Clinical Assessment of Narratives

- Presented by **Tatyana Elleseff MA CCC-SLP of** Smart Speech Therapy LLC at the **Power Up Outcomes with Evidence Based Practice**

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Overview

- Early detection of narrative difficulties is important for identification of children at risk for future social and academic deficits.

- Narrative assessments can provide a wealth of information regarding children's speech and language development including but not limited to working memory, word retrieval abilities, syntactic structure, vocabulary knowledge and use, sequencing abilities, perspective taking skills, conversational cohesion and fluidity as well as speech clarity.

- This session will provide rationale in support of narrative assessments; describe clinical assessment of narrative abilities in children of various ages, provide participants with specific recommendations for evaluating children's narratives as well as demonstrate to participants how to score various narrative transcripts.
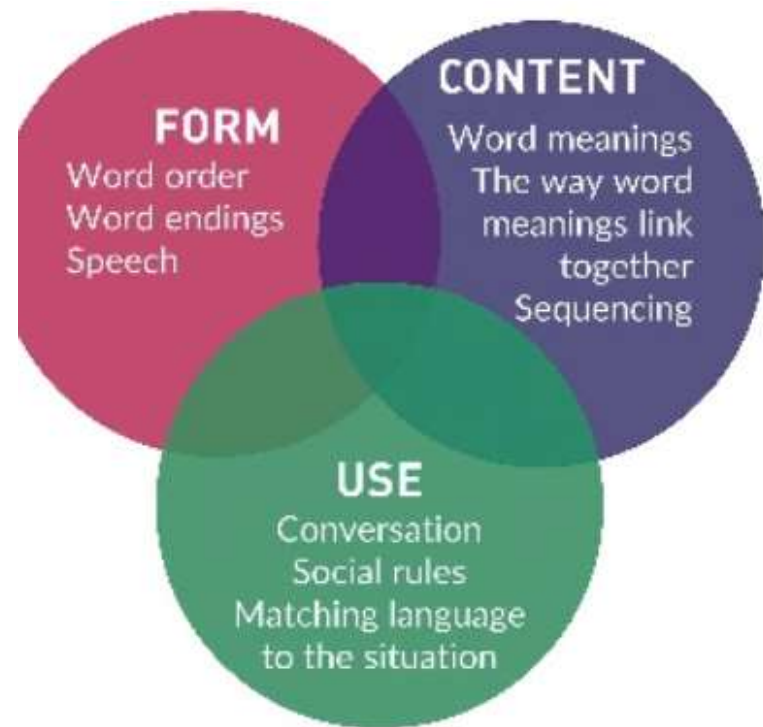
Learning Objectives

Be	Explain	Discuss	Describe	Identify
By the end of this presentation participants will be able to	Explain the impact of narrative difficulties on language development and academic performance	Discuss stages of narrative development from preschool through adolescence	Describe how to elicit narratives in children of various ages	Identify specific elements of clinical narrative assessment with respect to analysis

Telling a Story …

- Narratives require the integration of all aspects of language
  - Elaborated content, grammatical accuracy, and syntactic complexity
- Children with DLD experience difficulties in all of these areas
- Children with DLD produce stories with significant variability (Colozzo et al 2011)
  - Poor content but grammatically accurate
  - Elaborated content but less grammatically accurate
  - Struggle with the cumulative load of creating a story that is both elaborate and grammatical

FORM
Word order
Word endings
Speech

CONTENT
Word meanings
The way word
meanings link
together
Sequencing

USE
Conversation
Social rules
Matching language
to the situation

Why Assess Narrative Abilities?

- Narrative language skills have routinely been identified as one of the **single best predictors of future academic success** (Bishop & Edmundson, 1987; Feegans & Appelbaum 1986)

- Poor discourse and narrative abilities place children **at risk for learning and literacy-related difficulties** including reading problems (McCabe & Rosenthal-Rollins, 1994)

- Language produced during story retelling is **positively related to bilingual reading achievement** (Miller et al, 2006)

- Narrative analyses help to distinguish children with Language Impairment (LI) from their Typically Developing (TD) peers (Allen et al 2012)

Narrative Abilities and Social Communication Competence

- Narrative weaknesses significantly correlate with social communication deficits (Norbury, Gemmell & Paul, 2014)

- Students with decreased narrative abilities evidence numerous social communication deficits
    - Decreased gestalt processing characterized by difficulty summarizing main ideas and grasping the 'gist' of books and films(Loveland & Tunali, 1993; Jolliffe & Baron-Cohen, 2000)
    - Decreased organization and coherence of verbal output (Landa et al. 1995; Diehl et al. 2006)
    - Fewer use of perspective taking terms denoting mental states (Capps et al. 2003; Begeer et al. 2010)
    - Use of irrelevant, inappropriate, or "bizarre utterances" (Diehl et al., 2006; Loveland, McEvoy, & Tunali, 1990; Hogan-Brown-et al, 2014; Diehl et al. 2006)

Narrative Abilities and Reading Development

- It's been long known that children with reading disabilities demonstrate difficulties in production and comprehension of oral narratives (Roth & Spekman, 1986; Snyder & Downey, 1991)

- Findings from large scale studies reveal "consistent but moderate correlations between children's oral language and reading" (see Reese et al, 2010 review)

- Feagans and Appelbaum (1986) found that learning impaired children's performance on a story retelling task was a better predictor of their later reading achievement than were other aspects of their oral language, such as their vocabulary and syntax.
  - Used the Renfrew Bus Story (Renfrew, 1969) children heard and then asked to retell a story using pictures cards.

- Children's oral narrative skills were correlated with reading skills at older ages (2-3 years of formal reading instruction)(Reese et al, 2010; (Storch & Whitehurst, 2002))

The Value of Narratives

- Provide insights into child's verbal expression by tapping into multiple language features and organizational abilities simultaneously (Hoffman, 2009a; Ukrainetz, 2006b; McCabe & Bliss, 2003)

- Encompass many higher-level language and cognitive skills (Paul et al, 1996) such as:
  - Event sequencing
  - Text cohesiveness via use of explicit linguistic markers
  - Use of precise vocabulary to convey ideas without visual support
  - Understanding of cause-effect relationships
  - Use of culture-specific story schemata that aids the listener in comprehending the tale

- Bridge the gap between oral and written language and thus good skills are needed for appropriate reading and writing development (Snow et al, 1998)

Narratives sensitive to narrative competence

- **Fictional stories**
  - Tap into knowledge of organizational framework
  - Sensitive to Language Impairment (LI)
  - Retelling of fictional stories continues to be widely used to assess the narrative skills of children at risk for language problems (McCabe & Rosenthal-Rollins, 1994)

Clinical Narrative Assessment

- Uses knowledge of typical narrative development to determine typical vs. deficient
- Quick and efficient way to assess multiple areas of language
- Can be generated based on picture scenes, wordless picture books, knowledge of books and movies (older children), etc.
- Low cost/FREE
    - Uses materials on hand
- Provides a considerable amount of supplemental information regarding the students' oral language abilities

Advantages of Clinical Narrative Assessments

- Provide more detailed information regarding microstructural and macrostructural elements as well as child's thought processes and socio-emotional functioning
- Based on least biased assessment principle (Goldstein, 2006)
  - You can make adaptations/modifications to the standardized protocol
  - Takes into account cultural considerations
  - Spontaneous language sample measures can supplement and clarify diagnostic information from standardized assessments (Rojas & Iglesias, 2009)

Fictional Narratives: Elicitation Methods

- Dynamic Assessment
  - Immediate retelling following clinician's story reading
  - Preschool (3-6 years old)
    - ## Wordless picture books
  - Early Elementary (7-12 years old)
    - ## Picture books
- Middle School/High School (13-18 years old)
  - Delayed retelling favorite book or movie
  - **Peer Conflict Resolution Tasks** (Nippold, 2007)
- **Read the story first** because "the model narrative presents the events, plot structure, and words that the narrator is to retell, **which allows more reliable scoring than a generated story that can go in many directions**" (Allen et al 2012)
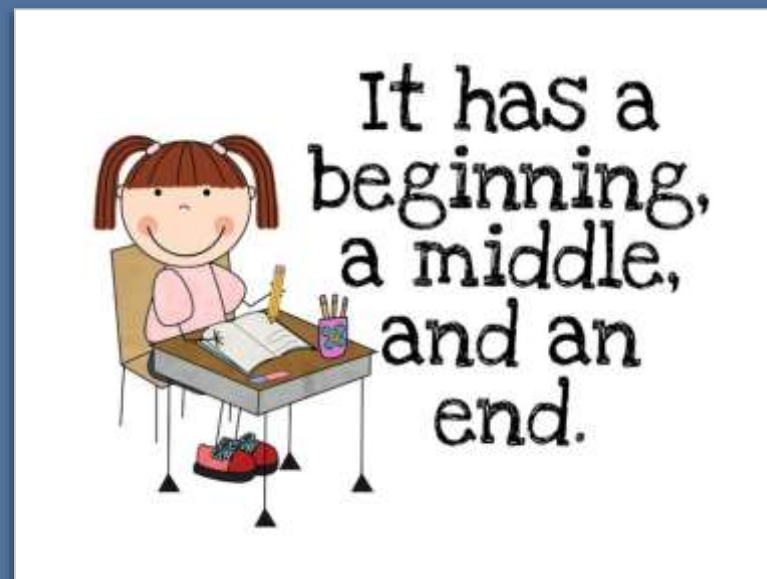
Narrative Assessment: Sample Materials

- SALT Elicitation Books (FREE Scripts and Rubrics)
- **Frog Where Are You** (Mercer Mayer, 1969)
  - Preschool-1st grade
- **Pookins Gets Her Way** (Helen Lester, 1986)
  - 2nd grade
- **Porcupine Named Fluffy** (Helen Lester, 1987)
  - 3rd grade
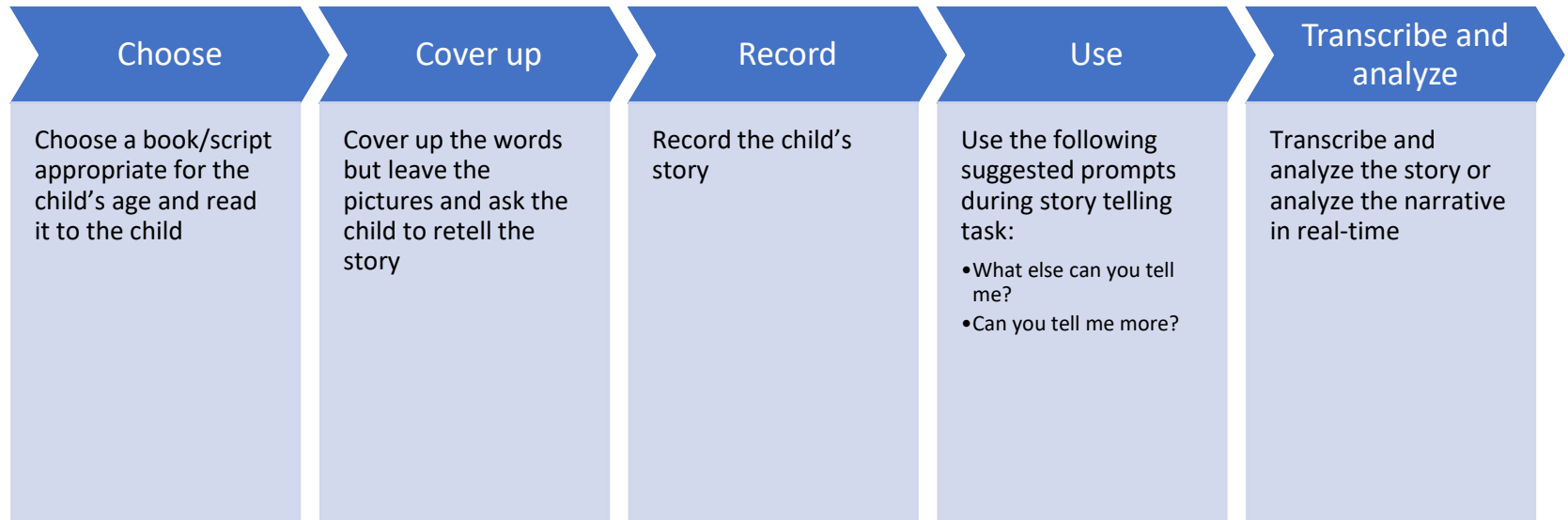- **Dr. De Soto** (William Steig, 1982)
  - 4-6th grade

What do Narratives Reveal?

- **Sequencing Ability**
  - Story order
- **Working Memory**
  - Recall of relevant details
- **Grammar**
  - Sentence structure errors, run-on sentences, etc.
  - Use of temporal markers and cohesive ties to connect the story
- **Vocabulary**
  - Immature vs. age-level
  - Word retrieval issues vs. lexical fluency
- **Pragmatics and perspective taking**
  - Topic cohesion /coherence
  - Use of anaphoric references
  - Insight into character's feelings, beliefs, thoughts

Assessment Procedures

Choose	Cover up	Record	Use	Transcribe and analyze
Choose a book/script appropriate for the child's age and read it to the child	Cover up the words but leave the pictures and ask the child to retell the story	Record the child's story	Use the following suggested prompts during story telling task: •What else can you tell me? •Can you tell me more?	Transcribe and analyze the story or analyze the narrative in real-time

Procedures

Major Narrative Elements
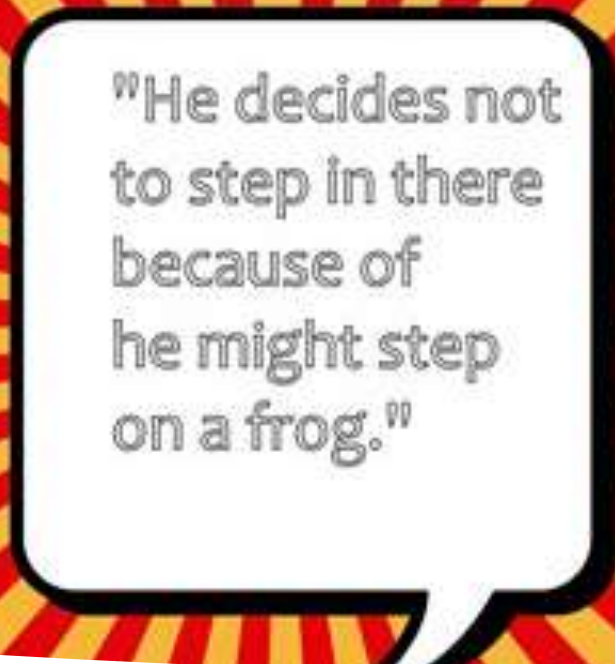
- **Microstructure**
- **Macrostructure**

Microstructure vs. Macrostructure (Justice et al, 2006)

- Microstructure (content and form) - internal sentence structure reflecting linguistic productivity, grammatical complexity + accuracy, and lexical diversity
  - Syntax
  - Grammar
  - Vocabulary
- Macrostructure (use) - "gist" of the story, story organization and cohesion
  - Story Grammar - examines how agents resolve complications through a series of causally related elements (Stein & Glenn, 1979)

"The boy looked at the dog and sees bees."

"He decides not to step in there because of he might step on a frog."

Microstructure, Macrostructure and LI

- Children with LI produce linguistically and structurally poorer narratives (Boudreau, 2008)
- As per Crais & Lorch (1994) children with LI display
  - Less conventional introductions/conclusions
  - Less total words
  - Less different words
  - Less cohesive ties
  - Less story grammar elements
  - Less complete episodes
  - Less communication repairs
  - Less attempts, plans, and internal responses (Picture Source: **LSHSS**)

Analyzing Microstructure: Content

- **Vocabulary**
  - Number of words
  - Variety of words
  - Recall of story words
  - Spontaneous usage of age-level words
- **Presence of word finding/retrieval deficits**
  - Excessive usage of word fillers (um, ah), word/phrase revisions, word/phrase repetitions, word substitutions, word distortions, word blocks, false starts

Word-Finding: Fragments and Mazes

- **Fragment**s are utterances which lack a subject and/or a main verb (e.g., *playing at the park, under the bed,* and *the brown and white cat)*
  - May be indicative of difficulty with thought formulation
  - Often indicative of restricted/limited use of syntax
- **Mazes** -include false starts, retractions, or revisions that do not contribute to a clear expression of thought
  - "He said… I mean… ran… uh…um" (Loban, 1976).
    - Indicative of **word-finding deficits** (German, 2005)
      - (Nippold et al., 2007)

Types of word finding (German, 2005)

- **Error Pattern 1- Lemma Related Semantic Errors**
  - Slips of the tongue or semantic word substitutions
    - Fox→ Wolf; Clown → Gnome

- **Error Pattern 2 - Form Related Blocked Errors**
  - Tips of the tongue responses characterized by word blocks, pauses, fillers (um, ah, etc), repetitions, meta cognitive comments ("I know", "I don't know", etc.)

- **Error Pattern 3 - Form & Segment Related Phonologic Errors**
  - Twists of the tongue (e.g., phoneme omissions, substitutions and additions)
    - Cactus → catus; octopus →opotus, etc.

Significance of word finding errors in discourse/narratives

- Typically an excessive amount (more then 10%) it is an indication of a broader language impairment

- Makes the child's narrative difficult to follow

- Creates frustration for the child

- Impacts academic and socioemotional functioning

- Examples of non-stuttering like disfluencies
  - Interjections: (e.g. "The umm, dog was…")
  - Hesitations between words: ("He was in the…)
  - Multisyllabic whole word repetitions: (e.g. "the butterflies butterflies")
  - Phrase repetitions: (e.g. "He was he was going")
  - Phrase revisions or abandoned utterances: (" He went; She was going…")

Analyzing Microstructure: Form at a Glance

Grammar

- Markers, derivations, adverbials, auxiliaries, etc

Syntax

- Run on sentences, use of compound and complex sentences

Conjunctive Cohesion

- And, but, so, then, and then, however, subsequently,

Temporal Markers

- Before, after, during, first, firstly, secondly, last, finally

Anaphoric Referencing

- Appropriate identification of people, locations, events instead of labeling characters as 'he' or 'she' or non-specific comments (e.g., "that place", "that thing")

Form: Type of Sentences (Steffani, 2007)

- **Simple**
  - Independent clause; complete thought
- **Compound**
  - Coordinating conjunction joins 2 or more independent clauses
    - **For, and, nor, but, or, yet, so**
- **Complex**
  - 2 dependent clauses or a dependent + independent clauses are joined together by
  - Subordinating Conjunction
    - **Because, when, although, while, unless, if,**
  - Relative pronouns
    - **That, who, whom, whose, which**

Simple, Compound, and Complex Sentences
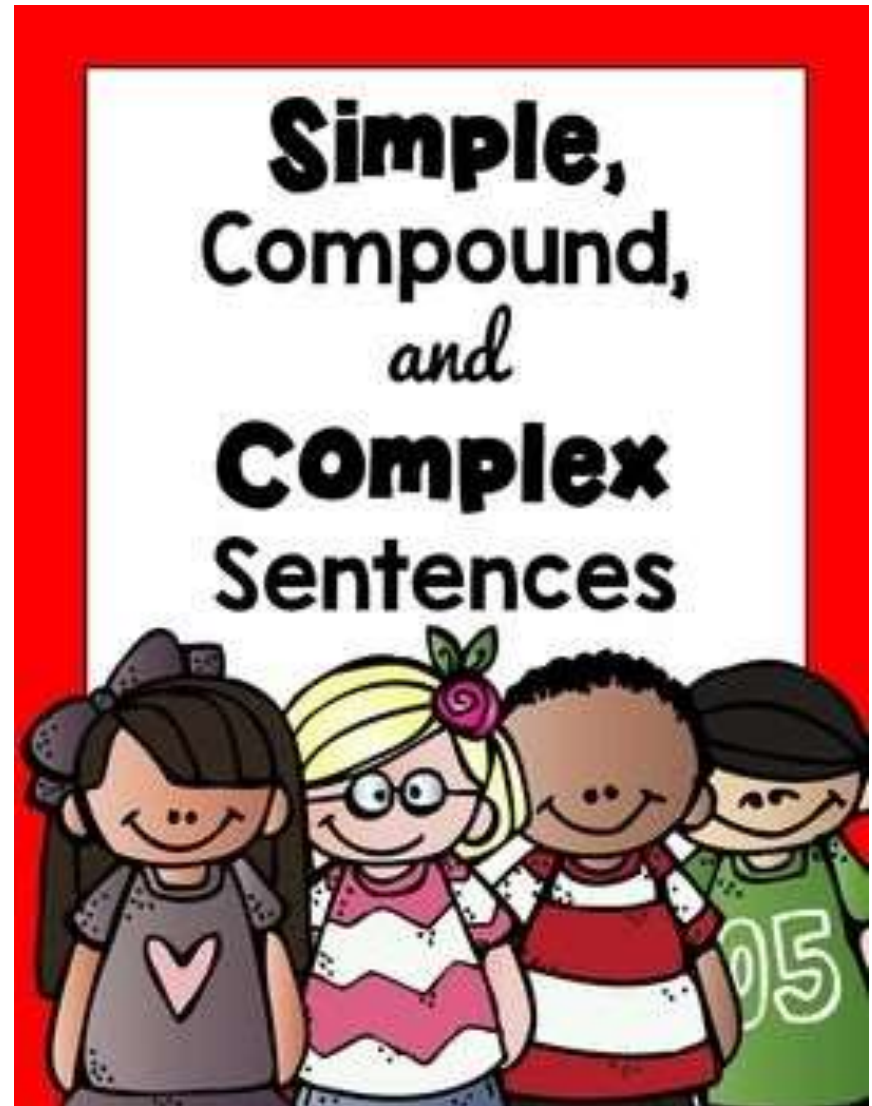
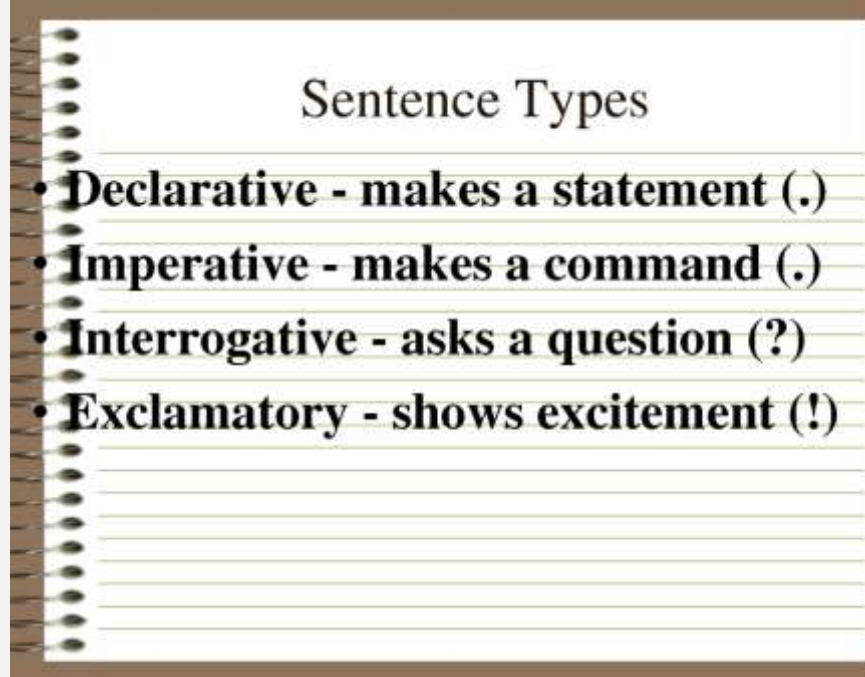# Form: Type of Sentences (Steffani, 2007) (cont)

- **Compound-Complex**
  - Contain two or more independent clauses connected by a coordinating conjunction and one or more dependent clauses
  - Generally connected to the independent clauses with a subordinating conjunction or a relative pronoun
    - Examples:
      - *'When the dog barked at the bees, they were mad because was disturbing them.'*
      - *'The gnome could not believe that Pookins would be so pushy, but she really was that obnoxious.'*

Form: Sentence Function (Steffani, 2007)

Sentence Types
- **Declarative - makes a statement (.)**
- **Imperative - makes a command (.)**
- **Interrogative - asks a question (?)**
- **Exclamatory - shows excitement (!)**

- **Declarative Sentences**
  - Positive or negative statements ending with a period
- **Interrogative Sentences**
  - Yes/no, wh-, or tag questions (won't you?; didn't you?)
- **Imperative Sentences**
  - Commands/requests
- **Exclamatory Sentences**
  - Express strong feelings

- Complex sentences "contain more than one verb phrase in embedded or conjoined multi-clause utterances" (Paul, 2001, p. 427)

- As per Paul, 1981; Lahey, 1988
  - Emerge in children's speech when they have attained a Mean Length of Utterance (MLU) of 3.0

- 3-3.5-year olds
  - 1-10% complex sentences

- 3.5-4.0
  - 10-20% complex sentences

- 4+ years
  - over 20% complex sentences (Paul, 2001)

- By age 5
  - TD children use 6-8 different conjunctions in a 15-min speech sample

Form: Complex Sentences

Tips for Complex Sentence Analysis

- Trying to figure out if it's a complex sentence or a run-on sentence?
    - Run-on sentences are 2 or more independent clauses joined without appropriate punctuation or conjunction
    - They frequently contain overuse of conjunction - *and-*
- Not sure if the child's complex sentence usage is adequate?
    - Confirm it by administering the '*Formulated Sentences*' subtest from the **Clinical Evaluation of Language Fundamentals -5 (CELF-5)**
- In a nutshell:
    - Given that young children 4-5 years of age can produce sophisticated sentence structures, SLP's can make reasonable assumptions that if the narrative ability of older children lacks complexity and is disorganized – then intervention may be warranted

Characters	Setting	Problem	Feelings
Plan	Actions	Outcome	Ending

Macrostructure at a Glance

- Does the narrative contain the appropriate story grammar elements (see next slide) commensurate with the child's age?
- How's the child's sequencing of story events?
  - Is there a central theme vs. an unconnected story production
- How's the child's verbal fluency?
  - Is the story fluid or does it contain lexical or phrasal interruptions characteristic of word-retrieval deficits?
- Does the narrative contain elements of emotional relatedness and perspective taking?
  - Can the child identify and correctly interpret character's emotions, ideas and thoughts?

Story Grammar Elements (Stein & Glenn, 1979)

Setting
- Introduction of the main characters & time/place for the story actions

Initiating event
- An action that causes a problem or dilemma

Internal Response
- The protagonist's (main character) reactions to the initiating event

Attempt
- An action or plan of the protagonist to solve the problem

Consequences
- The result of the protagonist's actions/resolutions

Reaction
- A response by the protagonist to the consequence

Evidence of Perspective Taking (McCabe & Bliss, 2003)

- Storytelling contains the following:

- **Expression of emotion**
  - "The boy was really worried about the dog. The dog got hurt and it made the boy sad."

- **Expression of motives and plans**
  - "They were going to the forest to play"

- **Dialogue between characters**
  - "Then the dog said to the turtle - Give it back!"

- **Use of "perspective taking" vocabulary terms**
  - Feel, want, etc.

- **Causal explanations of internal states**
  - "The frog was frantic because the bee stung his tongue"
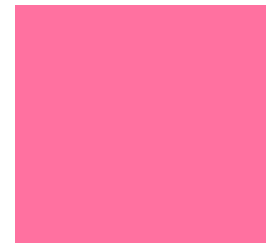
- Child uses vocabulary which reflects character's internal states:

- **Cognition**
    - Know, think, remember, guess

- **Perception**
    - See, Hear, Watch, Feel

- **Desire**
    - Want, Need, Wish

- **Emotion**
    - Happy, Mad, Sad

- **Emotion Behavior**
    - Crying, Laughing, Frowning

Perspective Taking Vocabulary (Dodd, 2012)

Narrative Stages (Hedberg & Westby, 1993)

- Oral development occurs in stages

- In order to tell an effective story a child needs to develop a certain set of skills

- Children as young as two years of age are capable of producing very basic narratives

- Children with language impairments tend to have difficulties with comprehending as well as producing narratives

- In order to understand what constitutes a disordered narrative, understanding of typical narrative milestones is needed

Stage I: Heaps (2yrs)

- Story is a collection of unrelated ideas which consists of labels and descriptions of events

- Frequent switch of topic is evident

- Lacks central theme and cohesive devices

- The sentences are usually simple declarations which contain repetitive syntax
  - Use of present or present progressive tenses

- Limited understanding that the character on the next page is still same

Stage II: Sequences (2-3yrs)

- Children are labeling and/or describing events about a central theme.

- Their stories may contain a central character, topic, or setting

- However, they still arbitrarily link story elements together without transitions

Stage III: Primitive Narratives (3-4yrs)

- Contain 3 story grammar elements which revolve around a central theme
  - Initiating event
  - Attempt or action
  - Consequences
- May use pronominal reference or repeat character's names
- Child begins to interpret/predict events (e.g., use inferences) as well as
- *Describe the character's facial expressions, body postures & feelings*
  - ***Early perspective taking***

Stage IV: Unfocused Chains (4-4 ½ yrs.)

- A true sequence of events, linked logically or via a cause-effect relationship but
  - Lacks central character
  - Use of conjunctions "and," "but," and "because" may be used
  - According to Westby (1984) "Unfocused Chains" are rarely produced by children because once they grasp the concept of cause-effect and event sequencing they begin to tell stories at the "Focus Chains" level (see next slide)

Stage V: Focused Chains (5yrs)

- Contain four story grammar components
  - Initiating event, attempt or action, and consequence and an abrupt ending which the listeners are left to interpret
- Contains a central character, a logical sequence of events (use of transitions)
  - Events take the form of "adventures"

Typically Developing 4-5-year-old retelling "Frog Where Are You?"

Student's narrative abilities were assessed using a wordless picture book by Mercer Meyer, entitled *"Frog where are you?"* The procedure involved the examiner reading a script to Student while showing him the visuals from the book and then asking him to recall the story based on the visuals with minimal verbal prompting. The following was the summary that the Student provided:

J: Looking at the Jar looking at the frog
J: They were sleeping and the frog was escaping
J: They woke up and it was sunny and the frog was gone
J: They were looking everywhere but they couldn't find him
J: They were looking out the window and saying "frog"
J: The dog falled and the boy was mad at him
J: He was saying "frog" and the dog was looking and he was pulling (?) honey
J: He was going over there and
J: He was barking and th and he was he was shaking the tree
J: When he was shaking the tree the honey felled and he was and the and the boy didn't see it
J: The boy was saying "frog" in there
J: The owl popped out and he he's almost XXX got (?) the honey and the dog was running away
J: The honey the bees were trying to catch the dog and the dog was running away
J: He was pushing the rock and he said "frog"
J: He said and it echoes
J: The deer popped up and he was running and the and then he put them down the mountain
J: He falled down the mountain and (pause)
J: He falled in the water
J: He landed in the water and he woked up
J: And then he was saying shh to the dog
J: And then he climbed over
J: And then he saw the frog and with a hundred of babies
J: And then he said "I'll meet you"
E: and then what (looking at a blank page)
J: Then 'end'

Today's narrative sample was judged to be grossly developmentally appropriate for a child of Student's age (4-5). With respect to macrostructure (story grammar elements), Student was able to produce the following elements: setting *"they woke up and it was scary"*, initiating event (*"The frog was gone"*), attempt (*"they were looking out the window and saying 'frog'"*), consequence (*"the dog falled"*), initial response (*"the boy was mad at him"*), and response (*"'I'll meet you'"*). Student also occasionally used dialogue to imitate the boy looking for the frog (*"he was saying 'frog'"*), as well as one perspective taking vocabulary term denoting emotion ("mad").

With respect to microstructure, Student's grammar, syntax, and vocabulary use was also judged to be appropriate for his age as characterized by several sophisticated vocabulary terms (*e.g., 'escaping', 'echoes', 'mountain'*). During the narrative Student was observed to produce a number of compound and complex sentences (e.g., *"when he was shaking the tree the honey felled and he was and the boy didn't see it"*, *"He landed in the water and he woked up"*). Furthermore, his narrative demonstrated evidence of cohesive ties and temporal markers (*e.g. usage of words such as 'and', 'but', 'when', then, etc.*).

Today's narrative sample was judged to be at the **Focused Chains Level** (Hegberg & Wesby, 1993) which is commensurate with the abilities of a 5-year-old child and is characterized by the production of stories, which revolve around a central character, have events in the form of "adventures" and contain 4 or more story grammar elements.

Episodic Structure (Hughes, McGillivray, & Schmidek, 1997)

- Young preschool children **3-5 years of age**, retelling a variety of fictional narratives, may *embed* the following episodic structures in their narratives (click on embedded links to see scripts and videos) :

- **Descriptive Sequences (common ~3 yrs)**
  - Describe characters and setting

- **Action Sequences (common ~ 3 yrs)**
  - Describe character(s), setting and list characters' actions

- **Reactive Sequences (common ~ 4 yrs)**
  - Describe series of actions which automatically cause other actions but without clear goal planning

- **Abbreviated Sequences** are produced **~6 years of age** and include character(s), setting, initiating event, development of character emotions as they relate to the initiating event and a conclusion to the story or direct consequences of events

Stage V: True Narratives Level 1: (6-7 years)

- **Five or more story grammar elements including**
  - Initiating event, attempt/action, consequence and a firm ending or a resolution of the problem
  - Children take consistent perspectives which focus around an incident in a story
  - Contains a well-developed plot, characters and a clear sequence of events

Stage VI: True Narratives Level 2: (7-11 years)

- Children begin to summarize and categorize stories as subjective (e.g. funny, exciting, sad etc) or objective (e.g., rhyming or long)

- Between **ages 7-8** they may use the following episodic structures:

- **Incomplete Episodes**
  - Child states planning, but several story grammar elements such as initiating event, action or consequence may be missing

- **Complete Episodes (produced by ~60% of 8 yr olds)**
  - Include aims and plans of character/s and at least 4 story grammar elements: initiating event and consequence + any of the 2: internal response, plan or attempt

- **Multiple Episodes**
  - Can contain chains of reactive sequences, abbreviated episodes or a combination of complete and incomplete episodes

LET'S TAKE A LOOK

Narratives of language impaired children

- 6-year-olds https://www.smartspeechtherapy.com/analyzing-narratives-of-school-aged-children/

- 9-year-olds https://www.smartspeechtherapy.com/identifying-word-finding-deficits-in-narrative-retelling-of-school-aged-children/

Stage VII: True Narratives Level 3: (11-12 years)

Characterized by production of complex stories with multiple embedded narrative structures (Hughes, McGillivray, & Schmidek,1997)

Complex Episode

- Elaboration of a complete episode by including multiple plans, attempts, or consequences within an episode as well as describing an obstacle to goal attainment

Embedded Episode

- Embedding one or more complete episodes or a reactive sequences within an episode

Interactive Episodes may be used by children 12 years of age

- Describe events from several different perspectives by talking about two major characters with separate goals, whose actions each influence the actions of the other (reaction or consequence for one character serving as an initiating event for another character)

Stages VIII and IX of True Narratives

Level 4: (13-15 years)

- Adolescents at this level become adept at analyzing stories.
- They combine their analysis with evaluation of stories or elements in stories

Level 5: (16 years to adulthood)

- Individuals perform sophisticated analysis when presented with a story
- Generalize about the story's meaning
- Formulate abstract statement's about story messages or themes
- Discuss their reactions to stories (Larson & McKinley, 1987)

Adolescent Language Sampling Genres

- **Conversational**
  - Simpler topics with familiar speakers
  - Informal discourse
  - Assesses situational pragmatics more than sentence complexity
- **Fictional**
  - Requires schema which "facilitates the recognition of relevant and pertinent information, enables the process of inferencing, and allows an orderly search from memory in order to recall story elements and details" (Iuliano, 2012)
- **Expository**
  - The use of language to convey information
  - Required in educational, social, and vocational contexts
  - Considered more effective than conversational or narrative tasks in eliciting complex syntax in typically developing adolescents (Nippold, Mansfield, & Billow, 2007)
- **Persuasive**
  - Taps into a variety of competencies (linguistic, cognitive, social) (Nippold, 1994)
  - requires the speaker to adjust the style of communication to relevant interpersonal and situational factors
- Indicative of how speakers communicate in real-world settings (Heilmann, Nockerts, & Miller, 2010)

Benefits of Language Sampling

- **Organizational abilities**
  - Story order (sequential or disorganized)
- **Working Memory**
  - Recall of relevant details
- **Syntactic complexity**
  - Percentage of complex sentences use
  - Fragmented vs. run-on utterances
  - Use of temporal markers and cohesive ties to connect the story
- **Vocabulary**
  - Immature vs. literate vocabulary t
  - Word retrieval issues vs. lexical flu
- **Pragmatics and perspective taking**
  - Topic cohesion /coherence
  - Perspective taking abilities

What Makes a Narrative Linguistically Sophisticated?

As per Westby (2005) there are four integral components:

1. **Conjunctions**
   - Words used to connect clauses or sentences or to coordinate words in the same clause (e.g., *and*, *but*, *if, etc.)*

2. **Elaborated noun phrases (ENP**) (Eisenberg et al, 2008)
   - Noun phrase with two or more modifiers preceding the **main noun** (e.g., **cat**-glorious gray cat; **enem**y–a devious dastardly enemy), or with qualifiers (e.g., prepositional phrases, appositives, relative clauses, etc. following the noun ("the dog, a hairy flea-covered mongrel; the friend who is like a sister") (Benson, 2009 as described in Cooper, 2013)

3. **Mental and linguistic verbs (**List HERE**)**

4. **Adverbs**
   - **Concordant and discordant (**Nippold & Undlin, 1993**)**

Adolescent Use of Abstract Vocabulary

- Sun & Nippold (2011) asked 3 groups of typically developing students ages 11, 14, and 17 years (n = 40 per group) to **write a story** about something funny, sad, or scary that had happened to them and a friend.

- Each student's narrative essay was examined for the use of abstract nouns (e.g., accomplishment, loneliness, mystery) and metacognitive verbs (e.g., assume, discover, realize).
  - 8th grade adolescent written compositions
  - 14.5% of students' T-units contained at least one ABN
  - 16.42% of their T-units contained at least one MCV, on average

- Writing is more complex than narrative production

- Adolescents should definitely be using same abstract vocabulary words during narrative tasks

- SLPs working at middle school or high school level can examine students' oral narratives (in addition to written ones) for use of a variety of ABNs (e.g., *attempt, community, imagination*; see Table 2) and MCVs (e.g., *decide, determine, reflec*t; see Table 3), words that frequently occur in the essays of TD students.

Adolescent Use of Abstract Nouns

Table 2. Number of different abstract nouns (ABNs) and percentage of total ABNs used by each age group (n = 40 per group) that fell into each word frequency category.

	Age 11		Age 14		Age 17	
	Number	%	Number	%	Number	%
High frequency Examples:	31 accident, attempt, dream, fun, life, mistake, plan, sense, setting, thought	89	41 balance, beauty, characteristic, community, con- clusion, direction, distance, effort, excitement	73	88 curiosity, distance, experience, fear, feeling, generation, goal, happiness, hope, idea, imagination	69
Moderate frequency Examples:	3 admission, outcome	9	14 abuse, bond, emer- gency, inspection, offense, suspense, wit	25	29 accomplishment, anticipation, chaos, loneliness, mercy, moral, motive, neglect, revenge, sadness, triumph	23
Low frequency Examples:	1 prank	2	1 orientation	2	11 acknowledgment, antic, apathy	9
Total ABNs	35		56		128	

- **Source: Sun & Nippold, 2011**

Table 3. Number of different metacognitive verbs (MCVs) and percentage of total MCVs used by each age group (*n* = 40 per group) that fell into each word frequency category.

	Age 11		Age 14		Age 17	
	Number	*%*	*Number*	*%*	*Number*	*%*
High frequency	15	94	31	94	36	90
Examples:	*decide, doubt, guess, know, learn, love, understand*		*believe, care, determine, discover, enjoy, expect, feel, forget, hope*		*assume, attempt, guess, imagine, notice, plan, pretend, reflect, remember*	
Moderate frequency	1	6	2	6	3	8
Examples:	*ignore*		*confuse, ignore*		*digest, ignore, refuse*	
Low frequency	0		0		1	2
Examples:	—		—		*suppress*	
Total MCVs	16		33		40	

Sun & Nippold: *Narrative W*

Adolescent Use of Metacognitive Verbs

Word Definition Development in Adolescents 13-18 years of age (Nippold, 2016)

For abstract nouns, shows improvement in listing key features (e.g. idleness: "when you sit around all day and you don't do anything")

For abstract nouns, shows improvement in listing superordinate terms (e.g., idleness: "a state of being lazy and inactive")

Better definitions of abstract nouns are associated with stronger reading comprehension

May use slang and personal experience to define abstract nouns (e.g., "Joy is the feeling after you share hairy tube ride. It's when you are way stoked.")

High-frequency adjectives (e.g., beautiful, short) are easier to define than low-frequency adjectives (e.g., ambitious, elegant)

Definitions of verbs and adjectives gradually improve

Assessment of Abstract Vocabulary

- SLP who works in a middle school or high school could
  examine students' narrative essays for use of a variety of
  ABNs (e.g., *attempt, community, imagination*; see Table 2)
  and MCVs (e.g., *decide, determine, reflect*; see Table 3),
  words that frequently occur in the essays of TD students.

- "Helpful in knowing what to reinforce in writers (and speakers) who struggle to express themselves in the narrative genre."

- "Given the connection between knowledge of literate words and reading comprehension (Astington & Olson, 1987; Nippold, 1999), it makes sense that SLPs would address students' competence
  with these words in written (and oral) language."
  Sun & Nippold, 2011, p. 9.

Adolescent Syntax

Mean C-unit length in conversational discourse = 8+ words

Mean C-unit length in conversational discourse = 10+ words

Persuasive writing MLU=12+ words

Uses moderately difficult subordinate conjunctions (e.g., *even though, so that*)

Uses moderately difficult adverbial conjunctions (e.g., *furthermore, nevertheless*)

- **Later Language Development (Nippold, 2016)**

Adolescent Discourse and Pragmatics

Spend free time talking and socializing the friends (e.g., via telephone, in person, texting)

Seek different types of support from family versus friends to conversations

Entertain listeners through use of humor, exaggeration, and drama in conversations and stories

Produce stories with complete episodes and elaborate details

Engage in collaborative narratives with peers to achieve group solidarity

Provide clear and detailed explanation of rules of game or sport

- **Later Language Development (Nippold, 2016)**

Peer Conflict Resolution (PCR) Tasks

- Expository discourse
- Stimulates elicitation of complex syntax
  - Highly salient for adolescents due to investment in developing peer interactions during this time period, establishing and maintaining friendships, resolving interpersonal conflicts, gaining peer acceptance, etc.
- Requires adolescents to use more complex thought, logic and reasoning skills, which may in turn prompt the use of more complex syntactic structures to explain their thoughts
  - (Nippold et al., 2007)

Peer Conflict Resolution: Task Introduction

- Nippold, M.A., Mansfield, T.C., & Billow, J.L. (2007). Peer conflict explanations in children, adolescents, and adults: Examining the development of complex syntax. American Journal of Speech-Language Pathology, 16, 179-188.

- Interviewer: "*People are always running into problems with others at school, at work, and at home. Everyone has to work out ways to solve these problems. I am going to read you two different stories that illustrate these types of problems. I would like you to listen carefully and be ready to tell each story back to me, in your own words. Then I will ask you some questions about the story. There are no penalties for incorrect answers. I just want to know what you think about the issues and how they should be handled*."

- When presenting the task, the interviewer should use male names with male students and female names with female students. This may increase the chance that students will better relate to the characters' actions, challenges, and emotions.

Story A: "The Science Fair"

- John's (Debbie's) teacher assigned him (her) to work with three other boys (girls) on a project for the science fair. The boys (girls) decided to build a model airplane that could actually fly. All of the boys (girls) except one, a boy (girl) named Bob (Melanie), worked hard on the project. Bob (Melanie) refused to do anything and just let the others do all the work. This bothered John (Debbie) very much.

- **Now I'd like you to tell the story back to me, in your own words**. **Try to tell me everything you can remember about the story...**

- Now I'd like to ask you some questions about the story:
  - **What is the main problem here?**
  - **Why is that a problem?**
  - **What is a good way for John (Debbie) to deal with Bob (Melanie)?**
  - **Why is that a good way for John (Debbie) to deal with Bob (Melanie)?**
  - **What do you think will happen if John (Debbie) does that?**
  - **How do you think they both will feel if John (Debbie) does that?**

Story B: "The Fast-Food Restaurant"

- Mike and Peter (Jane and Kathy) work at a fast-food restaurant together. It is Mike's (Jane's) turn to work on the grill, which he (she) really likes to do, and it is Peter's (Kathy's) turn to do the garbage. Peter (Kathy) says his (her) arm is sore and asks Mike (Jane) to switch jobs with him (her), but Mike (Jane) doesn't want to lose his (her) chance on the grill.

- **Now I'd like you to tell the story back to me, in your own words. Try to tell me everything you can remember about the story…**

- Now I'd like to ask you some questions about the story:
  - What is the main problem here?
  - Why is that a problem?
  - What is a good way for Mike (Jane) to deal with Peter (Kathy)?
  - Why is that a good way for Mike (Jane) to deal with Peter (Kathy)?
  - What do you think will happen if Mike (Jane) does that?
  - How do you think they both will feel if Mike (Jane) does that?

PCR Task: Syntactic Complexity

TABLE 1. Measures of syntactic complexity for each age group ($n = 20$ per group) on the peer conflict resolution (PCR) and favorite game or sport (FGS) tasks.

	Age 11 PCR	Age 11 FGS	Age 17 PCR	Age 17 FGS	Age 25 PCR	Age 25 FGS
Total T-units						
M	35.10	35.30	43.10	44.00	44.05	51.55
SD	8.39	17.40	11.72	27.28	13.18	31.95
Range low	22	16	26	12	27	9
Range high	52	77	59	113	80	128
Mean length of T-unit						
M	10.12	9.29	11.84	10.59	14.04	11.04
SD	1.65	0.90	2.51	1.60	4.47	1.39
Range low	7.43	8.04	6.93	7.58	9.72	8.21
Range high	13.82	12.05	16.20	13.65	25.85	13.24
Clausal density						
M	1.52	1.45	1.76	1.56	1.97	1.54
SD	0.22	0.16	0.29	0.28	0.47	0.15
Range low	1.22	1.26	1.30	1.24	1.27	1.24
Range high	2.04	1.75	2.22	2.33	3.10	1.89
Nominal clause use						
M	28.13	16.67	41.13	17.85	57.02	19.79
SD	14.73	7.68	19.42	17.62	28.08	9.89
Range low	6.25	2.70	6.67	3.85	10.81	0
Range high	69.23	33.33	79.66	83.33	121.05	39.36
Relative clause use						
M	5.11	6.14	6.46	11.27	13.78	11.60
SD	4.13	4.84	4.27	6.29	8.76	6.20
Range low	0	0	0	3.70	4.26	0
Range high	19.44	19.61	13.46	30.43	33.33	22.97
Adverbial clause use						
M	18.73	22.61	28.26	27.22	26.47	22.51
SD	9.97	10.58	15.98	18.12	16.59	9.80
Range low	0	6.25	7.14	4.35	0	7.59
Range high	34.38	41.18	67.80	79.49	58.97	47.06

Story Analysis

- Discourse for this age group can be analyzed with respect to multiple constructs:
  - Pragmatic Complexity
    - Do the summary and responses adequately address the complexity of the presented scenario/problem
  - Syntactic Complexity
    - How is the student's sentence length and clause usage?
  - Semantic Complexity
    - Is the student using literate vocabulary?

Syntax: What is a T-Unit?

A T-unit contains one independent clause and any subordinate clauses or nonclausal structures that are attached to it or embedded within it ([Hunt, 1970](#)).

For example, the utterance "*Jenna finished her shopping before she drove home*" is one T-unit that contains an independent clause ("*Jenna finished her shopping*") and a subordinate clause ("*before she drove home*").

Contrastingly, the sentence "*Anna went to the beach, but Lisa stayed at the pool*" consists of two T-units because it contains two independent clauses joined by the coordinating conjunction *but*.

Whenever a coordinating conjunction (*but, and, so, or*) is used to start an independent clause, that clause is considered to be a new T-unit

However, clauses coordinated as complements of the same main verb remain in the same T-unit (e.g., "She said we should go home *and/but/or* you should take a nap").

- ([Nippold et al., 2007](#))

Microstructural Components (cont.)

- Dependent or subordinate clause contains a subject and a main verb, but because it is not a complete statement it cannot stand alone

- Three main subordinate clause types: **nominal, adverbial,** and **relative** (Crews, 1977; Quirk & Greenbaum, 1973):

- "A *nominal* clause is a **noun-like element** that can serve as either the subject of a sentence (e.g., "*Whatever you decide about the party* will be a good choice") or its object (e.g., "I told her *that the party would be a big success*"). Nominal clauses often begin with *wh*-pronouns, for example, "I never know *where I should buy candles*"; "Her goal of becoming a champion is *why she trains so hard*"; "Vacationing in Italy is *what they want to do*"; "Twilight is *when the sun is going down*."

- "An *adverbial* clause acts like an adverb and **modifies a verb**. It often describes a condition or cause and begins with a subordinate conjunction, for example, "*Although we want to go to Europe,* we must wait until next summer."

- "A *relative* clause (i.e., adjective clause) acts like an adjective and **modifies the noun that precedes it**, for example, "The vase *that was broken* was my grandmother's favorite." (Nippold et al., 2007)

Case Studies

LET'S TAKE A LOOK

Narratives of language impaired adolescents

12-9 year old retelling Dr. DeSoto by William Steig

- S: this mouse, Dr. DeSoto, he was a dentist, a doctor, dentist

- S: he ugh um, I don't remember that part

- S: ugh he went to a, there was a fox that had a bad tooth and came to the doctor, the dentist

- S: and ugh and then the doctor um told him he needed to pull his tooth out

- S: and then ugh ugh the fox was thinking about eating ugh the eating the ugh the mouse, the doctor

- S: and then the next day, well then they pulled out his tooth

- S: and then they, well first they gave him some gas and then they pulled out his tooth

- S: he was woozy and dreamin about stuff

- S: and then he left after they pulled out his tooth

- S: the next day he thought about eating them

- S: he was going to eat them but they gave him some sticky stuff that made his mouth stuck closed for a couple of days

- S: that's all that I remember

Narrative Analysis: Macrostructure

- "During today's assessment, S's narrative was judged to be immature for his age. With respect to macrostructure, S's narrative did contain select story grammar elements such as character, initiating event, internal response, action and consequence, but lacked a typical introduction or conclusion. S also used select perspective taking vocabulary *(e.g., thinking, needed, thought)* throughout his narrative retelling. By the time children reach 12 years of age, they are expected to retell stories via use of interactive episodes (describe events from several different perspectives by talking about two major characters with separate goals, whose actions each influence the actions of the other or reaction or consequence for one character serving as an initiating event for another character, etc.). However, the above episodic structure was not present in S's narrative sample."

Narrative Analysis: Microstructure

- "With respect to microstructure, S's narrative contained did contain one compound sentence (e.g., "well first they gave him some gas and then they pulled out his tooth"). However, the vast majority of his narrative was composed of simple as well as fragmented sentences. Though S used a variety of temporal markers throughout his narrative *(e.g., then, after, first)*, he limitedly used cohesive ties (only used one coordinating conjunction 'and') during his storytelling instead of a variety of ties such as *but, yet, so, or, for, etc*. S's vocabulary (number, variety and usage of story embedded words) was also judged to be significantly reduced during his retell. Finally, during his narrative retell, S presented with significant word-retrieval deficits characterized by word fillers *(e.g., ugh, um)*, word/phrase revisions *(e.g., he was a dentist, a doctor, dentist),* as well as false starts *(e.g., and then they, well first…)*, which further impacted his story cohesion.

- **Impressions**: A student of S's age (12-9) is expected to be producing ***True Narratives Level VII*** ([Hedberg & Wesby, 1993](#)), characterized by analysis of age-level books and stories using complex, embedded, as well as interactive episodes."

15-2 Retelling of the Movie: "Angry Birds"

- A: Ok, (mumbling something unintelligible under his breath)
- A: The movie is about a bird named Red (pause)
- A: He is a angry he is an angry bird who who is trying to go (unintelligible) make living on Happy Bird Island
- A: He is been, he is sent to anger management with other guys like Chuck, Bob, and a Terrence
- A: New arrivals to their island were the pigs
- A: Their, their leader, ah, Leonard was (pause) their leader and um and
- A: There, there was a um
- A: And they say they were explorers as an they (unintelligible) and something else and stuff
- A: And they stole the birds' eggs and then Red sent them to Piggy Island to get them back
- A: They used a sling shot to get a to get to the castle
- A: Well, they ss save thing, they go in and save the eggs
- A: When Red gets goes back in for the one they left behind and
- A: And then the city got destroyed
- A: everybody came out of the wreckage with the egg
- A: And they all lived happily ever after

Summary of the movie 'Angry Birds' (2016)

Narrative Analysis

- A's narrative was judged to be very immature for his age and was commensurate with the abilities of a much younger child.   It was very abbreviated and significantly simplified. A omitted a number of important plot points and failed to add relevant details to facilitate listeners' comprehension.

- With respect to microstructure there was a notable absence of cohesive ties (e.g.,   *so, but, yet, nor, or, etc.*) beyond the over usage of the coordinating conjunction /*and/.* There was also absence of temporal markers (e.g., *in the beginning, secondly, next*, *finally,* etc.) to clearly illustrate story transitions.

- Furthermore, beyond the use of a few words (e.g., *explorers, wreckage, arrival,* and *destroyed*) A was not observed to use any sophisticated vocabulary as is commensurate with age/grade level expectations. During narrative production A also evidenced a number of lexical retrieval difficulties characterized by word/phrase revisions and repetitions, excessive pauses, and word fillers (e.g., um, ah), which significantly impacted his narrative cohesion and fluidity.

- A student A's age (15-2) is expected to be at the **True Narratives Level IV Stage** (Hedberg & Westby, 1993) characterized by analysis and evaluation of stories, which is not presently exhibited by A secondary to impaired language abilities. Narrative weaknesses also significantly correlate with social communication deficits (**Norbury, Gemmell & Paul, 2014**), which A is currently displaying.

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Conclusion

- Narrative assessments provide a great snapshot of the child's verbal expression and social pragmatic competence
  - They are relatively quick to administer and score
  - Offer a great opportunity to tap into multiple features of child's speech and language simultaneously
  - A nice way to complement and expand upon standardized testing

FREE Narrative Assessment Resources

- **Manual for the Assessment and Analysis of Narrative Skills**
- **Story Telling Development of Children Ages 2-6**
- **SLAM Narrative Assessment Cards**
- **Oral Narrative Resources**
- **Peter And The Cat Narrative Comprehension Assessment**
- **Squirrel Story Narrative Comprehension Assessment**
- **Typical Developmental Milestones of 15 Year Old Adolescents**

Contact Information: Tatyana Elleseff MA CCC-SLP

- ***Group: https://www.facebook.com/groups/EBPSLPs/**

- **Blog: www.smartspeechtherapy.com/blog/**

- **Shop: http://www.smartspeechtherapy.com/shop/**

- **Business Page: www.facebook.com/SmartSpeechTherapyLlc**

- **Twitter: https://twitter.com/SmartSPTherapy**

- **Email: tatyana.elleseff@gmail.com**