Achieving Ambitious Goals with the iPad in Special Education

Ruben R. Puentedura, Ph.D.

Redefinition
Tech allows for the creation of new tasks, previously inconceivable

Modification
Tech allows for significant task redesign

Augmentation
Tech acts as a direct tool substitute, with functional improvement

Substitution
Tech acts as a direct tool substitute, with no functional change

A SAMR Ladder for AAC

Push the stick into the play dough.

A muddy day in April

Young@Heart : "This Is Getting Old" at Merrill Auditorium, March 24, 2013
Click for complete information!

Northeast
Hearing & Speech

Serving the people of Maine and New Hampshire since 1924.
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Hours of Operation:
Monday through Thursday: 8am – 4:30pm
Friday: 8am – 4pm

About Us

Northeast Hearing & Speech (NHS) is a non-profit hearing and speech center that has been serving the communities of southern Maine since 1924. Our dedicated clinicians offer a complete range of services to help people of all ages to hear, speak, and communicate. Audiologists provide comprehensive hearing evaluations for newborns to the elderly, and dispense and service hearing aids and assistive listening devices from the leading hearing aid manufacturers. Speech-Language Pathologists provide speech-language evaluations and therapy for children and adults with speech-language impairments, language/learning disabilities, stuttering and voice disorders, brain injuries, and other neurological disorders (e.g., Parkinson's Disease, ALS, etc.).

Accreditations and Affiliations

Northeast Hearing & Speech (NHS) is accredited by the National Association of Speech and Hearing Centers. Each of our Audiologists and Speech-Language

Our Mission

Our mission is "Helping People Communicate" and our purpose is to provide services to all who need them. We are committed to helping people of all ages to hear, speak, and communicate.

Young@Heart: "This Is Getting Old"

Sunday, March 24, 2013 @ 2:30 PM, Merrill Auditorium, Portland, Me.

For More Information call 207-874-1065 or go to the Young@Heart Maine web site.

You can also buy tickets online.

The NOMS Framework

Articulation/Intelligibility

LEVEL 1: Speech cannot be understood even by familiar listeners.

LEVEL 2: Child's production of simple words and short phrases is rarely intelligible to familiar listeners. Child's speech is unintelligible to unfamiliar listeners.

LEVEL 3: Child is occasionally intelligible in connected speech to familiar listeners. Child's production of simple words and phrases is rarely intelligible to unfamiliar listeners.

LEVEL 4: Child's connected speech is usually intelligible to familiar listeners but only occasionally intelligible to unfamiliar listeners.

LEVEL 5: Compared to chronological peers, child's connected speech is consistently intelligible to familiar listeners and is usually intelligible to unfamiliar listeners. Child's speech usually calls attention to itself more than would be expected of chronological peers, and this occasionally affects participation in adult-child, peer, and directed group activities.

LEVEL 6: Compared to chronological peers, child's connected speech is consistently intelligible to unfamiliar listeners. Child's speech occasionally calls attention to itself more than would be expected of chronological peers, and this rarely affects participation in adult-child, peer, and directed group activities.

LEVEL 7: Child's connected speech rarely calls attention to itself more than would be expected of chronological peers, and participation in adult-child, peer, and directed group activities is not limited by speech intelligibility.

Spoken Language Comprehension

LEVEL 1: Child understands a limited number of common object and action labels and simple directions only in highly structured, repetitive daily routines, with consistent maximal cueing.

LEVEL 2: Child understands a limited number of common objects and action labels and simple directions only in highly structured repetitive daily routines.

LEVEL 3: Child understands a limited number of common objects and action labels and simple directions in novel situations.

LEVEL 4: Child understands simple word combinations/sentences. Child usually requires rephrasing and repetition to ensure understanding of brief conversations.

LEVEL 5: Child understands brief conversations. Child usually requires rephrasing and repetition to ensure understanding of the type and length of sentence typically understood by chronologically age-matched peers.

LEVEL 6: Child understands communications of the type and length typically understood by chronologically age-matched peers but occasionally requires rephrasing and repetition. Child's ability to participate in adult-child, peer, and group activities is sometimes limited by language comprehension.

LEVEL 7: Child's ability to participate in adult-child, peer, and group activities is not limited by language comprehension. Repetition and rephrasing are rarely required.

Spoken Language Production

LEVEL 1: Child attempts to communicate, but attempts are not meaningful to familiar or unfamiliar individuals at any time.

LEVEL 2: Child attempts to communicate, but, even with consistent maximal cueing, child rarely produces meaningful communication with familiar people in routine situations.

LEVEL 3: With moderate cueing, child usually produces meaningful communication in routine events of daily living with persons familiar to the child. This communication is much simpler than expected for chronological age.

LEVEL 4: With minimal cues, child can communicate in routine events of daily living. When moderate cues are given, child occasionally communicates in familiar and novel settings, using simpler sentences than are appropriate for his chronological age.

LEVEL 5: With minimal cues, child usually communicates in familiar and novel settings, using simpler sentences than are appropriate for his chronological age. With maximal cueing, child occasionally uses age-appropriate sentences in familiar settings.

LEVEL 6: Child usually communicates using age-appropriate sentences in most adult-child, peer, and directed group activities, but some limitations are still apparent. Minimal cueing is occasionally required from the communication partner.

LEVEL 7: Child's ability to participate in adult-child, peer, and directed group activities is not limited by language production. Cueing is rarely required.

Refining the Framework:
Brown's Stages of Language Development

Stage	MLU= $\frac{\text{Total number of morphemes}}{\text{Total number of utterances}}$	Approximate Age (In Months)
I	1.0-2.0	12-26
II	2.0-2.5	27-30
III	2.5-3.0	31-34
IV	3.0-3.75	35-40
V	3.75-4.5	41-46
V+	4.5+	47+

Stage	Age (In Months)	Declarative	Negative	Interrogative	Embedding	Conjoining
Early I (MLU: 1-1.5)	12-22	Agent + Action; Action+ object	Single word-no, all gone, gone	Yes/no questions asked with rising intonation on a single word; what and where		Serial naming without *and*
Late I (MLU: 1.5-2)	22-26	Subj. + Verb + Obj.	No and Not used interchangeably	What doing?	Prepositions in and on appear	And appears
Early II (MLU: 2-2.25)	27-28	Subj. + Copula + Compl.		Where going?	Gonna, wanna, gotta etc. appear	

A SOLO-Based Model

Levels derived from SOLO (Biggs & Collis – Structure of Observed Learning Outcome)

- **Tier 1: List, Name, Memorize (*Unistructural*)**

  - Example: "That is an apple and that is an orange."

- **Tier 2: Describe, Classify, Combine (*Multistructural*)**

  - Example: "Apples can be green, red, or yellow."

- **Tier 3: Analyze, Explain, Integrate (*Relational*)**

  - Example: "I had a stomach ache because I ate too many green apples."

- **Tier 4: Predict, Reflect, Theorize (*Extended Abstract*)**

  - Example: "I think eating green fruit is bad for you."

The SOLO-Based Exploratory Questionnaire (Draft)

- In my observations, I have seen the client use language at the following SOLO level (1–4):

  - Never, Seldom, Sometimes, Often

- Can you provide an example of observed language use at this level?

- Was this use of language initiated by the client, or was it in response to a question or other prompt?

A Proposed Timeline for Research

- **Year 1 (this year):**
  - NOMS data collected, analyzed and compared to historical data
  - Data to design SOLO instrument collected
    - Rough profile of observed SOLO levels
    - Identification of good prompts for incorporation into a SOLO instrument

- **Year 2:**
  - NOMS data collected, analyzed and compared to historical data
  - Brown data collected, analyzed
  - SOLO instrument deployed
    - SOLO data collected, analyzed, connected to NOMS, Brown data
    - SOLO instrument refined, finalized

- **Year 3:**
  - NOMS data collected, analyzed and compared to historical data
  - Brown data collected, analyzed and compared to historical data
  - SOLO data collected, analyzed and compared to historical data
  - NOMS, Brown and SOLO data analyzed for potential optimization of treatment practices

- **Year 4:**
  - Optimized practices deployed
  - NOMS Data collected, analyzed and compared to historical data
  - Brown data collected, analyzed and compared to historical data
  - SOLO Data collected, analyzed and compared to historical data
  - NOMS, Brown and SOLO data analyzed for assessment of optimized treatment practices

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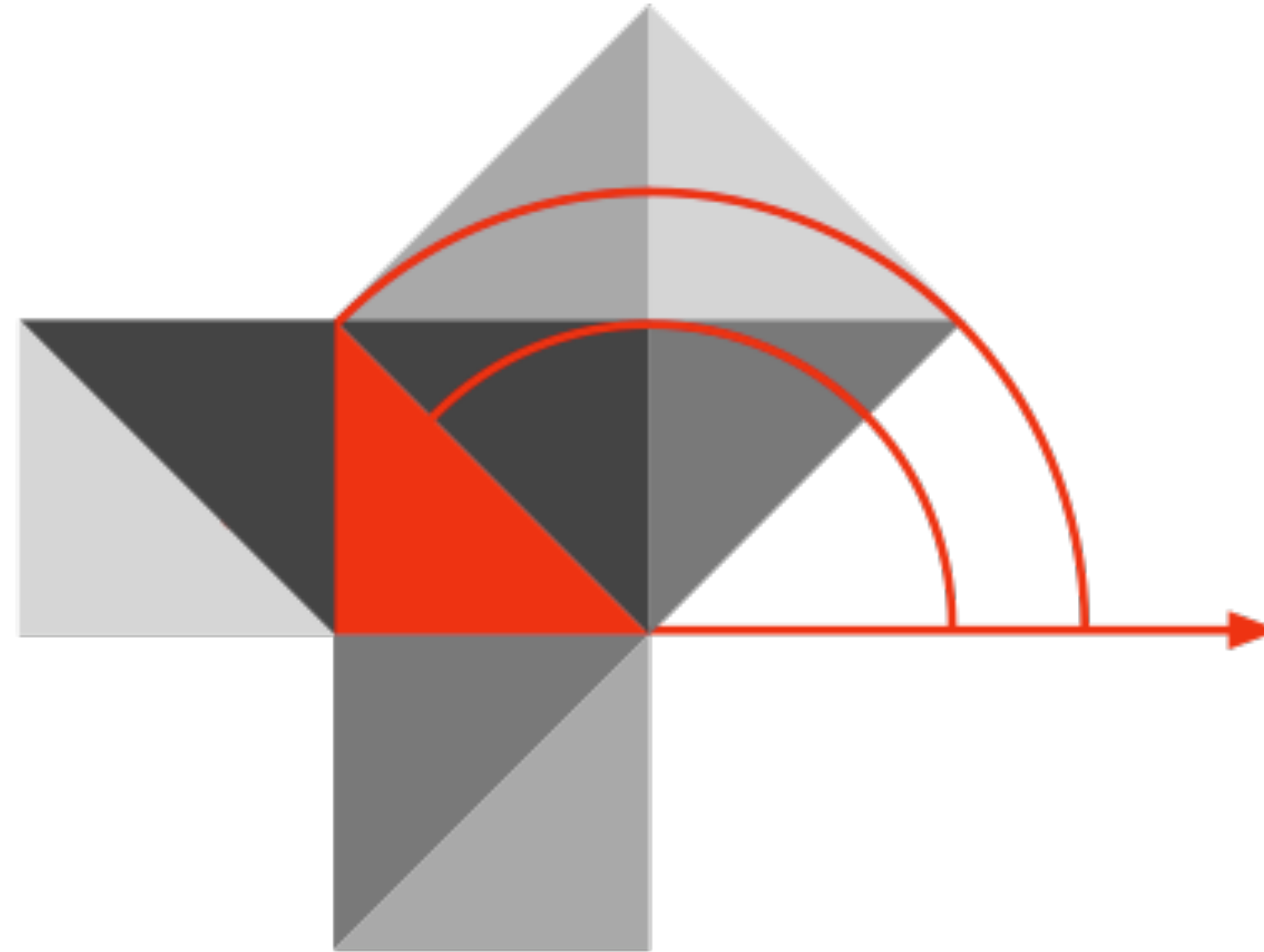
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