

A cognitive approach in speech therapy

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We intend to recall the attention on the usefulness of a cognitive approach in speech therapy for children with organic anomalies of the bucco-facial apparatus and severe dixerpraxia.



Metacognitive skill
Phonological conciousness

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metacognitive skill

level of awareness and self control of the own linguistic and non-linguistic acquisitions

phonological awareness

capacity to operate a control feedback on the own speech production

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These skills are naturally acquired by children with typical development through the exposure to communicative/linguistic contexts and through the literacy process

In children with “non-typical development” such competences need to be specifically stimulated

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We are referring to an integrated approach based on different rehabilitation methodologies usually addressed to specific pathologies (phonological disorder, deafness, etc)

Methodologies:

LIS – Italian Language of Signs,

Drezancic Method

Gladic Method, Zatelli Method

Phonological Therapy (U. Bortolini)

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The Method

- We are convinced that in speech therapy, such as in other rehabilitation contexts, it is misleading to consider the existence of “The Method” applicable to all patients

Rehabilitation project unicity

- Integrate different methodologies to meet the objective

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- A single patient rehabilitation project implies a **specific interactive and dynamic setting** integrating:
 - the Children skills
 - the Speech Therapist competences
 - such as to meet the given objectives

Case study

- G. is a 8 years old boy with VCFS and submucous cleft palate (pharyngeal flap surgery at 5 years old)
- G. started a speech therapy when he was 3.8 years old until he was 6.6, 3 times a week in the first year and 2 times a week in the following years
- Each session was 50 minutes long.

Assesment

- First assesment at 3.8 years
- **Cognitive level:** adequate. Such result has been recently confirmed by the Wisc-r (Q.I. tot. 96)
- **Linguistic skills:** adequate in all areas (lexical, morphological, synthactical) with the exception of the phonological area
- A severe **nasal resonance** was present
- Severe impairment in the **praxical area** (lips, cheeks,..)

Phonological competence

At the beginning of the therapy G. speech was based on:

- **nasal sounds, occlusives B,D,G, (only occasionally employed), lateral L, and, occasionally, fricatives labiodentals F-V. Sometimes present soundless occlusives T and P, but only in the middle position.**

Simplification processes :

- system processes: **sonorization; soundless occlusive, fricative and affricative nasalisation;**
- Structure processes: **consonant and/or vowel erased, consonant harmony, groups reduction**

Speech sample

Target sound

- **Palla**
- **Bimba**
- **Dito**
- **Tavola**
- **Torta**
- **Piccolo**
- **Gallina**
- **Casa**
- **Fiore**

G. production

- Malla**
- Biba**
- Nino**
- Navola**
- Donna**
- Binnolo**
- Allina**
- Asa**
- Miore**

Speech sample

Target sound

Gamba

Fuoco

Sole

Vaso

Scimmia

Pesce

Faccia

Pioggia

G. production

Bamma

Buono

Ole

Aso

Gnimmia

Begne

Fagna

Biogna

Speech sample

Target sound

- Pozzo
- Pranzo
- Zampa
- Stella
- Tasca
- Schiaffo
- Rana

G. production

- Mogno
- Nanno
- Gnamba
- Nella
- Anna
- Gnabo
- Lana

General therapy goals:

- **Develop in the child the possibility to employ actively his own speech**
- **Increase attention skills**
- **Develop oro-facial praxies**
- **Reduce nasal speech**
- **Complete phonetic inventory**
- **Develop phonological consciousness**
- **Extend spontaneous speech**
- **Obtain precocious literacy**

Specific goals of the therapy

Short term goals	Activities
<u>Increase perceptive-uditive skills</u>	<ul style="list-style-type: none"> - games with isolated and sequenced sounds - games with couples of phonemas - games with word and non-words couples
<u>Complete phonemic inventory</u>	<ul style="list-style-type: none"> - preparatory praxies - exercises of self -perception motricity - sound games - phonetical graphism (Gladic) -generalizing within single words
<p>Linguistic and cognitive training: the MINIMAL COUPLE (two words of different meaning differing for one phonema having one or more distinctive letters in opposition, i. e. “polla- bolla”. Produces <i>cognitive dissonance</i>)</p>	<p>Use of minimal couple in:</p> <ul style="list-style-type: none"> - Fiction games, graphism, tales -Tales with minimal couple visualization -Games: duck game, memory, bingo with minimal couple)

Short and middle term objectives	Activities
<u>Co-articulation skills development</u>	<ul style="list-style-type: none"> -Denomination of a sequence of 3 syllables repeated 6 or 9 times -Dreznanc exercises in syllabic differentiation (gestures and drawings)
<u>Spontaneous speech generalisation</u>	<ul style="list-style-type: none"> -Slow down conversation in free activities, emphasizing articles, preposition, conjunctions -Sentence rhythm reading (Dreznancic) -Tales in sequence with voice recorder
<u>Precocious speech</u> Global and analytical phonological consciousness training	<ul style="list-style-type: none"> -rhyme games, syllabic division, syllabic fusion -phonemic fusion, spelling, manipulation f.
Visual-Perceptive Training Grapho-Motricity Training	Stimulating exercises inspired by M.Frostig method

Conclusions

- At the end of the therapy **initials goals were meet**, with satisfactory results also in school performance. This was confirmed by the most recent Primary 3rd evaluation.
- **Velopharyngeal flap surgery** definitely improved intraoral pressure leading to a less nasal and more clear speech production, mostly concerning fricatives and affricatives
- Although a residual severe **hypernasality** was observed. On such aspect it is questionable wether to proceed with a targeted speech therapy or to consider it as a stabilised compensatory articulation disorder