FROM THEORY TO PRACTICE: APPLYING CONSTRUCTIVISM TO DYNAMIC ASSESSMENT AND THE ZONE OF PROXIMAL DEVELOPMENT IN CHILDREN WITH SUSPECTED LANGUAGE DIFFICULTIES / DEVELOPMENTAL LANGUAGE DISORDER (DLD)

Today's Discussion Outline

- Understanding Constructivism in Therapeutic Contexts
- Exploring Dynamic Assessment for Language Difficulties/DLD
- The Zone of Proximal Development (ZPD) and its Implications
- Integrating Constructivism, Dynamic Assessment, and ZPD
- Practical Applications and Case Examples

UNDERSTANDING CONSTRUCTIVISM IN THERAPEUTIC CONTEXTS

How do children acquire language?

No specific teaching of syntax, grammar, or morphology

Very few complete utterances provided by parent(s) as models

Despite these barriers, typically developing children acquire spoken language rapidly

What do children hear?

- 12 mothers of 2-year-old children
- Child-directed speech (CDS)
- 5,000-7,000 utterances per day
  - *A quarter to a third of these were questions*
  - *>20% were not full adult sentences*
  - ***Only 15% had an SVO form** supposedly characteristic of the English language*
  - *>80% of the SVOs had a pronoun subject*
  - *(Cameron-Faulkner, Lieven & Tomasello, 2003)*

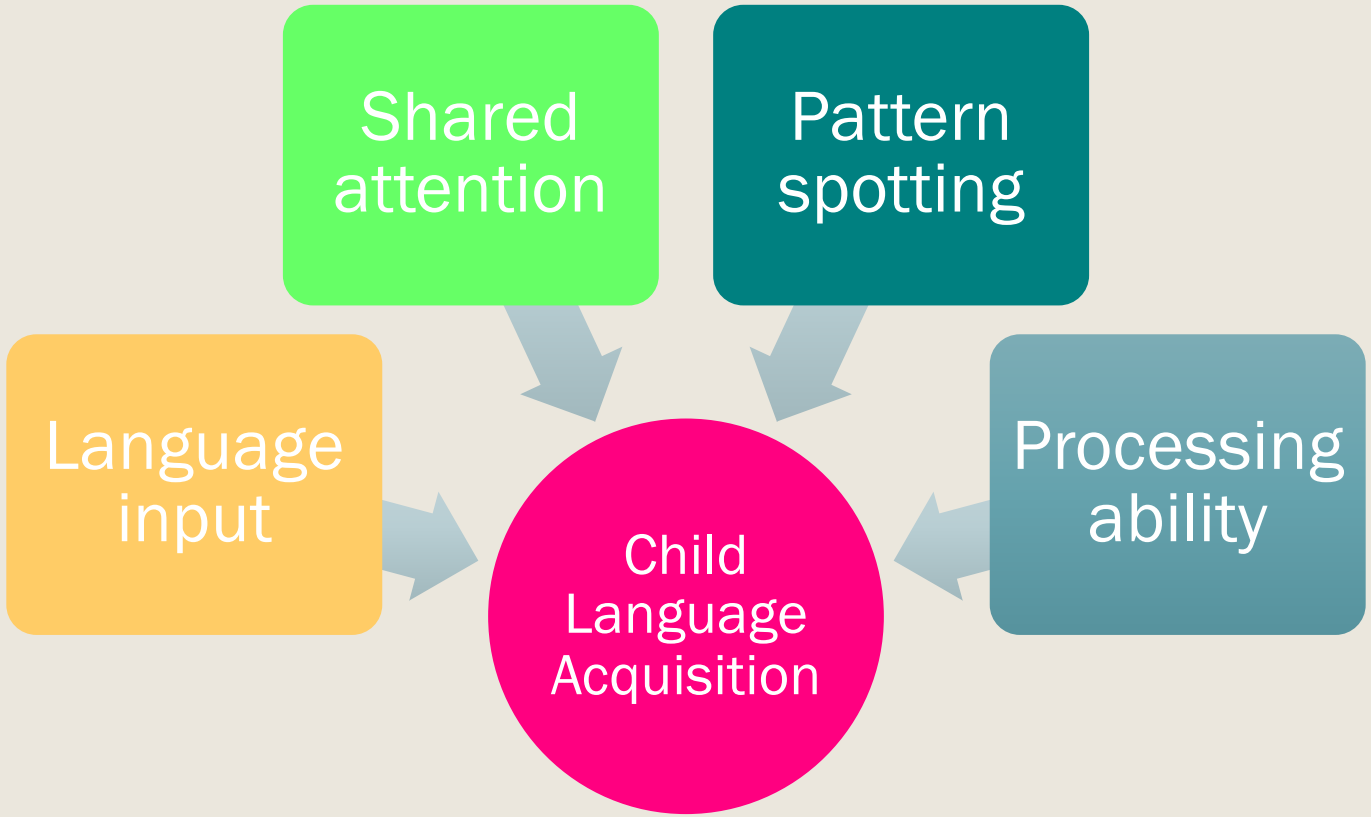
Three essential ingredients of language acquisition

LANGUAGE INPUT

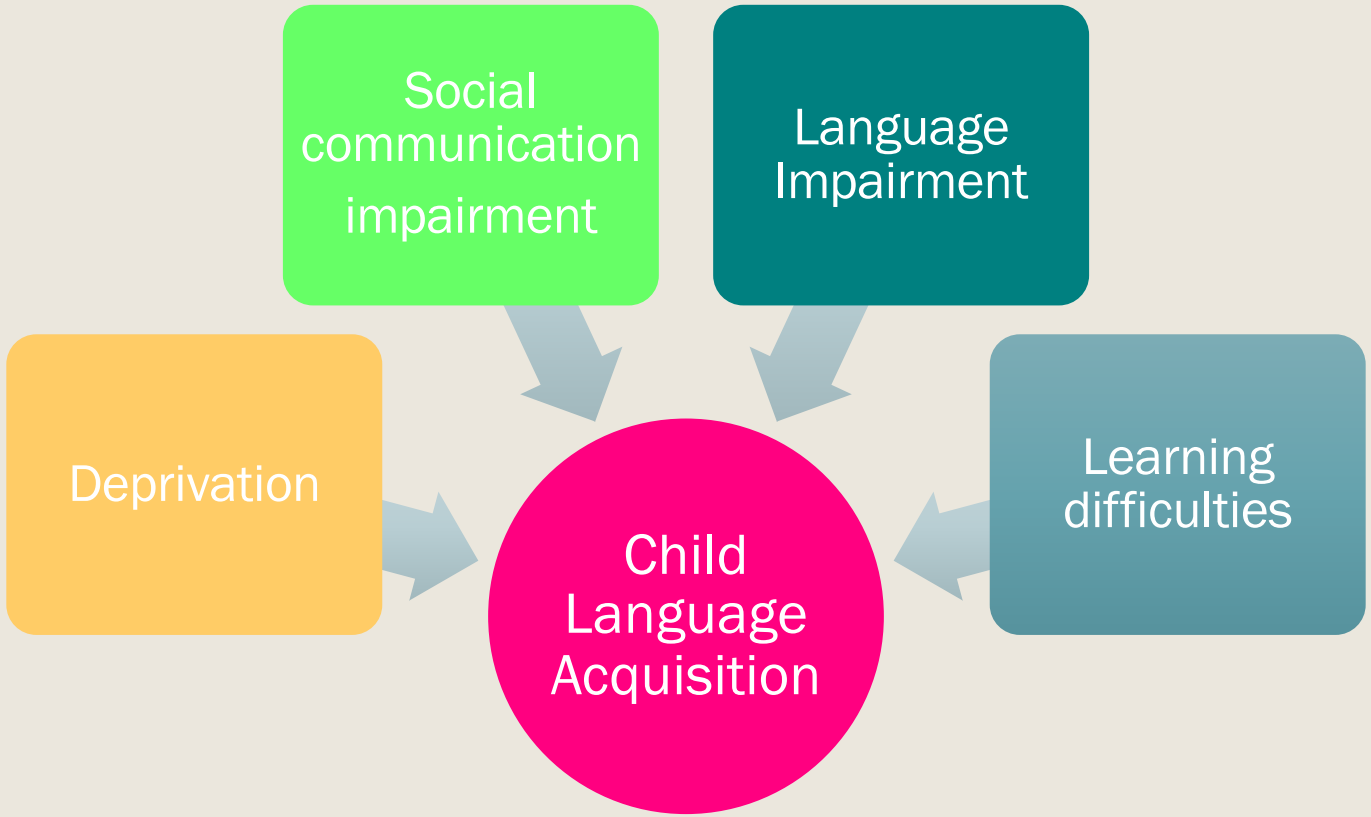
SHARED ATTENTION

SYMBOLIC FUNCTIONING

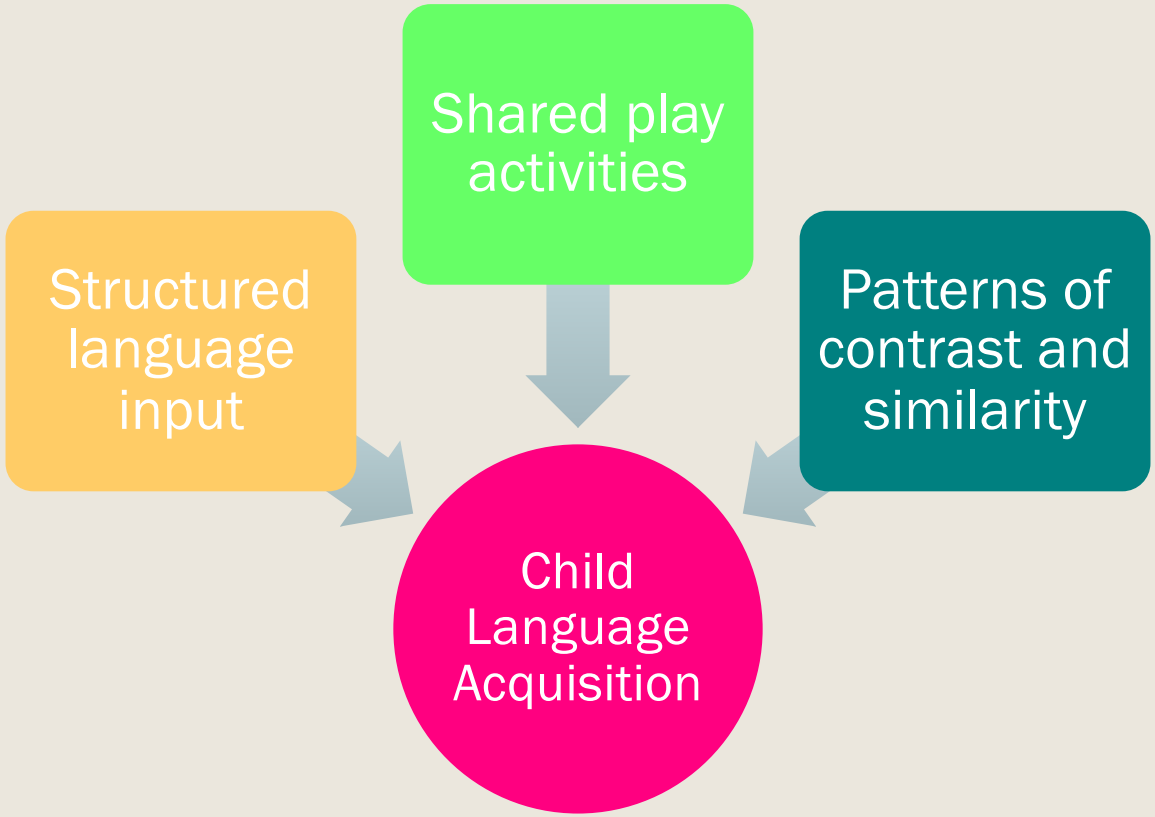
What are the necessary components of language learning?



What factors may disrupt language learning?



How can therapy facilitate language learning?



Evidence for this model: Language input

- Merz, Maskus & Melvin (2020) measure child-parent conversations, language skills, reading skills and left perisylvian cortex surface area
- Children aged 5.06 to 9.87 years
- Income ranged $2,880 - $350,000
- 94 families, 80 provided data
- Hourly adult words 166.43 – 2,622.31
- Conversational turns 4.93 – 132.18
- **Higher parental education and family income-to-needs** ratio were each **significantly associated with both higher hourly adult word count and higher hourly conversational turns**, after adjusting for child age, sex, ethnicity, and audio recording time (p. 852)

Evidence for this model: Shared Attention

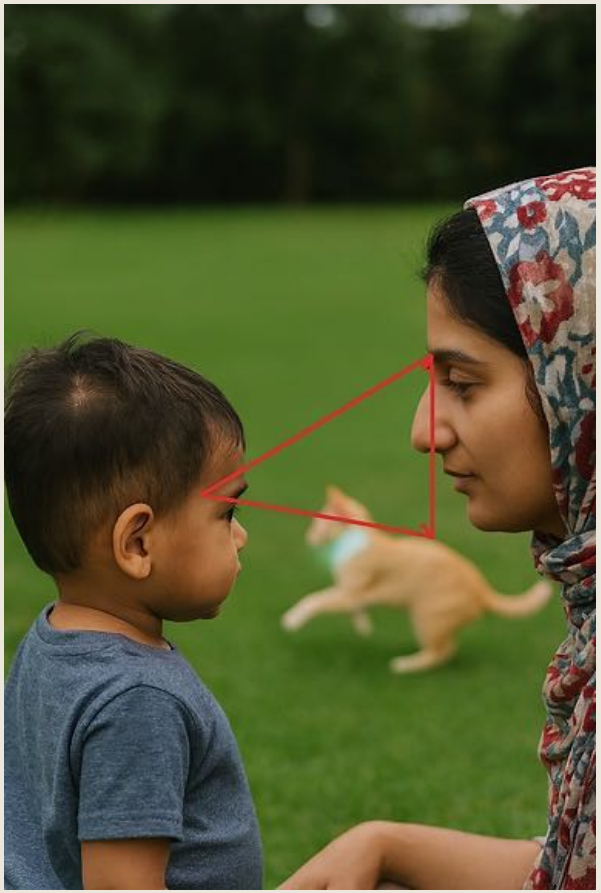
- Abney et al. (2020) used head mounted cameras to monitor parent and infant eye gaze
- 25 children aged 9 months and their parents
- Strongly associated with language development:
  - *Parental monitoring of their child's attention focus*
  - *Children looking at an object/action while the parent labelled it*

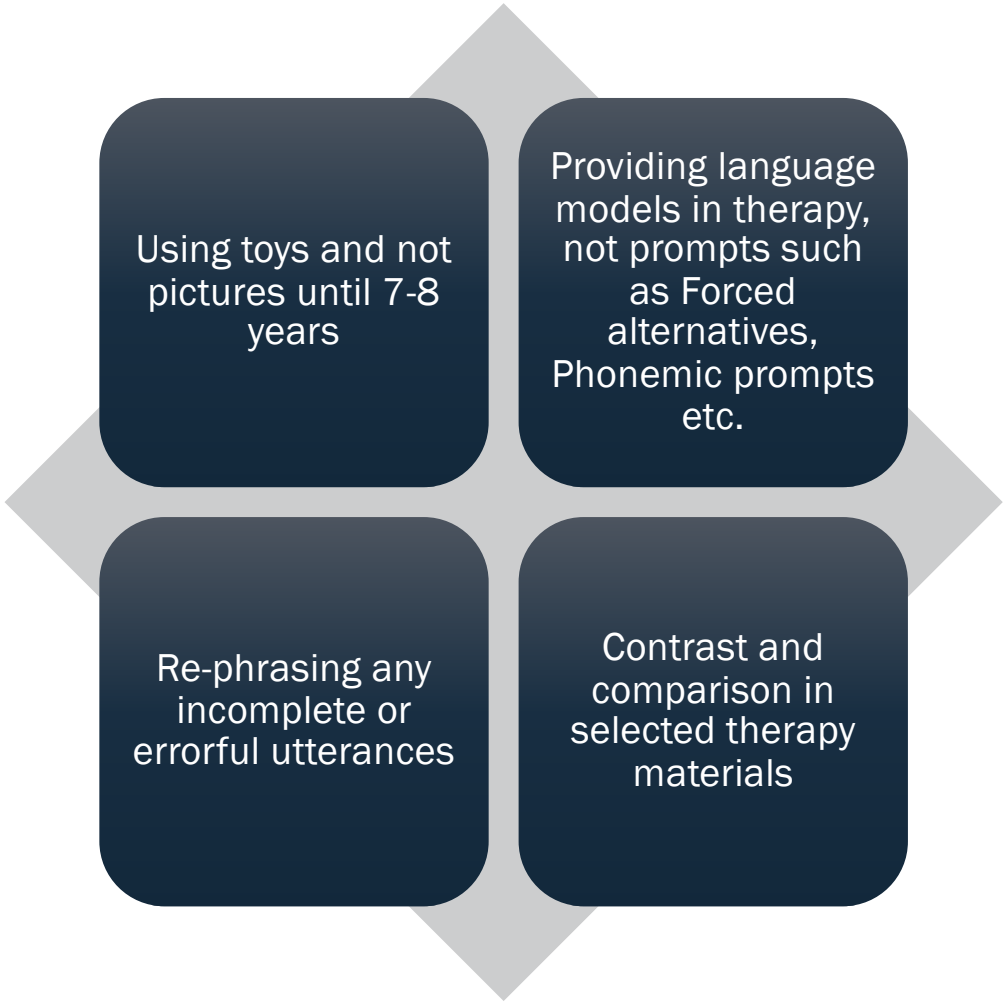
Evidence for this model: Symbolic functioning

- Stagnitti et al. (2016): 54 children aged 4;10-6;2 years in Victoria, Australia
- 34 play-based curriculum; 20 in traditional curriculum schools
- Child-initiated, play-based learning, e.g., making shopping lists and going to the shops
- ‘The children attending the school delivering a play-based curriculum showed consistent and significant improvements in both play and narrative skills,’
- ‘Only the children from the play-based school showed significant improvements in narrative re-tell ability. In contrast, both groups of children showed significant growth in vocabulary and grammatical knowledge and non-verbal IQ across time.’

Shared attention

- Does this mean following the child's lead?
- Not necessarily!
- Important to select activities at the child's Zone of Proximal Development (ZPD)
- Reward versus intrinsic reward





What does this mean in practice?

Group learning

- Group learning is as effective as one-to-one (Law, 2003)
- Small groups (2-4 children) may be more effective than large groups (Hutchins & Schmitt, 2024)
- Social and ethnological learning
- Pragmatics

Core principles of constructivist theory

Active Learning Engagement

Learners actively participate and engage with materials to construct their own understanding.

Role of Prior Knowledge

Existing knowledge influences and shapes the acquisition of new information and concepts.

Social Interaction Importance

Interaction with peers and instructors supports cognitive development and knowledge construction.

Constructivism’s relevance to language learning

Meaningful Learning Contexts

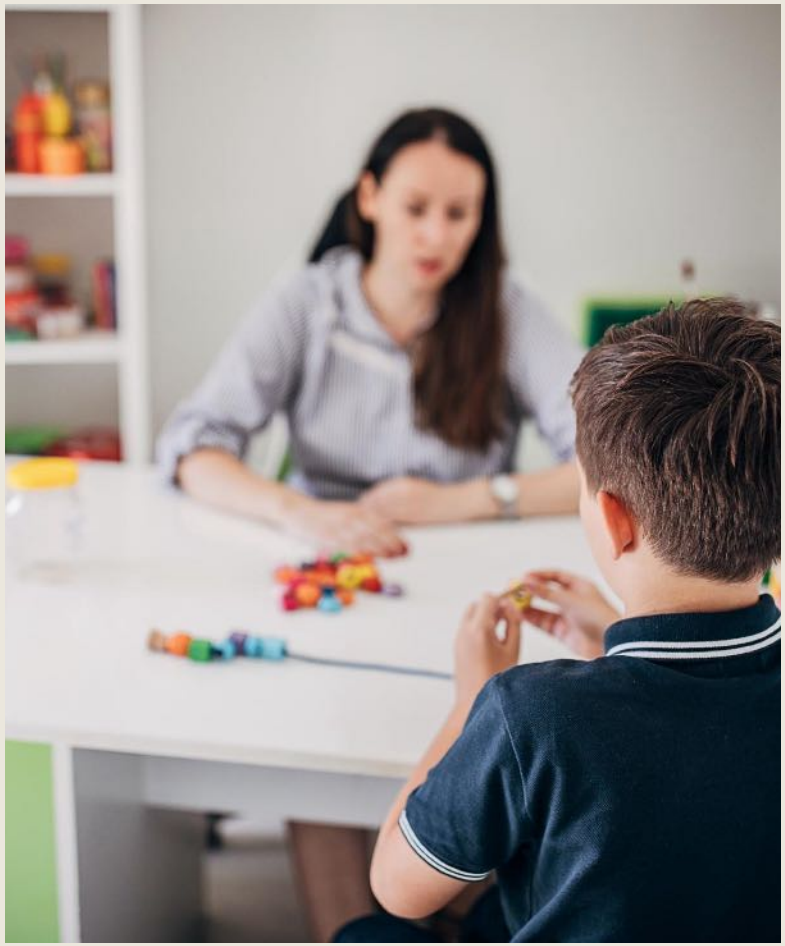
Constructivism emphasises learning language through meaningful and authentic contexts that relate to real-life situations.

Social Negotiation

Language development is fostered by social interaction and negotiation, helping learners co-construct knowledge.

Learner Engagement

Active learner participation and engagement *enhance linguistic skills, especially for children with language difficulties.*



Constructivist approaches in special education

Adaptation to Individual Needs

Constructivist methods tailor learning experiences to each child's unique strengths and challenges in special education.

Encouragement of Exploration

Students are motivated to explore concepts actively, enhancing engagement and deeper understanding.

Use of Scaffolding

Educators provide structured support to help children progress developmentally within their learning contexts.

EXPLORING DYNAMIC ASSESSMENT FOR LANGUAGE DIFFICULTIES/DLD

Who is Dynamic Assessment (DA) useful for?

- Children who speak a **Language Other Than English** (LOTE) and for which there are **no valid standardised assessments** (Hunt et al., 2021)
- **Children with language difficulties** and **Developmental Language Disorder** (DLD) (Hasson, Dodd & Botting, 2012)
- Children with **Speech Sound Disorders** (SSDs) (Glaspey et al., 2025)

Defining dynamic assessment

Integration of Assessment and Intervention

Dynamic assessment combines evaluation and support to understand a child's learning process more effectively.

Evaluating Response to Mediation

It measures how children respond to help, revealing their learning potential beyond traditional tests.

Benefits of dynamic assessment over static methods

Insight into Learning Process

Dynamic assessment reveals how a child learns, unlike static methods that only measure current knowledge.

Responsiveness to Support

It evaluates how children respond to assistance, highlighting their ability to benefit from intervention.

Potential for Growth

Dynamic assessment identifies a child's growth potential, aiding more targeted and effective intervention planning.

Practical steps in implementing dynamic assessment

Pre-Assessment Phase

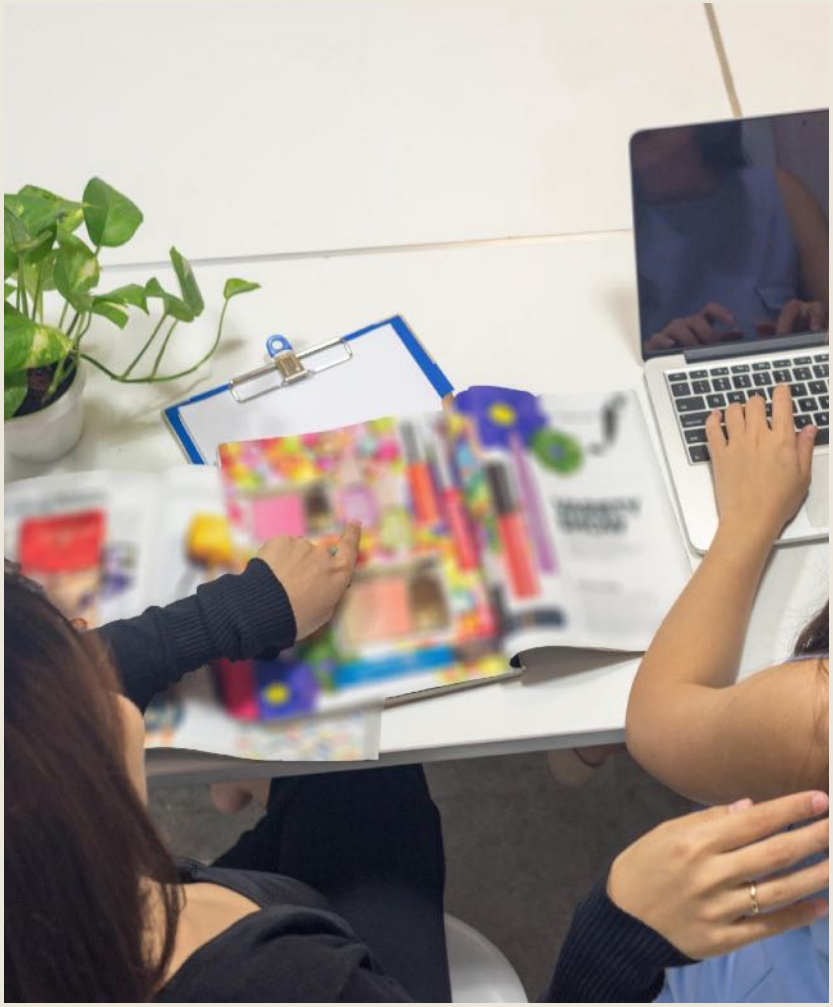
Initial evaluation identifies learner's current abilities and learning needs before instruction begins.

Mediated Learning Sessions

Interactive teaching sessions involve scaffolding and responsive support tailored to the learner.

Post-Assessment Evaluation

Follow-up assessments measure learner progress and effectiveness of mediation strategies.



DA and language skills

Focus on what the child can actually say

Language sample in culturally appropriate, age-appropriate situations such as play, social interaction or culturally appropriate pictures

Comprehension and expression interact, with comprehension reinforced by observed effects of language usage

Co-morbidity of language difficulties / DLD with SSD

- Broomfield & Dodd examined referrals over 15 months to a real speech and language therapy service in the NE of England
- 1,100 referrals
- Language difficulties often co-occurred with SSD
  - *(2004a)*
- 66% of children with comprehension difficulties also had SSD
- >50% of children with expressive language difficulties also had SSD
  - *(2004b)*

SSD – Phonology is part of language

- Poor vocabulary means fewer tokens to contrast and build a contrastive encoding system (Phonological Contrastive System)
- Conceptual difficulties creates a barrier to phonological therapy: Adjectives such as '**long** sound', '**loud** sound'
- Children need to understand word meaning to benefit from contrastive pair approaches
- Bilingual children have separate phonological systems for each language, and so carry-over doesn't occur for phonological therapy
  - *(Holm & Dodd, 1999).*

DA and SSD: Articulation (Vocal Tract)

Articulation Disorder – Distortion:

- Facilitating sounds using visual cues, physical cues and models
- Experience of a sound helps to establish motor patterns and transitions
- ‘Mini physio’

Articulation Disorder with Phonological Implications:

- As above
- Discuss Voice-Place-Manner (VPM) aspects

DA and SSD: Phonology (Word Planning)

- **Phonological Delay:**
  - *Check the child **IS STIMULABLE** for the target*
  - *Structural or replacement?*
  - *Focus on **MEANING**, not prompting*
  - *Encourage self-monitoring and interactivity with the tasks*
    - Checking own answers
  - *Mild: 1-3 processes – Meaningful Minimal Pairs*
  - *Moderate-Severe: 4+ processes – Maximal Pairs, Empty Sets*

DA and SSD: Phonology (Word Planning)

Consistent Phonological Disorder:

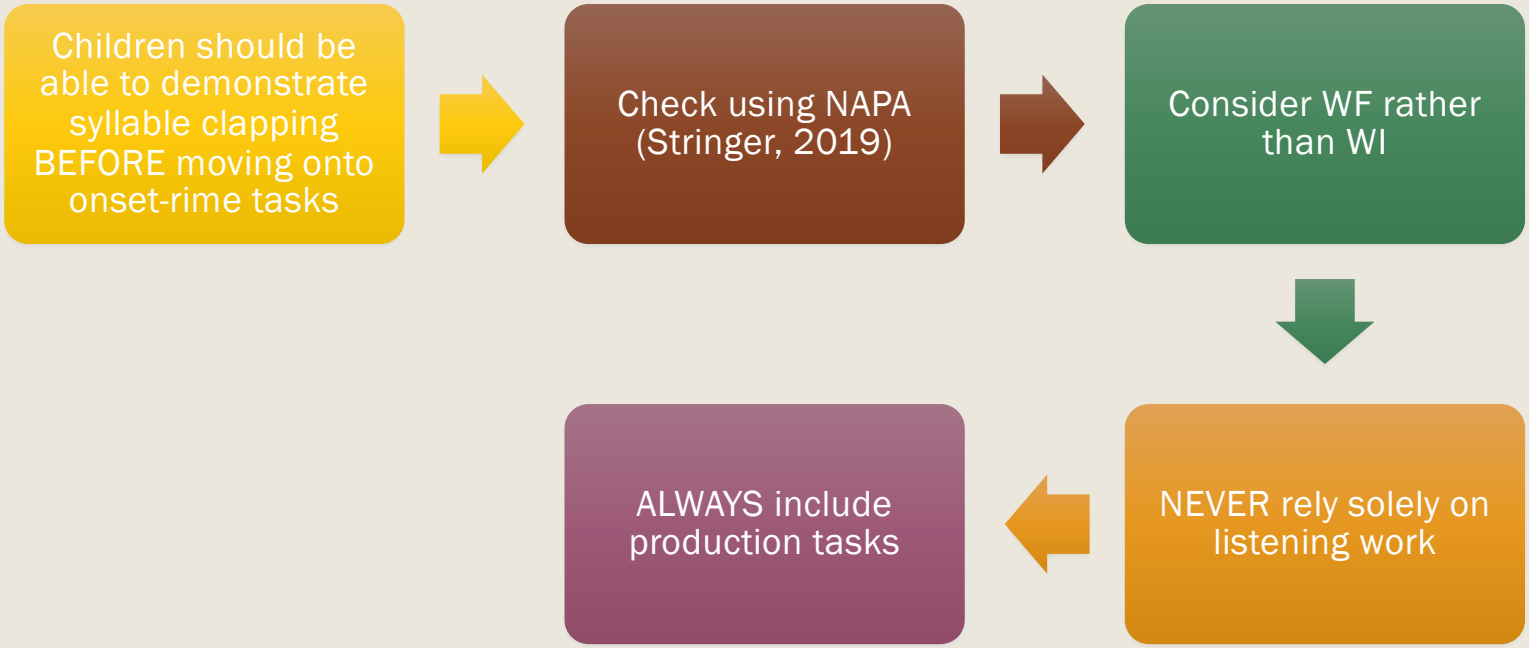
- Same as delay in terms of strategies BUT customised to child's specific error patterns

Moderate-Severe consider Complexity Approach (Storkel, 2022)

Use Maximal Pairs, or Empty Sets instead of Minimal Pairs

Don't expect progress immediately

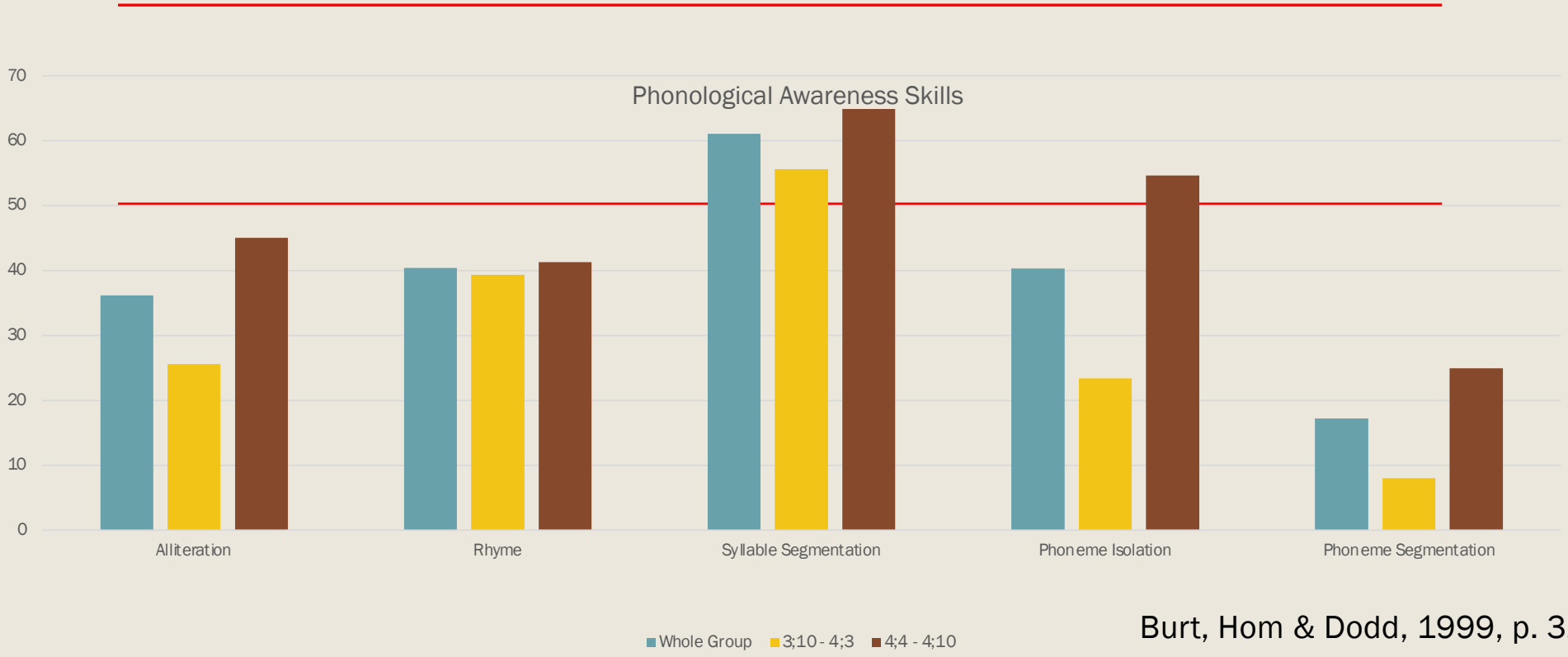
SSD: Phonological Awareness



SSD: Phonological Awareness – CAUTION!

- Phonological Awareness should be used with caution
- It ***ARISES*** due to the acquisition of literacy
- It is **NOT** present in adult speakers of none phonetic languages
- It is **NOT** a prerequisite for speech sound acquisition
- It may be **HARMFUL** for children living in poverty, or if implemented too young (Nancollis, Lawrie & Dodd, 2005)
- CHECK the child's level before moving onto onset-rime tasks
- Children can benefit from SSD therapy WITHOUT phonological awareness

Ages of phonological awareness skills



Burt, Hom & Dodd, 1999, p. 318

Ages of Phonological Awareness skills

- Older children are significantly better
- Performance on the Phoneme Isolation Task was 'enormously variable, ranging from 0 to 100% correct' (Burt, Hom & Dodd, 1999, p. 321)
- 'Normally developing preschool children **have not developed an awareness of phonemes** (although some older children and those from the upper socio-economic groups have some ability).' (Burt, Hom & Dodd, 1999, p. 325)
- Children under 5;0 have not got the skills to benefit from a phonological awareness approach

SSD: Dosage

- Twice a week – 4 times weekly input by and SLT leads to significantly better outcomes for children with SSD (McFaul et al., 2022; Allen, 2013)
- This is more cost-effective over the entire treatment cycle for the child than less effective ‘blocks’
- 70+ attempts for mild cases; 100+ for moderate-severe cases
- See the RADiSSD campaign: https://coursebeetle.co.uk/resources/radissd/

THE ZONE OF PROXIMAL DEVELOPMENT (ZPD) AND ITS IMPLICATIONS

Understanding ZPD in theory and practice

ZPD Concept Overview

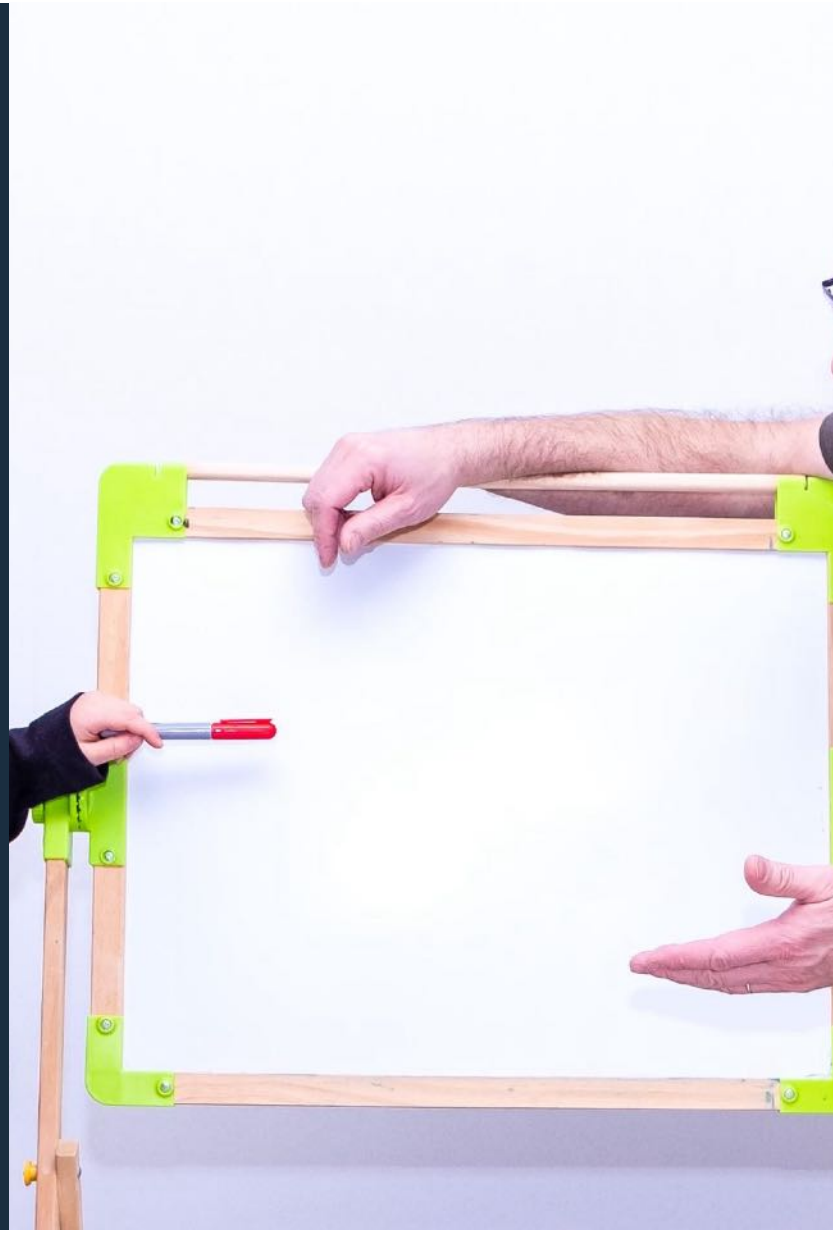
The Zone of Proximal Development guides educators to extend learners' abilities with targeted support.

Dynamic and Learner-Specific

ZPD is dynamic and unique to each learner, requiring continual assessment to tailor support.

Scaffolding in Practice

Scaffolding enables gradual learner independence by providing appropriate assistance during learning.



Identifying the ZPD in children with suspected DLD

Zone of Proximal Development

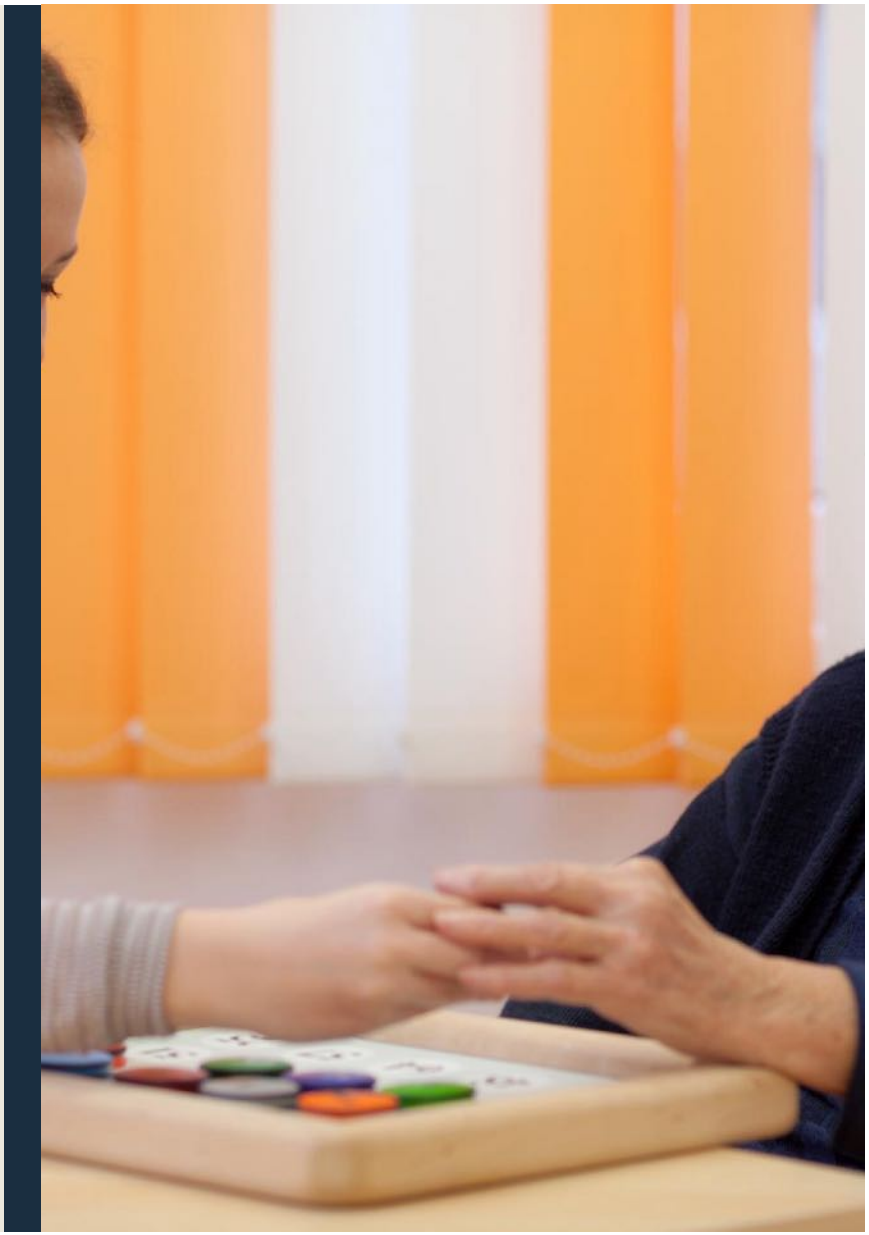
ZPD is the range of tasks a child can perform with guidance but not alone, crucial for understanding learning needs.

Observation of Task Performance

Observing children's task performance with different help levels helps identify their current capabilities and potential growth.

Tailored Intervention Strategies

Insights from ZPD observations inform personalised interventions that target emerging skills in children with suspected DLD.



Strategies for scaffolding within the ZPD

Modelling Language Use

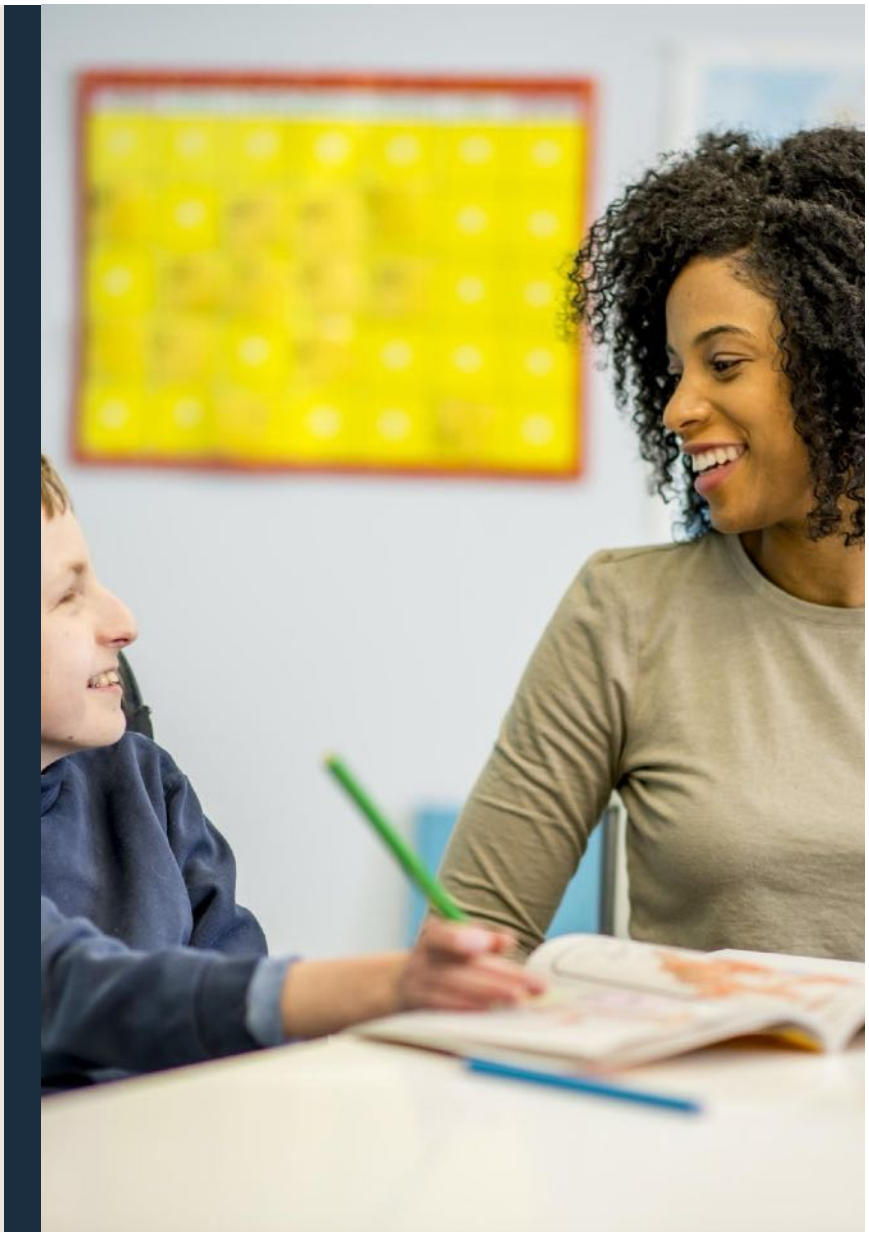
Demonstrating correct language use helps children understand and imitate appropriate communication skills.

Prompting for Responses

Encouraging children with prompts supports them to produce language and build competence actively.

Gradual Withdrawal of Support

Reducing assistance gradually allows children to gain independence and confidence in language use.



INTEGRATING CONSTRUCTIVISM, DYNAMIC ASSESSMENT, AND ZPD

Constructivist foundations in dynamic assessment

Active Learning Approach

Dynamic assessment emphasises learner engagement through active participation and hands-on experience.

Mediation Role

Educators mediate learning by guiding and supporting learners to unlock their potential during assessment.

Focus on Learner Potential

Assessment emphasises the learner's developmental potential instead of static knowledge measurement.

Applying ZPD principles to assessment protocols

Tailoring Challenging Tasks

Assessment designs include tasks slightly beyond the learner's current independent ability to promote development.

Guided Support for Growth

Providing guidance during assessments helps learners progress within their zone of proximal development effectively.

Collaborative and responsive intervention approaches

Collaborative Partnership

Effective interventions require close collaboration between practitioner and child, fostering trust and mutual understanding.

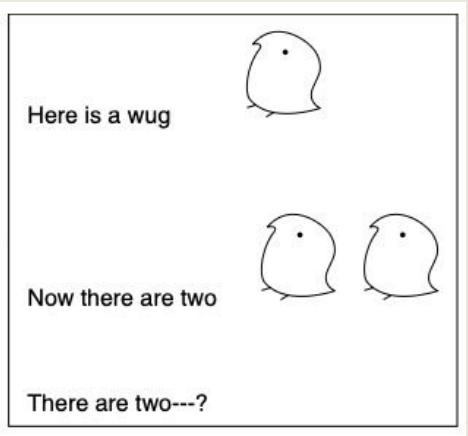
Responsive Adaptation

Intervention strategies are adjusted responsively to meet the child's changing needs and developmental progress.

How to do DA specific to Speech and Language Therapy

- See tutorial by Hasson (2018)
  - *Overview with examples are given in Chapter 3*
- Example – Morphology
  - *test – with a static morphological test;*
  - *teach – possibly mediational intervention; and*
  - *retest – with the same static assessment*
    - (p. 27)

DA - Morphology



Wug Test. Berko, 1988

- The mediational intervention would target the principles of the task:
  - *What do you have to do?*
  - *How do you know that?*
  - *How can you do it?*
  - *Look at this one (examples given). What has been done? Why did they do it like that? Why is that a good way?*
  - *Can you do that with nonsense words? How do you know?*
  - *Would a rule help us to know what to do?*
  - *If we have that and that, then what rule can we make? Does it apply to this?*
  - *Is that correct? How do you know?*

PRACTICAL APPLICATIONS AND CASE EXAMPLES

Case studies illustrating applied constructivism

Constructivist Principles in Practice

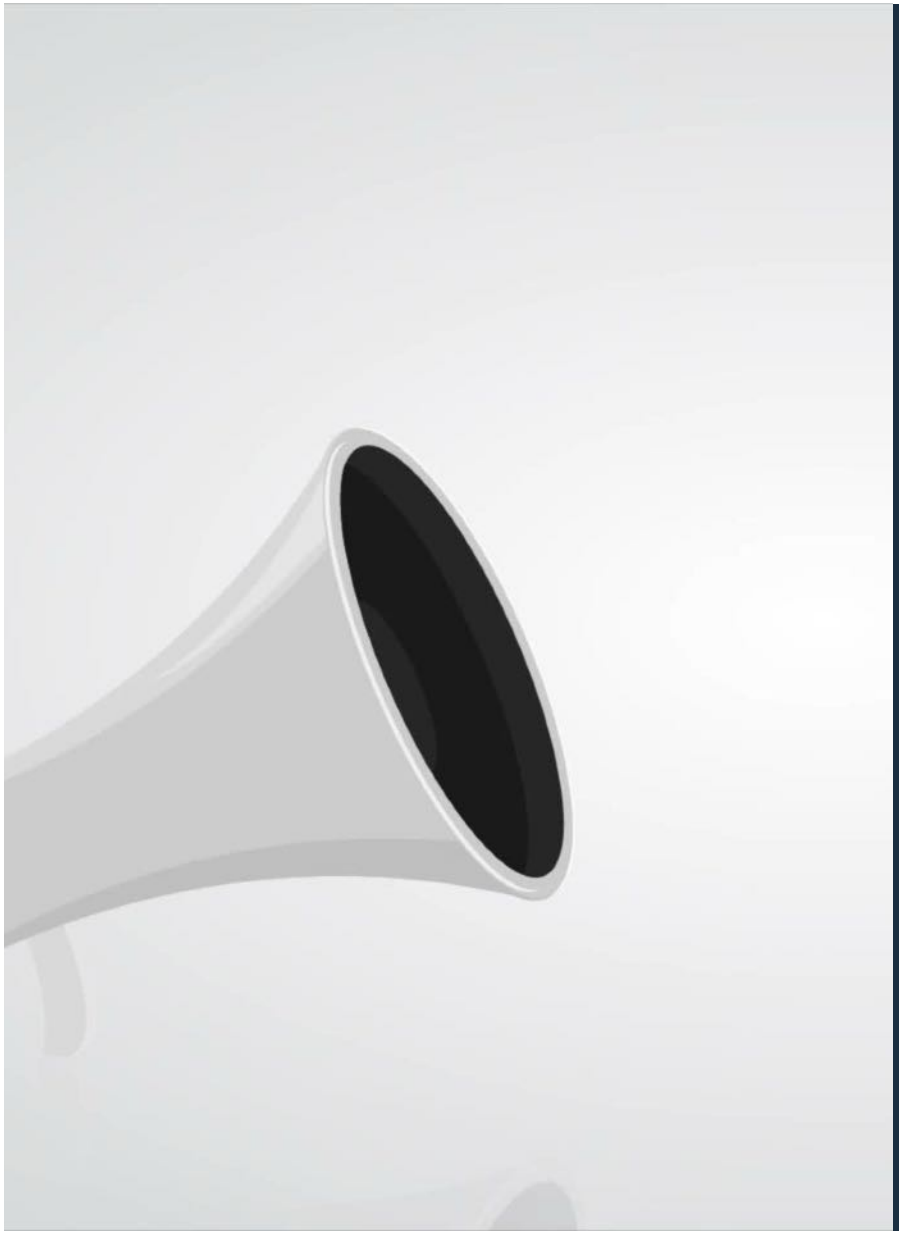
Constructivist approaches focus on active learning and building knowledge through experience, enhancing language development in children.

Dynamic Assessment Role

Dynamic assessment allows tailored evaluation to identify children's learning potential and guide effective language interventions.

Impact on Children with DLD

Applied constructivism in interventions shows meaningful improvements in communication skills for children with developmental language disorder.



INFORMAL ASSESSMENTS ARE AS EFFECTIVE AS FORMAL, ESPECIALLY FOR LOTE SPEAKERS

Tools and resources for practitioners

Assessment Instruments

Assessment instruments help practitioners evaluate learning and measure progress effectively in diverse settings.

Scaffolding Frameworks

Scaffolding frameworks provide structured support to aid learners in mastering complex skills step by step.

Professional Development

Resources for professional development empower practitioners to apply approaches with confidence and skill.

Dynamic Assessment and DLD Example

- Lam et al. (2024)
- 26 children with DLD compared to 188 typically developing children
- English and Spanish speakers
- *'Two friends'* story
- *Taught:*
  - *Setting: time and Place*
  - *Character information*
  - *Temporal order of events*
  - *Episode structure: initiating event, internal response, plan, attempt, consequence, reaction, ending*

Dynamic Assessment and DLD Example

- *Three scales were evaluated:*
  - *a) Cognitive factor*
  - *b) Learning anticipation*
  - *c) Learning engagement*

Dynamic Assessment: Cognitive Factors Scale

Cognitive factor					
	5	**4**	**3**	**2**	**1**
Problem-solving	Systematic and efficient, used forethought, reflection	Organized, but somewhat inefficient (less than 25% off task)	Sketchy plan, trial and error	Disorganized, haphazard plan	No plan; unsystematic guessing
Flexibility	Uses multiple strategies readily	Has preferred strategies, but can change when necessary	Some evidence of more than one strategy and occasionally utilizes them	Recognizes limitations of strategy, but cannot see alternatives	Persists with one strategy, regardless of outcome
Task orientation	Completely understands tasks	Mostly understands tasks (75%)	Understands tasks some of the time (50%)	Often does not understand tasks (25% of the time)	Doesn't understand tasks
Meta-cognition	Aware of all errors	Aware of most errors (75%)	Aware of some errors (50%)	Unaware of most errors (25%)	Unaware of any errors
Nonverbal self-reward	Positive response to task regardless of difficulty	Positive response related to task difficulty	Demonstrates insecurity, positive and negative responses related to difficulty	Negative response related to task difficulty	Negative response regardless of task difficulty
Comments					

Dynamic Assessment: Language Anticipation Scale

Language anticipation					
	5	**4**	**3**	**2**	**1**
Anxiety	Calm, little to no soothing required	Fidgety, but can be soothed	Uncomfortable, breaks needed to sooth	Distressed, much soothing required	Distraught, crying, cannot be soothed
Attention	Attentive and focused	Focused, but distractible at times	Distractible, but can be refocused, needs prompting	Distracted, and difficult to refocus	Distracted and off task
Compliance	Cooperative	Insecure	Hesitant	Uncooperative	Refusing
Comments					

Dynamic Assessment: Learning Engagement Scale

Learning engagement					
	5	**4**	**3**	**2**	**1**
Motivation	Enthusiastic, engages in tasks readily	Curious, shows interest	Ambivalent, unsure about tasks	Guarded, seems fearful of tasks	Avoidant, does not want to engage
Responsiveness to feedback	Very positive, maintains enthusiasm	Positive, but hesitant; requires some feedback	No response to feedback	Negative, disheartened; requires much feedback	Very negative, rejects feedback
Verbal mediation	Elaborates plan clearly	Talks through problem	Talks occasionally	1–2 word utterances only	No verbal mediation
Comments					

Mediated Learning Observation-Revised (2024, Lam et al., p13.,)

Pre-school children: BEST

- Building Early Sentence Therapy (BEST)(McKean, Pert & Stow, 2025, 2005)
- Shown to lead to significant improvement in language (McKean et al, 2025b)
- Signing of the sentence FRAME (Not just the content words) led to significant improvement over verbal input alone (Trebacz et al., 2023)
- Based on Constructivist Theory
- Show to be effective in LOTE

Key DA features of BEST

- NO imitation of target utterances at any stage
- INPUT: Children are provided with a re-cast at each attempt
- INPUT: Children are provided with models when they simply look and listen, to make triadic links and analyse language and real word observations
- No assumption the ‘EASY’ precedes ‘HARDER’ utterances
- PRAGMATICS: Play with real objects and toys
- SYNTAX, GRAMMAR & MORPHOLOGY: Children are provided with COMPLETE utterances – never simplified

Key DA features of BEST

- **TURN-TAKING**: Children are expected to take a turn, no matter how sort (or even non-verbal) – There is an emphasis on turn-taking
- PRAGMATIC: Child-to-child production. Each child explains the action to the next child in the group
- GROUP: Group work is *more effective* than one-to-one as there is a REASON to tell the next child what's happening

Challenges, considerations, and future directions

Practitioner Training

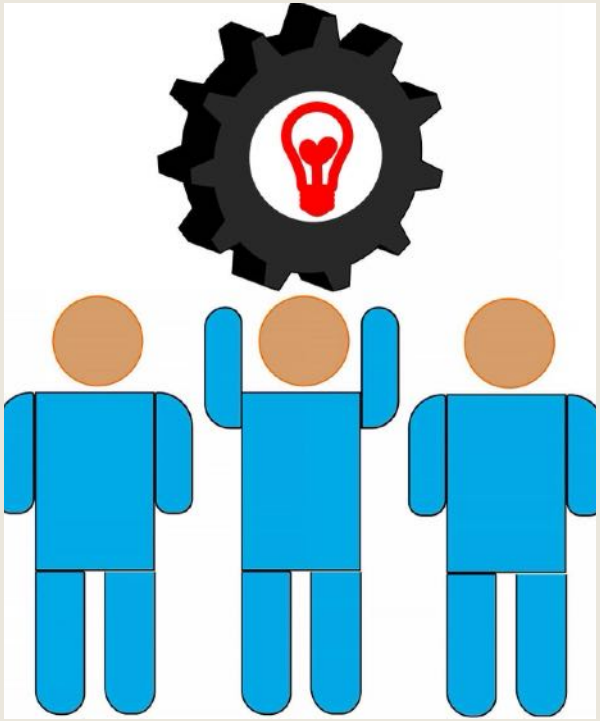
Effective practitioner training is essential to implement methods successfully and support learners' diverse needs.

Contextual Factors

Considering contextual factors ensures methods are adapted appropriately for different learning environments.

Ongoing Research

Continued research is necessary to refine educational methods and expand their effectiveness for all learners.



Conclusion

Constructivism in Support

Constructivism emphasises active learning and building knowledge through experience, crucial for language development in children.

Dynamic Assessment

Dynamic assessment provides ongoing evaluation to tailor interventions based on children's evolving needs and progress.

Zone of Proximal Development

ZPD highlights the gap between current abilities and potential development with appropriate guidance and support.

Integrated Intervention Approach

Combining constructivism, dynamic assessment, and ZPD enables personalised, responsive, and effective language support for children.

In Speech and Language Therapy

- **Language assessment**
  - *Formal assessments are helpful to assess monolingual English children's skills*
  - *LOTE / Bilingual children are best assessed using culturally appropriate assessments*
  - *DLD children: Once identified there is no need to re-assess using formal tools except for access to specialist provision*

In Speech and Language Therapy

- **Language assessment**
  - *Informal assessment for the identification of therapy aims*
  - *Find the ZPD where the child is able to move on a step with scaffolding, such as a prompt*
  - *Embed activities in social situations such as play, interaction with other children, or for older children and young people, social skills such as narrative for conversation*

In Speech and Language Therapy

- SSD
  - *Use meaning cues and feedback*
  - *Consider aiming for more advanced skills such as true clusters, sonority contrast, and later developing sounds – Complexity Approach*
  - *Scaffold to meet each step towards the target*
  - *Increase dosage and frequency*

Conclusion

- Dynamic assessment, input and scaffolding are effective strategies
- Traditional imitation, drill and comprehension before expression tasks are less effective
- Emphasis on the child taking a turn and making a safe clinical environment by providing scaffolding and support until the child can produce independently.

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