

The Debate on Telegraphic Speech: Should We or Shouldn't We?

Friday, April 3, 2009 8:00-9:30am



TSHA 2009 Convention in Austin, April 2-4, 2009



The Debate on Telegraphic Speech: Should We or Shouldn't We?

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Friday, April 3, 2009
8:00 a.m. to 9:30 a.m.



Session objectives

After this presentation, SLPs will be able to ...

- Define “telegraphic” speech
- List key aspects of child directed speech that help to facilitate language learning
- Describe some research on the impact of telegraphic speech on language acquisition
- Describe strategies parents can use to facilitate early language acquisition without using telegraphic speech



Where does TS come from?

- Brown (1973) used the term “telegraphic speech” (TS) to describe the stage of language development when children begin to combine words (Stage 1, MLU 1-2)
- TS - language that includes **only content words** (nouns, verbs, a few adjectives & adverbs)
- **few or no functor words** (“the”, “am”) or grammatical morphemes (“-ing” “-s”)

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When an adult uses “telegraphic” speech...



Adult speech is considered to be “**telegraphic**” if it is **shortened to the point that it becomes ungrammatical** (and sounds like a child’s telegraphic speech)

- Includes content words (name, actions)
- Leaves off function words (i.e. the, an)
- Leaves off morphological markers (-ing, s)



How do we judge what is grammatical?



- Does every sentence need to be complete and grammatical?
- Fey (2007) says no...



Fey’s (2008) guidelines for talking to children at the early stages of language development




- Not every adult utterance must be a complete sentence. Isolated words and sentence fragments are often appropriate.
- How do you judge what is acceptable?

Ask yourself, “Would **YOU** ever say this to another adult?”. If so, then it’s likely a good model.

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Judging grammaticality

(Fey, 2008)

Child says: **kick**


Adult responds:


kicking (reasonable response to: What's he doing?) but not '**kick**' or '**kick ball**'

kicking the ball (reasonable response to: What's he doing?)

he's kicking the ball (reasonable response to: What's happening?) but not '**he/man kicking ball**' or '**man kick ball**'

The man is kicking (the ball) (reasonable response to: Who's doing what?)







A crucial assumption behind the use of telegraphic models

The assumption is that use of telegraphic speech *simplifies* the input and makes the child's task of language learning easier...

...but does it really?






Task of language learning

- Child has to learn meanings of words and how words are combined into sentences
- Has to learn to divide up utterances into words, phrases, clauses
- Has to determine which words are nouns, verbs, prepositions, function words etc.

How do children do this?



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Bootstrapping

(Bedore & Leonard, 1994)

Children must rely on cues that co-occur with words, phrases and clauses in order to determine linguistic units – process is referred to as “bootstrapping” – i.e., children’s use of these cues allows them to pull themselves up by their bootstraps.





Prosodic Bootstrapping

Parentese or **child-directed speech** (CDS) is:

- Less complex grammatically
 - Less diverse in vocabulary
 - More redundant
 - **More fluent**
 - **More melodic**
- } May hold the key to the child's learning to decode language



Child directed speech's most prominent feature is its PROSODY not syntax or semantics (Grieser & Kuhl, 1988).





Prosodic characteristics of CDS

(Ferguson, 1964)

- Higher pitch
- Slower tempo (more pauses); and
- Expanded intonational contours


Changes in each of these often occur at important linguistic boundaries.



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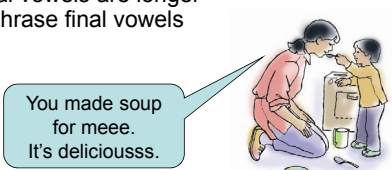
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Prosodic cues in CDS

(Bedore & Leonard, 1994)

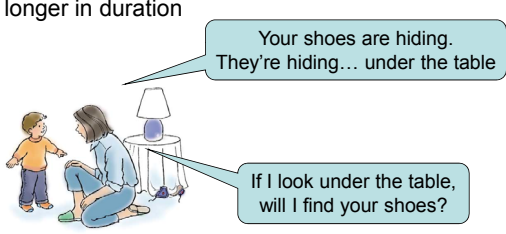
- Consonants such as fricatives are much longer at the end of a phrase/clause
- Fundamental frequency (pitch) is higher and wider
- Phrase-final vowels are longer than non-phrase final vowels






Prosodic cues in CDS


- Pauses – likely to occur at clause and phrase boundaries, are more frequent and longer in duration





Prosodic cues

- Over 90% of content words in English begin with a strong syllable – e.g. **camera**, **table**, **kitchen**, **candle**
- Most weak syllables that occur are the initial syllable or only syllable of a function word – e.g. *the*, *in*, *is*, *between*, *although*
- Children pick out strong syllables from input (content words), which is facilitated by adjacent weak syllables



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What effect does prosodic nature of CDS have on child's language learning?



- Marks major linguistic boundaries, which helps child separate one unit from another, making it easier to discover the specific linguistic function of each unit
- Provides information about grammatical classes of the available words

Therefore, it may be that TS deprives children of the cues they need to learn language



What does the research say?

(Van Kleeck, et al, under submission at AJSLP)



Should We Use Telegraphic or Grammatical Input With Children in the Early Stages of Language Development Who Have Language Impairments?

A Systematic Review of the Research and Expert Opinion

Evidence from research and experts...



Use of Telegraphic Speech in language intervention



Use of TS in ELI can be traced back to early attempts to develop programs for children with language delays. Miller and Yoder (1972) proposed that use of TS would simplify children's task of figuring out syntactic patterns from language input.

(Fey, 2008)

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Intervention studies



Intervention studies attempt to evaluate the impact of different kinds of input on children's language development. **These studies would provide the most relevant arguments for or against TS, but...**

- There are some methodological shortcomings
- there are very few; and
- they have limited findings.



Intervention studies

(Fraser, 1972)



- 49 children; pre-linguistic with moderate to profound cognitive delays (3-15 yrs)
- Evaluated impact of TI or grammatical commands on the child's ability to respond to names of objects (i.e., "give me the key" or "give key")
- Type of command randomly assigned to each of 3 sets of four objects
- **Type of input DID NOT influence the child's ability to respond**



Intervention studies

(Loeb and Armstrong, 2001)



- 5 children with specific expressive delays (2:0 to 2:10 years; MLUs of 1.25 to 2.25)
- 3 assigned grammatical, 2 telegraphic input
- Utterances describing actions, targeted (i.e. "mommy is kissing the girl" or "puppy jump")
- 3 days/week – 30 mins, 8-11 weeks
- Outcome measure; gains in MLU
- Both groups improved, no significant differences
- **Findings neither support nor negate use of TI**

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Intervention studies

(Willer, 1974)



- 10 Early Stage I children with moderate to severe cognitive delays (ages 5-13)
- Half got grammatical & half telegraphic input for daily 30 minute sessions for 5 weeks
- Taught to imitate models given (either grammatical or telegraphic) and respond to grammatical questions
- Daily probes, weekly probes, pre & post tests and generalization testing



Intervention studies

(Willer, 1974)



- Probes at end of each week - children in TI condition imitated telegraphic models significantly better than children in grammatical condition
- Post test (both groups asked to imitate both types of input) – TI group imitated TI input significantly better
- Both groups responded to grammatical questions – TI significantly better
- Generalization test – TI group made significantly greater gains (describing objects, actions, prepositions)
- **For children with moderate to severe cognitive delays, TI may be better**



Intervention studies: What can we conclude?



Two found no significant difference
(Fraser, 1972; Loeb & Armstrong, 2001)

Only Tentative findings (Willer, 1974):

For children with moderate to profound cognitive delays,

- TS may be helpful to prompt imitation
- TS may be helpful to elicit response to simple questions

Very small study (only 5 children in each group)

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Processing studies on TI



These studies aimed to find out whether early language learners demonstrate better comprehension when provided with telegraphic input (TI) versus grammatical input.



Offline processing studies (tasks that require child to interpret AFTER hearing input)



Impact of TS on **Comprehension**

Acting Out Task: Late Stage I & Stage II children who were typically developing favored **grammatical** input. (Kramer, 1977; Petretic & Tweney, 1977; Ruder, Smith, & Murai, 1980; Shipley, Smith, & Gleitman, 1969).

Picture Pointing Task: Early Stage I & Stage II children in **both** populations responded correctly significantly more often to **grammatical** input. (Larson, 1974)



Online processing studies (while hearing input, where did child prefer to look)



With typically developing children, these studies looked at the impact of language input on the ability to interpret single nouns that referred to concrete objects.

Fernald & Hurtado (2006)

Kedar, et al (2006)

Grammatical input compared to telegraphic...

- May be superior to help child comprehend target word
- May decrease processing time

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What conclusions can be drawn?



With the processing studies,

- **Grammatical input may be better, but**
- Mixed findings (with offline studies)
- Cannot generalize findings to kids with language or cognitive delays (online studies)
- Cannot generalize to production



What conclusions can be drawn?



Intervention studies: one tentative finding
in support of TI in production

Processing studies: maybe grammatical,
but with reservations

Overall: Inconclusive





What do two experts say?



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Enhanced Milieu Teaching

Anne Kaiser (ASHA 2007)

Three aspects of EMT

- **Non elicitive modeling** in responsive interactions
- **Expansions** - in response to child single word utterances
- **Milieu Teaching Episodes**
 - **Elicitive modeling** (Say "Roll ball")
 - Child responses to Models, Mands, Time Delay



Target population for EMT

- Children 2½ - 5
- Cognitive disabilities
- Speech intelligibility varies
- Can verbally imitate
- Have at least 10 productive words
- MLU below 2.5



Recommend using Telegraphic Speech in EMT

- Use with children who use **single word utterances and those making the transition to two words**
- Use when **introducing two-word and three-word semantic combinations**
- **Use telegraphic speech in elicitive modeling** at the level children can imitate
- Shorten adult MLU but not to the level of telegraphic speech in across the day conversations

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Marc Fey's views on Telegraphic Speech (ASHA, 2007)



The assumption is made that use of telegraphic models *simplifies* the input and makes the child's language learning job easier... but just the opposite could be true.



Ten Principles of Grammar Facilitation for Children with SLI: Principle Number 9 (Fey et al., 2003)



Avoid telegraphic speech, always presenting grammatical models in well-formed phrases and sentences, (including appropriate function words and bound morphemes).



Fey's reasons for not using TS with children who are language Impaired



1. Production of grammatical morphemes (function words like "is", "the", "am", "have", "-ed", "-ing") is the most difficult aspect of language for most English-speaking children with language learning problems

Telegraphic Speech deprives children of these forms, making them harder to learn

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Fey's reasons for not using TS



2. Omitting grammatical morphemes results in few cues from which the child can deduce syntax or semantic information. It also limits the child's opportunities to perceive and learn prosodic patterns that include unstressed syllables.



Disadvantages of Telegraphic Speech



Telegraphic speech may be harder to understand and may make it more difficult for the child to learn to use function words

hand



Wash hand.
Daddy wash hand.



Disadvantages of Telegraphic Speech



Weak syllable-strong syllable pattern may help child guess the grammatical category of a new word

hand



I'm washing
your hand.
Your hand's dirty.

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Fey's reasons for not using TS



3. Children with SLI usually have better comprehension than expressive abilities – and are familiar with and depend on the information provided by grammatical morphemes and functor words. TS removes that information.



What is Hanen's current thinking?



Revised *It Takes Two To Talk*® Program (2004)

- Shift towards teaching parents to use grammatically complete models, especially if goal is improving receptive language
- Hanen's goal: make information accessible to parents



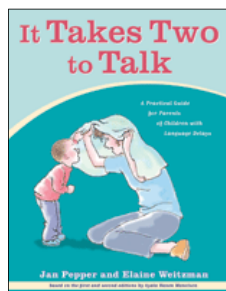
How? Turn the information on prosodic cues into a user-friendly strategy



Hanen Program for parents




It Takes Two to Talk® –
for parents of preschoolers
with expressive and
receptive language delays.



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Hanen

Interactive Strategies


that facilitate expressive and receptive language development



- Give your child a word (variety of words)
- Expand
- Extend
- Highlight Your Language; The 4Ss



Hanen Programs



Combination of:

- **Group sessions** for parents/caregivers; and
- **Individual video feedback sessions** – help parents apply strategies successfully so child can achieve her/his communication goals



It Takes Two to Talk®

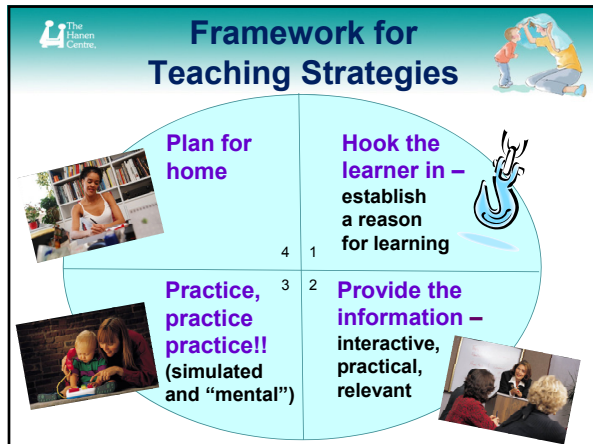


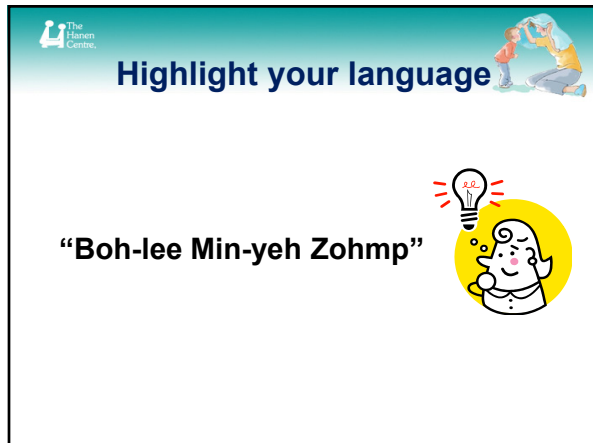
• Group Session 1: Let Your Child Lead	• Group Session 5: Add Language to Build Understanding
• Group Session 2: Follow Your Child's Lead	<u>Video Feedback #2</u>
<u>Video Feedback #1</u>	• Group Session 6: Let's Play!
• Group Session 3: Take Turns to Keep the Interaction Going	• Group Session 7: Sharing Books
• Group Session 4: Add Language to the Interaction	<u>Video Feedback #3</u>
	• Group Session 8: Moving Forward with Music and Closing

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Highlight your language




Find examples of Dad using the 4Ss to help Luke say a two-word utterance






Let's try it out




Partner A:
Your child has finished the juice in his juice box. You are in the car (but not driving) and have no more juice for him.
Communicate with two simple sentences, using the 4Ss.

Partner B:
You blow up a balloon and stop when you think it's big enough, but your child is making sounds and gesturing to tell you to keep on blowing it up. You're afraid the balloon will pop.
Communicate with two simple sentences, using the 4Ss.



What do you think?





- Which of the 4 S's do you think you will focus on the most at home? Why?
- What can you do to help yourself remember the main thing(s) you want to try?



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 **To Do at Home Plan** 



 **Highlight your Language** 

 **The 4 Ss:
Helping Prosodic
Bootstrapping using CDC** 

Say Less  **Stress** 
Less complex grammatically; less diverse in vocabulary Higher pitch; expanded intonational contours

Go Slow  **Show** 
slower tempo

Repeat, Repeat, Repeat!!
redundant

 **Dad using the 4Ss** 



Child: Bite
Dad: Bite? Yeah.
Wow, that's a **big... bite**.
That's a **very big bite**!
Daddy take a **big bite**?

Dad takes a bite
Child: Bite
Dad: Bite (imitates and waits)
Child: **Big...** bite
Dad: **Big** bite... yeah

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Features of Hanen Programs

- Based on principles of adult education
- Family-centered
- User-friendly resources (parents/caregivers & providers)
- Comprehensive training for providers
- Evidenced-based



References

- Bedore, L. M., & Leonard, L. B. (1995). Prosodic and Syntactic Bootstrapping and Their Clinical Applications: A Tutorial. *Am J Speech Lang Pathol*, 4(1), 66-72.
- Brown, R. (1973). *A first language, the early stages*. Cambridge, MA: Harvard University Press.
- Ellis Weismer, S. (1997). The role of stress in language processing and intervention. *Topics in Language Disorders*, 17, 41-52.
- Ferguson, C. (1964). Baby talk in six languages. *American Anthropologist*, 66, 103-114.
- Fernald, A., & Hurtado, N. (2006). Names in frames: infants interpret words in sentence frames faster than words in isolation. *Developmental Science*, 9(3), F33-F40.
- Fey, M. (2008). The (mis-)use of telegraphic input in child language intervention. *Revista de Logopedia, Foniatria y Audiología*, 28(4), 218-230.
- Fey, M. E., Long, S. H., & Finestack, L. H. (2003). Ten principles of grammar facilitation for children with specific language impairments. *American Journal of Speech Language Pathology*, 12(1), 3-15.
- Fraser, W. (1972). Modifications of language situations in an institution for profoundly retarded children. *Developmental Medicine and Child Neurology*, 14(2), 148-155.
- Gerken, L., & McGregor, K. (1998). An overview of prosody and its role in normal and disordered child language. *American Journal of Speech-Language Pathology*, 7(2), 38-48.
- Gleitman, L. R. (1994). Words, words, words. *Philosophical Transactions: Biological Sciences*, 346 (1315), 71-77.



References

- Grieser, D.L., & Kuhl, P. K. (1988). Maternal speech to infants in a tonal language: Support for universal prosodic features in Motherese. *Developmental Psychology*, 24(1), 14-20.
- Kedar, Y., Casasola, M., & Lust, B. (2006). Getting there faster: 18- and 24-month-old infants' use of function words to determine reference. *Child Development*, 77(2), 325-338.
- Kramer, P. E. (1977). Young children's free responses to anomalous commands. *Journal of Experimental Child Psychology*, 24, 219-234.
- Larson, V. L. (1974). Comprehension of telegraphic and expanded utterances by mentally retarded and normal children. Unpublished doctoral dissertation. University of Wisconsin.
- Loeb, D. F., & Armstrong, N. (2001). Case studies on the efficacy of expansions and subject-verb-object models in early language intervention. *Child Language Teaching and Therapy*, 17(1), 35-53.
- Petretic, P., & Tweney, R. (1977). Does comprehension precede production? The development of children's responses to telegraphic sentences of varying grammatical adequacy. *Journal of Child Language*, 4(2), 201-209.
- Ruder, K. F., Smith, M. D., & Mural, H. M. (1980). Response to commands revisited again. *Journal of Child Language*, 7, 197-203.
- Shipley, E., Smith, C., & Gleitman, L. (1969). A study in the acquisition of language: Free responses to commands. *Language*, 45(2), 322-342.
- Willer, B. (1974). Reduced versus nonreduced models in language training of MR children. *Journal of Communication Disorders*, 7, 343-355.

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Wrap Up



- Questions????
- Come by a visit, **(add at conference)**
- Thank you for listening

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