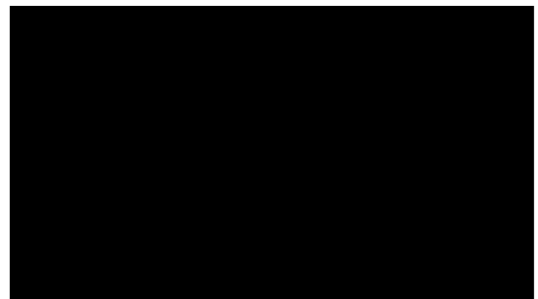


Block 3

Students watch *Frog, Where are You* video

Students retell story to clinician, answer comprehension questions about it, generate a new episode or ending to the story and then retell it to a peer or family member

There is a protocol in Appendix B that is used for conducting this part of the assessment process



Filiatrault-Veilleux, P., Bouchard, C., Trudeau, N., Bouchard, C., Trudeau, N., & Desmarais, C. (2016). Comprehension of inferences in a narrative in 3- to 6 year old children. *JSHLR*, 59, 1099-1110.

121 TD children ages 3-4, 4-5, and 5-6

Asked to listen to a story while looking at pictures on the Ipad, and then answer questions related to inferring the problem, internal response, predictions, & resolution

Children's responses were also coded as expected, incomplete, low contingency or inadequate (off topic)

Table 3. Subscores in percentage (SD) for the six inference types of each group.

Inference types	3-4 years old (n = 30)	4-5 years old (n = 37)	5-6 years old (n = 54)
Problem	53.3* (18.8)	72.5 (18.5)	74.7 (15.1)
Internal response	48.9* (27.1)	73.8 (17.1)	79.1 (11.8)
Prediction	40.6* (20.4)	67.1 (19.4)	75.9 (18.5)
Goal of the character	52.8* (28.4)	71.6* (23.5)	85.2 (12.4)
Attempts to the problem	41.5* (21.3)	62.7* (14.1)	76.6 (12.1)
Resolution	47.1%* (26.8)	72.8%* (20.8)	84.3% (13.1)

*Significantly lower scores than the older group, $p < .01$.

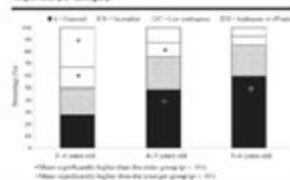
The ability to infer the problem of the story, the internal response of a character, and predictions were easier starting at age 4 years.

Then, the 5- to 6-year-olds were better able to infer the goal, the attempt to solve the problem, and the resolution.

Appendix B
Four categories of quality of responses, examples for the question "What does Peter want?" and scores.

Category of response	Low	High
Complete	2: "He wants to play."	3: "He wants to play."
Partial	1: "He wants to play."	2: "He wants to play."
Incomplete	0: "He wants to play."	1: "He wants to play."
Off topic	0: "He wants to play."	0: "He wants to play."

Figure 4. Cumulative frequency histogram of mean number of responses per category.



Elicitation methods

Retelling

- Entire story (with and without illustrations)
 - Literature
 - Wordless books
- Sequenced pictures (increasing length)
- Page by page

Spontaneous composition

- Single scene without an obvious initiating event (OIE)
- Single scene with an obvious initiating event (OIE)
- Verbal or written prompt
- Story starter



You can shoot yourself in the foot if you aren't careful!

STORY GENERATION

RETELL



There was a boy and a (girl) girl

There was a boy and a ship

And it flew on the ground

And three aliens (came off) came off it

And the girl went home

And the boy didn't want to

They came home and they was hungry
Then the mother said they was goin eat out somewhere
And they said McDonalds
And they jump in the (car) car
And they drive to McDonalds
And the girl didn't know what she wanted
And the boy and his mom (knowed it) knowed it what they wanted
And then the girl knowed it what she wanted
And (their mom) their mom ordered a salad
And the boy ordered



Sequenced pictures



It's a boy

Just got out of a bed

And he want to get some cereal

And he waste it all over the floor and the table

And (when) when he got his clothes on he tried put his (sh) shoes on

And he broke his string

And he got ready for the bus

And the bus left

And his mom carried him to school

And the teacher was standing waiting for him coming class

wordless



<http://www.readingrockets.org/booklists/our-favorite-wordless-picture-books>
<https://blog.allaboutlearningpress.com/wordless-picture-books/#bookList2>
<file:///Users/a00964296/Downloads/Wordless-Picture-Books-Library-List.pdf>

Single scenes



No obvious initiating event



Obvious initiating event



<http://saltsoftware.com/resources/elicaids/nzpnphotos>

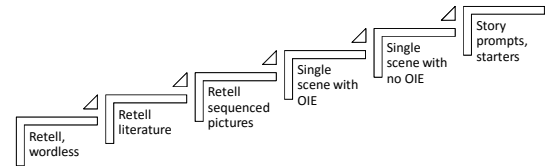
Resources for Story Starters

<http://www.meddybemps.com/9.700.html>

Free online Story Starters Collection

<http://saltsoftware.com/resources/elicaids/protocols/>

General hierarchy from easiest to hardest



- If you ask a student to retell a story with picture prompts at pre-test, then continue to use the **same context** for the next few data collection points until the student demonstrates consistent, stable knowledge and use of the structures you are teaching
- Introduce the next hardest prompt (story retell, no pictures) and follow the same plan as you move up the hierarchy



Hierarchy disclaimer

There is always a student who doesn't necessarily fit into this scheme

Some students find retells harder than single scenes for various reasons

- Unfamiliar vocabulary
- Contain concepts and ideas they have no background knowledge in
- Low interest in the topic
- Memory load issues
- Generating one's own story may be easier because the student can remain in his or her comfort zone with respect to vocabulary
- The presence of a model may make generating spontaneous stories easier to accomplish



Elicitation context considerations

Schneider, P., Rivard, R., & Debreuil, B. (2011). Does colour affect the quality or quantity of children's stories elicited by picture? *Child Language Teaching and Therapy*, 27, 371. <http://clt.sagepub.com/content/27/3/371>

Asked 22 TD preschool children to tell stories from color or black and white pictures

Two story sets of 5 pictures each

Children were observed to tell stories that were similar in narrative content, length (TNW), and word diversity (TDW) regardless of whether the pictures used to elicit stories were in color or black and white.

Only 4 children stated that color contributed to why they chose color over black and white

The remaining children gave content related reasons for their preferences



Gazella, J., & Stockman, I. (2003). Children's story retelling under different modality and task conditions: Implications for standardizing language sampling procedures, *AJSLP*, 12, 61-72.

29 preschoolers aged 4;2-5;6 randomly assigned to modality presentation condition

Children were asked to retell the story to an unfamiliar listener and to answer 9 questions about it (provided in Appendix of the article)

◦ **Modality**

- Audio only
- Audio-visual (video of puppets acting out the story)
- Groups did not differ in terms of the # of utterances, TNW, TDW, MLU

◦ **Task**

- Retelling
 - Mean length of utterance longer, more complete & complex grammatical structures than in question answering
- Question-answering
 - Number of utterances and different words used higher than in retelling task

TABLE 1. Measures of language quantity for the narrative retelling and direct questioning tasks in the two story presentation conditions.

Quantity Measure	Task	Audio Only		Audiovisual	
		M	SD	M	SD
Number of Utterances	Narrative Retelling	7.8	3.0	8.6	5.3
	*Direct Questioning	12.0	4.0	12.0	3.3
Total Number of Words (TNW)	Story Narrative	57.5	34.1	54.7	33.6
	*Direct Questioning	73.4	41.8	68.4	28.8
Mean Length of Utterance (MLU)	*Story Narrative	8.2	2.6	7.6	1.8
	Direct Questioning	6.6	1.8	6.6	1.7

*Significant Task Effect Only and No Significant Task x Modality Interaction.

The direct questioning task significantly expanded on the amount of talk and story understanding but the presence of the video was not necessarily helpful in eliciting stories from children

Does this suggest that clinicians should NOT use visuals to support story retelling?

Not necessarily.

- The study was small, recruited typically developing Caucasian boys only, and they were young (4;2 to 5;6)

Individual differences

- Students with ASD are well known to benefit from visual cues



Schneider, P. (1996). Effects of pictures versus orally presented stories on story retellings by children with language impairment. *AJSLP*, 5, 86-96.

16 participants between the ages of 5;7 and 9;9, LI

Pictures only – put pictures in front of child, child told story to researcher, then to unfamiliar listener

Oral followed by pictures - read story to child with the pictures visible, then child was asked to tell story to unfamiliar listener

Oral & pictures – read story with pictures present, pictures visible when child told story to unfamiliar listener

Oral only – read story to child with no pictures, no pictures were provided as child was asked to tell story to unfamiliar listener

Measures of length (no significant differences between conditions)

- Mean length of T-unit in morphemes
- Number of words
- Number of utterances

Measures of content

- Story grammar units
- Different/relevant information
- Different/irrelevant information

Pictures only – fewer SG units than oral followed by pictures & oral only, the most irrelevant & original information

Oral followed by pictures & Oral & pictures – fewer SGs than oral only

Oral only – greatest number of SG units, more likely to qualify as a complete episode

Fiestas, C., & Pena, E., (2004). Narrative discourse in bilingual children: Language and task effects, LSHSS, 35, 155-168.

12 bilingual children ages 4;0 to 6;11 told stories in English and Spanish

- Asked to produce one narrative using wordless picture book & another using a static picture in English and then in Spanish (total of 4 stories)
- Retell Task
 - Produced narratives of equal complexity whether told in English or Spanish
 - Used more IEs and attempts in Spanish
 - Used more consequences in English
 - Used more Spanish influenced English utterances for the book task than they did English influenced Spanish utterances suggesting that the retell task was more challenging than the picture task
- Static picture (birthday party)
 - Tended to yield a personal narrative rather than a fictional narrative making it difficult to compare the two conditions



Fiestas & Pena, 2004

	Book		Picture	
	Spanish	English	Spanish	English
C-units	31.67	33.75	20.17	19.50
# words	168	186	96	101

Clinical Implications

The retell task using a wordless picture book was more reliable in eliciting a narrative sample containing story grammar elements, but the language samples were fairly comparable for productivity and grammaticality.

Eisenberg, S., Ukrainetz, T., Hsu, J., Kaderavek, J., Justice, L., & Gillam, R. (2008). Noun phrase elaboration in children's spoken stories. LSHSS, 39, 145-157.

2 narratives were elicited from 40, 5, 8 and 11 year olds

TNL

- picture sequence (Late for School)
- single picture (Alien story)

Coded for:

- Simple designating noun phrases = 1 pre-noun element (the boy) Pre1
- Simple descriptive noun phrases = a descriptive element and a determiner (a small girl) Pre2
- Complex descriptive noun phrases = 2 or more descriptive elements and a determiner (the crazy yellow bus) Pre3
- Complex noun phrases = noun postmodification a face like aliens, a girl named Amanda) Post

Noun phrase elaboration was assessed by age (5, 8, 11), syntactic position (object or subject) and narrative context (single scene or sequenced picture)

Table 6. Number and percentage of children producing each NP type by narrative context.

	Star		Star		Star		% = 127	
	n	%	n	%	n	%	n	%
PRE1								
Single	34	100	40	100	29	100	113	100
Sequence	34	100	40	100	29	100	113	100
PRE2								
Single	27	79	33	90	36	92	97	84
Sequence	19	53	33	82	33	85	87	76
PRE3								
Single	9	25	14	35	27	68	49	43
Sequence	8	8	5	13	13	33	18	16
POST								
Single	19	53	24	66	33	85	76	66
Sequence	9	25	22	55	22	56	52	45

Children ages 5-11 used more noun phrase elaboration when asked to tell stories using a single scene (Alien) than in a picture sequence context (Late for School)

Complex Pre3 and postmodification may not be present until age 11

- The crazy yellow bus
- A face like aliens

◦ What do we want to see in a progress monitoring tool?



Reliable & Valid

If we stick to the curriculum, we can find specific, relevant and time-based goals.

The two most difficult parts of the goal involve measurability and attainability.

Is this goal SMART?

Matching the author to book title is observable, enjoying literature is not

- Identifying the major events in a story is observable, improving story knowledge is not

Are any important conditions included (given a story starter, after hearing a story read)

- Will retell stories isn't enough information.

Are there measurable criteria that specifies the level of performance that is expected (will tell a story that contains a basic episode)

- Jerry will retell a story with 85% accuracy.
 - How do you retell a story with 85% accuracy? Why would the goal be to be less than 100% accurate? What elements are required? This is not measurable

Present level of performance: When asked to compose a story from a single scene picture, Jeremy describes that picture, rather than creating a story that contains characters, settings and major events (no use of story grammar elements). When asked to retell a story, Jeremy leaves out these elements as well.

Objectives:

Jeremy will retell stories that include stated characters, settings, and initiating event and the attempts and consequences that are causally linked to the IE.

When given a single scene picture with an obvious initiating event, Jeremy will compose stories that include well-specified characters, settings (uses proper nouns), and initiating event and the attempts and consequences that are causally linked to the IE.

Goal: Describe characters, settings, and major events in stories using key details.