Grammatical vs. Telegraphic Language Models in Early Language Intervention
Cindy Conklin • The Hanen Centre
ASHA Convention • November 18, 2010

**Agenda**

1. What is telegraphic speech and what is it not?
2. What features help children learn language?
3. What does the research say?
4. What do the experts say?
5. What does Hanen recommend?
6. What should we tell parents?
7. What do you think about all this?

**Information to guide your own clinical decisions**...
What is TS?

Matty: Looks at the boat. Turns hands up and says: "Go!"
Me: "...in the water"

Matty: Points to the lake, "Go?"
Me: "Where boat?"

Matty: Raises arms to be picked up
Me: "Up!"

What is TS?

• Brown (1973) coined the term to describe the stage of language when children begin to combine words (Stage 1, MLU 1-2)
• includes only content words (nouns, verbs, a few adjectives)
• few or no functor words ("the","am") or grammatical morphemes ("-ing" "+s")

What is TS?

Adult speech is considered to be "telegraphic" when it is simplified by removing obligatory grammatical markers and bound morphemes to the point of being ungrammatical
What did you say?

Matty: Looks at the boat. Turns hands up and says: “Go?”
Me: “….in the water”
No
Sentence fragments are often appropriate

Matty: Points to the lake. “Go?”
Me: “Where boat?”
Yes
Ungrammatical: “Where’s the boat?”

Matty: Raises arms to be picked up
Me: “Up!”
No
Isolated words are often appropriate

What is TS? Summary

Telegraphic Speech
- contains only content words
- omits grammatical markers and bound morphemes

Grammatically Complete Models
- do not require full sentences
- can include isolated nouns, adjectives and verbs

Clinician Comment...
It’s funny. I use isolated words and sentence fragments in my language intervention practice but always thought this was considered telegraphic speech.
**What is TS? Tips....**

1. Would I ever say this to another adult?

2. Does this sound/feel 'funny' or 'unnatural'?

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**Think about....**

Do parents of typically developing children use telegraphic speech or more grammatically complete language models?
**Child-Directed Speech**

Parents in Western, English-speaking cultures:
- do not routinely use telegraphic speech
- but they do simplify their language
- and they do use sentence fragments

Simplified but grammatically complete language models

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**Child-Directed Speech**

1. If parents of typically developing children don’t use telegraphic models, why would we use them in our clinical practice?
2. What specific information do simplified grammatical language models contain that make language learning easier?

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When thinking about this mother’s child-directed speech, she is likely using:

A. An up-beat, animated vocal quality
B. A slower rate of speech
C. A melodic-type vocal quality
D. All of the above
Child-Directed Speech

Features:
- Grammatically complete
- Singing cadence “parentese”
- Higher pitch
- Expanded intonal contours
- Stretched vowels
- Increased pausing

Language Learning

Children have to learn:
- Meanings of words and how words are combined into sentences
- To divide whole sentences into parts – e.g., into words, phrases
- Which words are nouns, verbs, prepositions, function words
- The function of each word type
Prosody + Grammar = Cues

Prosody
- Exaggerated pitch & intonation contours
- Sound & word length
- Pausing
- Weak-strong syllable patterns

1. What effect does Mom's prosodic cues have on Joshua?
2. Jot down which words stand out.

Prosodic Cues

1. What effect does Mom's prosodic cues have on Joshua?
2. Jot down which words stand out.
Consider which type of words children learn first and why….

- “You’re tickling... my nose!”
- “Your touching ... my face!”

In Korean sentences often end with a verb, not a noun. 20-month-olds with a vocab of fewer than 50 words knew more verbs than nouns. They learned verbs first - because they heard them more clearly.

Prosodic Cues
- Pauses – are more frequent and longer in duration in child-directed speech, and likely to occur at clause and phrase boundaries.
- In combination with other prosodic cues, natural pausing helps children decode language by identifying key words.

Yes. There’s... the bear. He’s eating... some honey!

Cues:
- pausing
- final position
- higher pitch
- pitch contours
Prosodic Cues

- Weak-strong syllable patterns - may also contribute to the identification of important words
- Children pick out strong syllables from input which is facilitated by adjacent weak syllables

Prosodic Cues: Summary

Prosody
- Exaggerated pitch & intonation contours
- Sound & word length
- Pausing
- Weak-strong syllable patterns

Grammar
- Syntactic context
- Morphologic context

Child-Directed Speech: Cues

Prosody
- Exaggerated pitch & intonation contours
- Sound & word length
- Pausing
- Weak-strong syllable patterns

Grammar
- Syntactic context
- Morphologic context
Child-Directed Speech: Cues

Grammar

- Syntactic context
- Morphologic context

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Child-Directed Speech: Cues

Prosody
Vocab
Grammar

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Grammatical Cues

Syntactic and Morphological context:

- “You’re eating... the cookie” vs. “eat cookie”
- “You’re eating” vs. “eat”
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Child-Directed Speech: Summary

- attention
- highlight words
- signals focus
- new words/vocab
- grammatical classes

Prosody
Grammar

Does telegraphic speech deprive children of learning opportunities because it strips important cues from the language that they hear?
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Clinician Comment...

I use telegraphic speech models as part of my therapy with young children because it seems to make understanding and imitation easier for them.

Clinician Comment...

I've been told that using telegraphic speech is like presenting a child with a second language that is ungrammatical.
Research


Research

Intervention studies: look at whether children show greater language gains in comprehension and/or production when adults use telegraphic as compared to grammatical language input as part of significant language intervention.

- Very few studies
- Weak methodology
- Do not have consistent outcomes

1. Intervention Studies (Jones 1978)

- **Subjects**: children 7-13 years, with severe-profound cognitive delay, little or no language (pre-linguistic)
- **Evaluated**: the effects of an intervention designed to teach comprehension of two action + object commands
- **Looked at**: the number of trials it took for child to learn and respond correctly to commands (ring the bell vs. open chest)

No significant advantage between two types of input in number of trials needed to learn commands. Therefore, no significant difference for comprehension.
2. Intervention Studies (Fraser 1972)

- **Subjects:** 49 children; 3-16 yrs, with severe to profound cognitive delay, pre-linguistic
- **Evaluated:** impact of telegraphic speech vs. grammatical commands on child’s ability to respond to names of objects (comprehension) (i.e., “give me the key” or “give key”)

Type of input DID NOT influence the child's ability to respond. Therefore, no significant difference for comprehension.

3. Intervention Studies (Willer, 1974)

- **Subjects:** 10 children, 5-13 years, moderate to severe cognitive delay, using single words, no word combinations
- 5 children grammatical treatment; 5 children telegraphic treatment
- Each child received treatment 15 min/day, 5 days/week, for 5 weeks
- In sessions, clinician showed a picture. Child asked to respond to questions and to imitate models given (“ball on table” vs. “the ball is on the table”)

On follow-up testing:

- Children in the telegraphic treatment group produced the target models in response to questions and to models significantly more frequently than those in the grammatical treatment group.
- Therefore, statistically significant advantage in favour of telegraphic speech for production.
- No statistically significant difference for comprehension.

**Considerations?**
- Small sample size
- The learning demonstrated in this study may be routinized and may not transfer to meaningful communication contexts
- Need larger intervention studies looking at same issues
Intervention Studies: Summary

Of the few intervention studies:
• No significant difference in comprehension (Jones, Fraser etc.)
• Willer (1974) low level evidence for production
• Need more research

Processing Studies

• Studies on typically developing children or children with language impairments
• Measuring comprehension but not as part of an intervention practice
• Measure by using acting out or picture comprehension tasks or tracking eye gaze

Overall, most studies of comprehension have found no difference, or better performance with grammatical forms over telegraphic ones.

Overall, what can we conclude?

Intervention studies: no difference in comprehension, one low evidence finding in support of telegraphic input for production

Processing studies: no difference in comprehension, generally favoured grammatical forms over telegraphic ones

Overall: need more research
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ASHA Panel 2007

• Ann Kaiser
• Anne van Kleeck
• Marc Fey
• Jon Miller
• Elaine Wertzman

Ann Kaiser...

• Professor of Special Education at Vanderbilt University
• "...instances in which the use of TS is appropriate and effective in early language intervention..."
• Uses simplified input to make it easier for a child to imitate an utterance in his or her own production
• Supports its use in Enhanced Milieu Teaching (EMT)....
Telegraphic Speech is used 3 ways:

- **Modeling**: Therapist models simple two-word semantic relations ("Mommy go")
- **Expansions**: Therapist expands child's single words (Child: "ball", Therapist: "roll ball")
- **Prompts**: Therapist prompts production of two-word utterances (Say, "roll ball")

Specific population:

- Children 2½ - 5 years of age
- Cognitive disabilities
- Less than 60% intelligible
- MLU below 2.0
- Verbally imitative
- 10 productive words
Anne Kaiser: Final Word

1. Should not be used with all children
2. Use only in restricted language development window
3. Even within window, should not be used all the time

1. No direct comparisons between the use of telegraphic speech and fully formed grammatical language models
2. Do parents ‘get it’?

Marc Fey

Professor, University of Kansas Medical Center

Telegraphic speech can be seen to degrade rather than upgrade the language models available to children...

...it is not likely to make grammatical development more tractable. In fact...it could significantly restrict that development.

Marc Fey: 3 Reasons NOT to use TS

1. Grammatical morphology poses special problems for children with language impairment:
   • Instead of stripping these features, highlight frequently & clearly

2. Sparse or optional presentation of grammatical features make those features more difficult to learn:
   • Features that occur frequently and consistently in a language will generally be acquired earlier.

3. Children use prosodic, morphologic and syntactic CUES to process and learn new words and grammatical constructions well before they produce those same forms in their own speech
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Hanen’s View...

It Takes Two to Talk – The Hanen Program, for Parents

1. Children learn to communicate during naturally occurring interactions
2. With the important people in their lives

Objectives of It Takes Two to Talk

To change/increase parent’s behaviour to facilitate children’s:
- Joint attention
- Intentional communication
- Reciprocal interaction
- Vocabulary
- Early word combinations

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Objectives of It Takes Two to Talk

Child’s Goal
To increase initiations

Parent Strategy
OWL

Program Format...

Orientation
Pre-Program Consultation
1. Let your child lead
2. Follow your child’s lead
   Individual Visit #1
3. Take turns
4. Add language to the interaction
5. Add language to build understanding
   Individual Visit #2
6. Let’s play!
7. Sharing books
   Individual Visit #3
8. Music and program wrap-up

Program Content...

Interaction

Language
**Hanen’s View…**

Use simplified but well-formed grammatical models:
1. Who would we use it with & why?
2. How would we teach parents to use these models?

**Who?**

**Stage** | **Reason for using Prosody and Grammar**
---|---
Discoverer (pre-intentional) | Gain attention
Communicator (non-verbal, intentional) | Highlight key words
First Words User (single words/signs) | Highlight novel words and semantic relationships
Combiner (2-3 word comb.) | Highlight novel semantic and syntactic relationships
1. Modeling: Use a Variety of Words

- Names: "Pull the sled!
- Question words: "Do you want to go fast?"
- Words that describe: "The snow is cold!
- Words for belonging: "That's mommy's sled!
- Action words: "We're sliding!"
- Social words: "Okay, let's turn the water on!"
- Location words: "We're sitting!"
- Words for feelings: "Ouch!"

2. Expand

Respond with a slightly longer sentence, always including the child's words to make the sentence more complete. Keep your sentences short, but grammatical.
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Changes... to the Parent Guidebook

Example 1 | Modeling

Example 2 | Expansions

The Four Ss:

Say less
Short but grammatical

Stress
Use animation

Go Slow
Use natural pauses

Show
Use visual helpers

Repeat! Repeat! Repeat!

3. Highlight your Language

Which of the 4S's does Dad use to highlight his language and help Luke say "big bite"?
**Case Study: Sean and Sandra**

- **Names**
- **Words that describe**
- **Words for belonging**
- **Action words**
- **Social words**
- **Location words**
- **Words for feelings**

**Case Study...**

*Coaching and Video Feedback: The Key to Behaviour Change*

**Case Study: What would you say?**

- Where drink?
- Silly Mama
- Cow drink
- Cow walk?
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**Case Study...**

1. "Sandra, remember to use complete sentences to help Sean learn language for e.g.*

2. Go back to language wheel & provide examples

3. Review the tape... Show examples of when she used grammatical utterances vs. telegraphic speech

**Other Ideas...**

Four S's: **Grammar & Prosody**
- Say less (simple/grammatical)
- Stress (animation, position)
- Go slow (natural pausing)
- Show (visual cues)

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What do you think?

Should we as SLPs use telegraphic speech or grammatically complete language models as part of our intervention practice with young children with language impairments?

Why or why not?

Grammatical vs. Telegraphic Language Models

Information to guide your own clinical decisions....

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References


