



Childhood Apraxia of Speech (verbal dyspraxia) and other Speech- and Language Disorders – Danish practice and organisation

Danish Neuropediatric Society
Saturday the 4th of November 2017
kl. 13.00-13.30
Louise Skov
Speech-Language Pathologist
(Cand.mag./leg. logoped)
www.logopaeden.dk



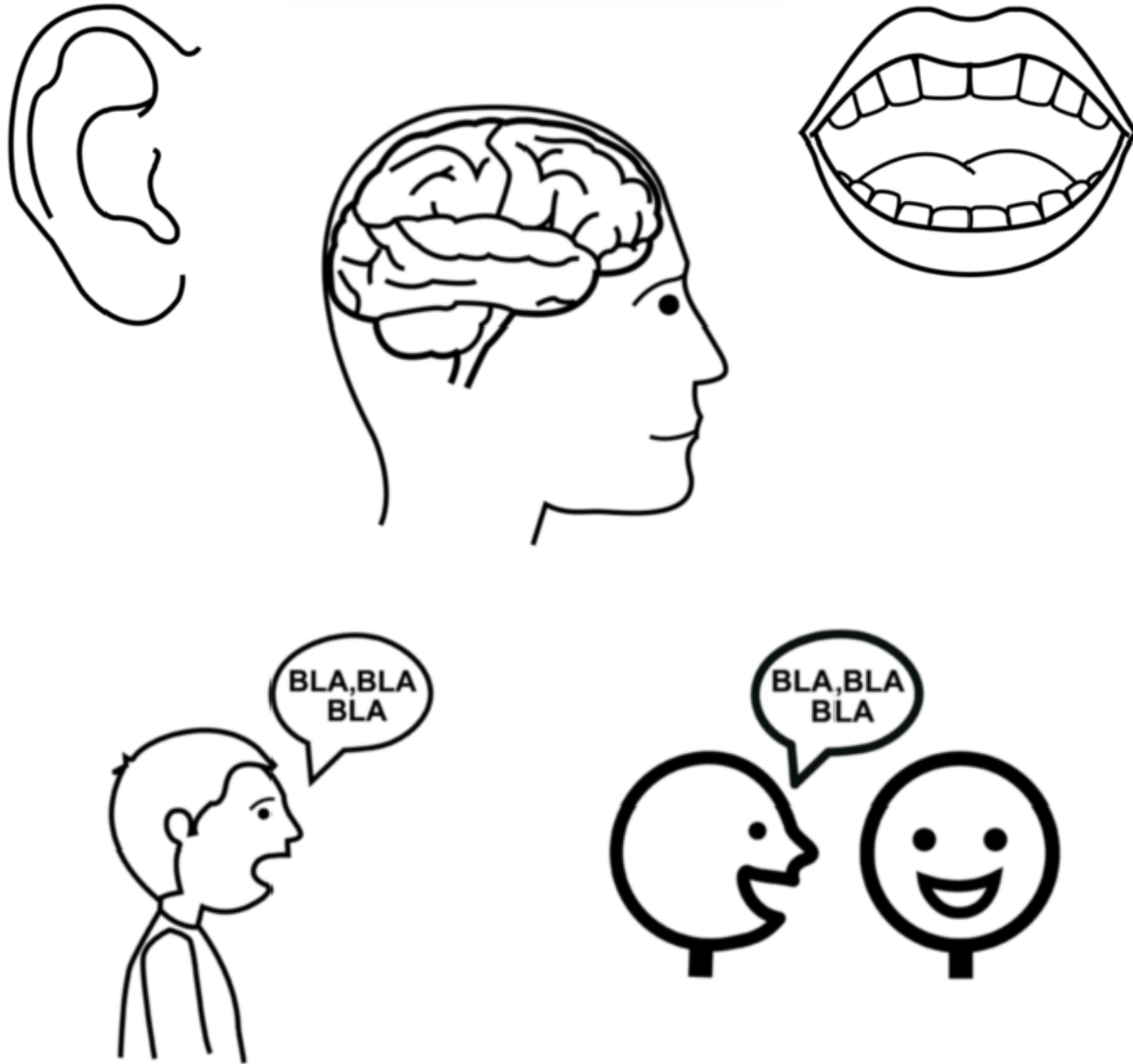
- Presentation
- What is Speech?
- What is Language?
- Overview of Speech and Language Disorders
- Childhood Apraxia of Speech
 - Danish practice and organisation



- Louise Skov
- Private Speech-Language Pathologist with specialization in assessment and intervention primarily for children and youth with Childhood Apraxia of Speech
- Clinic in Odense and Copenhagen

Educational background:

- Speech-Language Pathologist education from Southern University of Denmark and Lund University in Sweden



What is Speech:

Speech is the verbal means of communicating. Speech consists of the following:

Articulation

How speech sounds are made (e.g., children must learn how to produce the "f" sound in order to say "fine" instead of "mine")

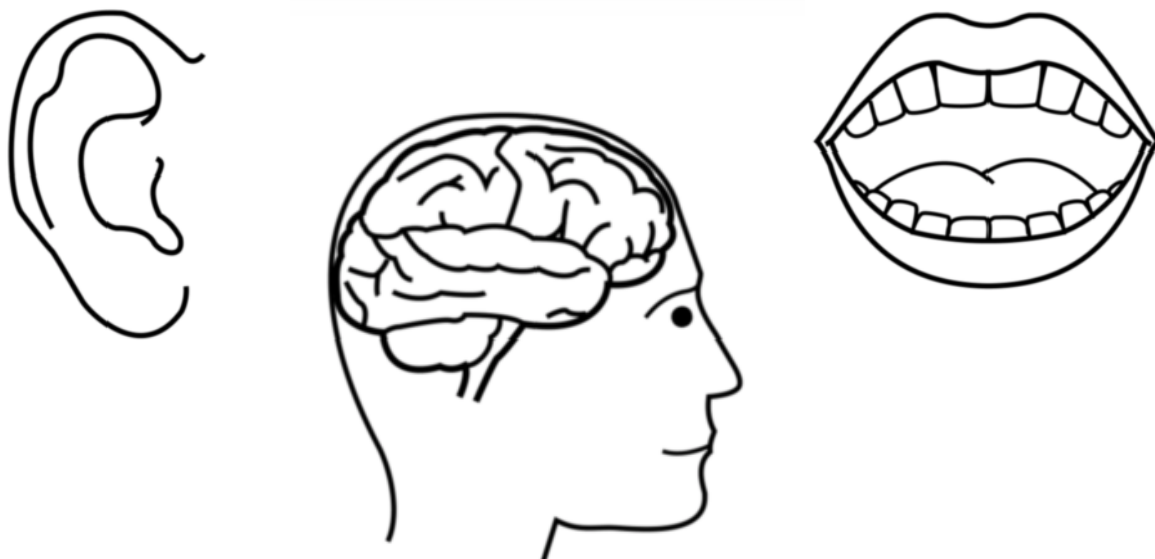
Voice

Use of the vocal folds and breathing to produce sound (e.g., the voice can be abused from overuse or misuse and can lead to hoarseness or loss of voice)

Fluency

The rhythm of speech (e.g., hesitations or stuttering can affect fluency)

(https://www.asha.org/public/speech/development/language_speech; Nettelbladt & Salameh, 2007)

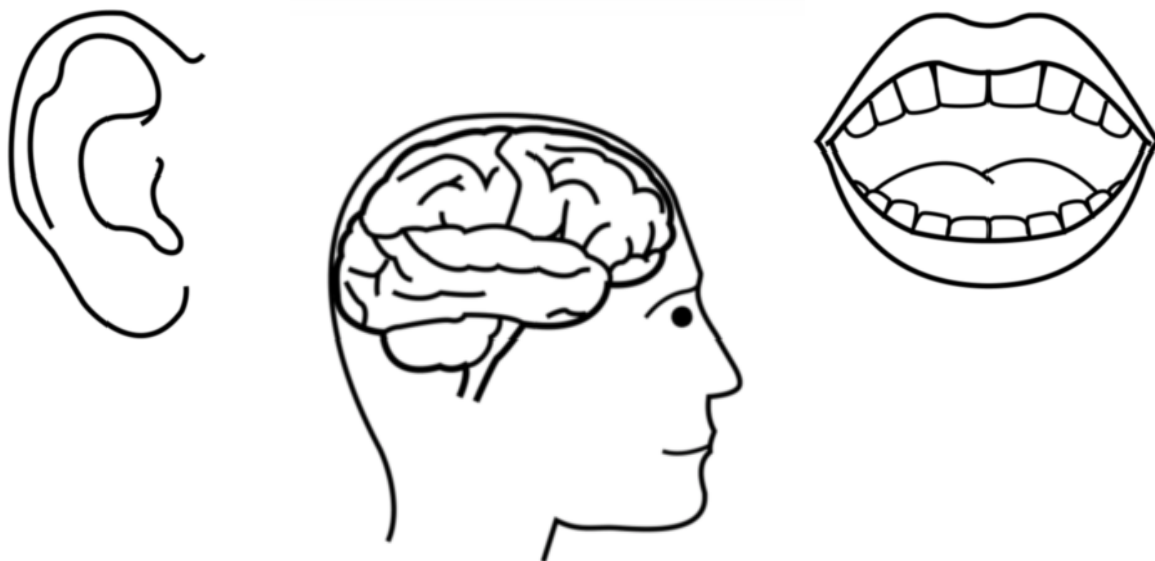


What is Language:

- **Language** is made up of socially shared rules that include the following:
- **What words mean** (e.g., "star" can refer to a bright object in the night sky or a celebrity)
- **How to make new words** (e.g., friend, friendly, unfriendly)
- **How to put words together** (e.g., "Alex walked to the new store" rather than "Alex walk store new")
- **What word combinations are most appropriate in what situations** ("Would you mind moving your foot?" could quickly change to "Get off my foot, please!" if the first request did not produce results)

(https://www.asha.org/public/speech/development/language_speech; Nettelbladt & Salameh, 2007)

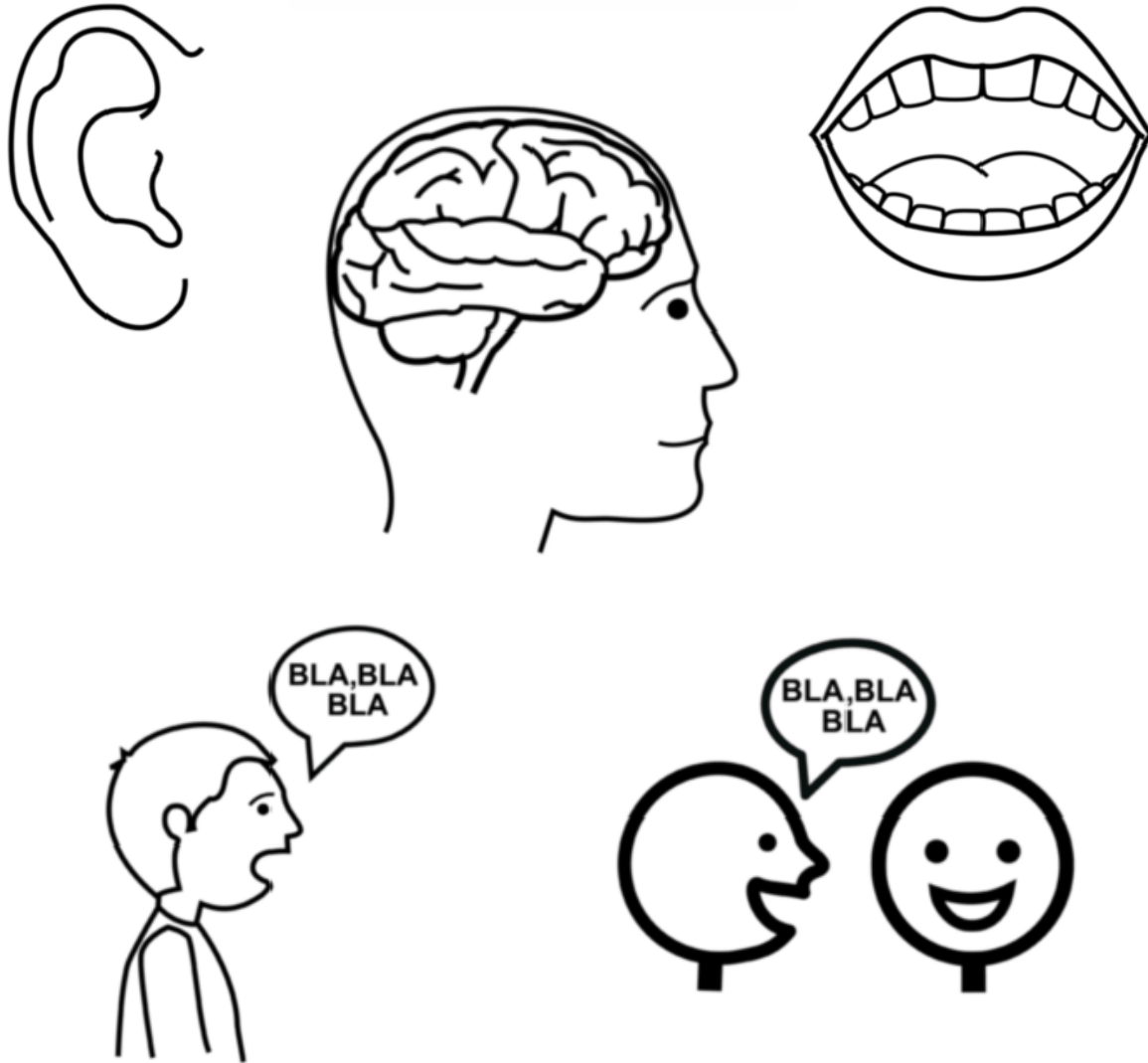




- When a person has trouble understanding others (**receptive language**), or sharing thoughts, ideas, and feelings completely (**expressive language**), then the person has a **language disorder**
- When a person is unable to produce speech sounds correctly or fluently, or has problems with his or her voice, then the person has a **speech disorder**

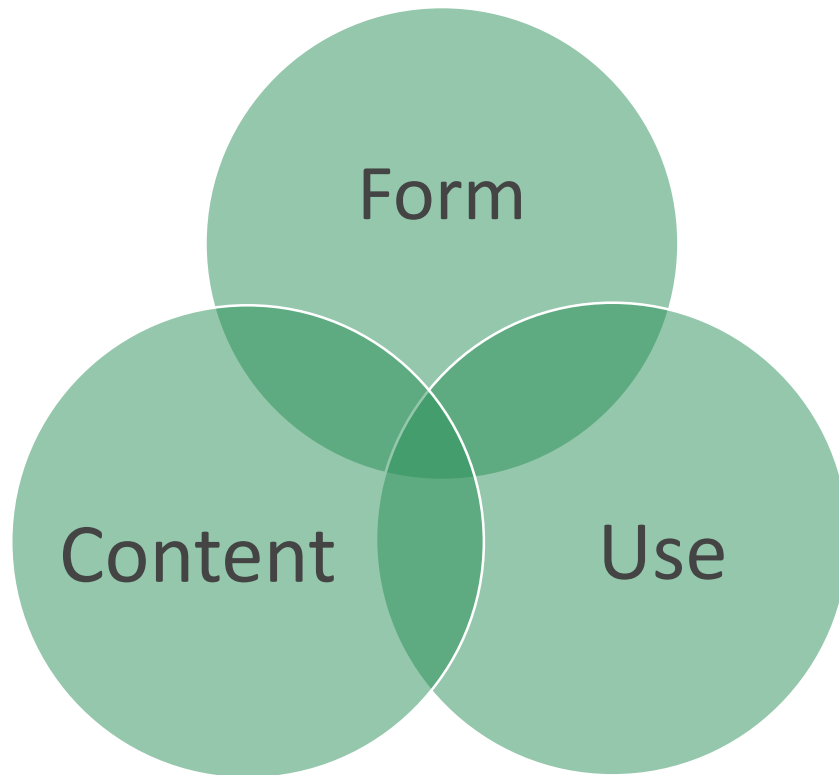


(https://www.asha.org/public/speech/development/language_speech; Nettelbladt & Salameh, 2007)



We divide Speech Disorders into:

- **Childhood Apraxia of Speech**
- **Dysarthria**
- **Articulation Disorder**
- **Stuttering**
- **Voice Disorders**



We divide Language Disorders into 3 areas:

- the **form** of language (phonology, morphology, syntax)
- the **content** of language (semantics)
- the function (**use**) of language in communication (pragmatics) in any combination

A language disorder is impaired comprehension and/or use of spoken and written language

(<https://www.asha.org/policy/RP1993-00208/>; Nettelbladt & Salameh, 2007)



- Previously it was called Specific Language Impairment (SLI), but recently it was agreed internationally to call the difficulties “DLD”
- In short it is when children have problems using and/or understanding spoken language

The term Developmental Language Disorder (DLD) should be used for children where...

- 1 The child has language difficulties that create barriers to communication or learning in everyday life
- 2 The child's language problems are unlikely to be resolved by five years of age
- 3 The problems are not associated with a known biomedical condition such as brain injury, neurodegenerative conditions, or chromosome disorders

DLD diagnosis should be accompanied with specification of the **impact** on domains of:

1 Phonology	4 Semantics
2 Grammar (syntax and morphology)	5 Word finding
3 Verbal learning and memory	6 Pragmatics/ language use

Many symptoms persist into adolescence and beyond



Children who have a language disorder have difficulties with one or more of the following domains:

Form

- **Phonology** - the sound system of a language and the rules that govern the sound combinations
- **Morphology** - the system that governs the structure of words and the construction of word forms
- **Syntax** - the system governing the order and combination of words to form sentences, and the relationships among the elements within a sentence

Content

- **Semantics** - the system that governs the meanings of words and sentences

Use

- **Pragmatics** - the system that combines the above language components in functional and socially appropriate communication

- *The more domains that are affected the more severe the disorder is in general...*

(<https://www.asha.org/policy/RP1993-00208/> ; Nettelbladt & Salameh, 2007; Bowen, 2015)



This was an overview in how we divide Speech and Language and how this organization help us in the clinical decision making about assessment and intervention for children and youth with Speech and/or Language Disorders.

Now...

Childhood Apraxia of Speech – Danish practice and organisation



- Is a Motor Speech Disorder

Definition from the American Speech-Language-Hearing Association (ASHA) in 2007:

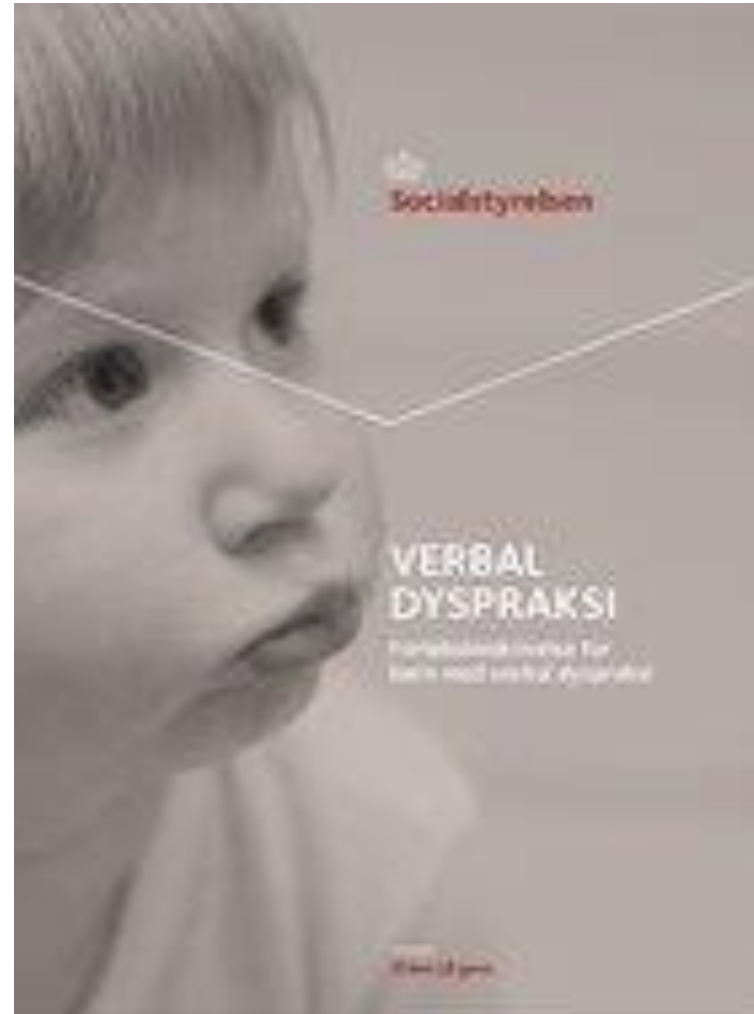
“Childhood apraxia of speech (CAS) is a neurological childhood (pediatric) speech sound disorder in which the precision and consistency of movements underlying speech are impaired in the absence of neuromuscular deficits (e.g., abnormal reflexes, abnormal tone). CAS may occur as a result of known neurological impairment, in association with complex neurobehavioral disorders of known or unknown origin, or as an idiopathic neurogenic speech sound disorder. The core impairment in planning and/or programming spatiotemporal parameters of movement sequences results in errors in speech sound production and prosody.”

- In Denmark SLP’s call it “verbal dyspraksi”



- The 9th of October 2017 The Danish National Board of Social Services published a detailed descriptions and recommendations about the diagnosis CAS including recommendations about assessment, evaluation and intervention
- Neuropediatricians are mentioned in the recommendations in relation to interdisciplinary assessment, evaluation and diagnosis

<https://socialstyrelsen.dk/udgivelser/born-med-verbal-dyspraksi>





- In DK the Speech-Language Pathologists are not allowed to make medical diagnosis. What we do is to make an evaluation of where the child has difficulties (speech and/or language). If we find that it could be a motor speech disorder, we make an assessment for this and refer to further assessment and evaluation interdisciplinary = ENT/neuropediatrician for diagnosis
- International recommendations about CAS is an interdisciplinary assessment and evaluation as CAS is a neurological motor speech disorder and it takes knowledge from different disciplines in order to make the best assessment, evaluation, differential diagnosis and in the end correct diagnosis with regard to the specific child/youth



Figur 3: Det gode forløb - udredning



Neuropediatricians as part of the assessment, evaluation and diagnosis/differential diagnosis in CAS

Indsats baseret på viden om motorisk læring

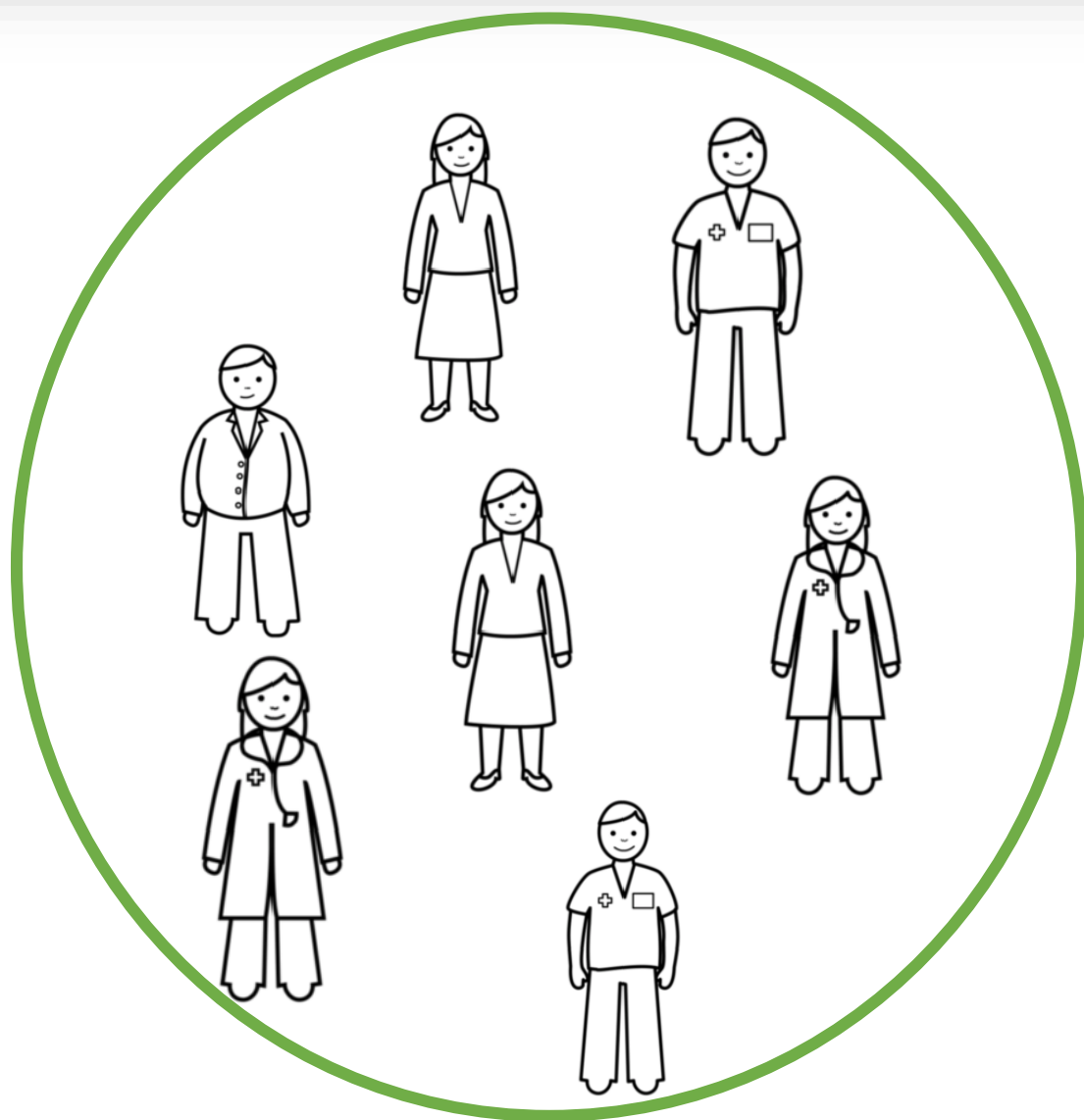


- In DK Speech-Language pathologists have different educational backgrounds (with or without paramedic content in their education)
- Most Children with Childhood Apraxia of Speech are receiving intervention from the SLPs in the municipality
- As part of The Danish National Board of Social Services, the board offers specialist consultancy and specialist assessments in complicated and specialized individual cases (called VISO) – also when it comes to CAS
- There is also a smaller number of private SLPs that offers assessment and intervention to children with Speech-Language Disorders incl. CAS



- “SLPs providing speech services to children with CAS need to consider the implications of CAS being categorized as a motor speech impairment”
- “...and understand that research evidence supports the use of **motor-based approaches** to treating it. Employing principles of motor learning should guide clinical decision-making at every step in the therapeutic process—it’s current best practice.”

– Kathy J. Jakielski, PhD, CCC-SLP



In my opinion it could be very interesting to make a stronger interdisciplinary bridging in the field of children with Speech and/or Language Disorders between Danish SLPs and neuropsychiatrists to make the process of assessment, evaluation and diagnosis more efficient for all parts.

So let's hope we meet soon again 😊



Thanks!



Louise Skov

www.logopaeden.dk