Developmental Language Disorder (DLD): A persistent language disorder of unknown aetiology

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Developmental Language Disorder (DLD):
A persistent language disorder of unknown aetiology

Lisa Archibald, PhD
Learning Objectives

1. To consider the importance and use of diagnostic labels to describe children with unexplained language impairments
2. To review recent advances about criteria and terminology for children’s language problems
3. To examine next steps and ongoing challenges in adopting new consensus terminology in practice
What would you call this profile?
Case 1: Claire

• 5;9 female
• Monolingual English speaker
• 1st percentile on standardized test of expressive & receptive language
• 38th percentile on nonverbal intelligence
• 35th percentile on word reading
• Hearing screening passed
• Speech production screening passed
• Parent responses on questionnaire indicate no difficulties with attention
Diagnostic Terms

• Specific Language Impairment
• Language Learning Impairment
• Language Delay
• Language Disorder
• Developmental Language Disorder

Does it matter?
Diagnosis

- Identifies the illness or disorder through physical examination, medical tests, or other procedures
- Identifies the nature or cause of something, especially a problem
- Attaches an informative name to describe the problem
Why use a diagnostic label?

**PRO**

• Ease of communication
  – Verbal shorthand for representing features of the disorder

• Knowledge (of label) can be empowering

• Reattributing symptoms to the diagnosis can buffer self-image

• Provides hope for enhancing treatment access, availability, effectiveness

• Academic accountability may be altered

http://smhp.psych.ucla.edu/pdfdocs/diaglabel.pdf
Why use a diagnostic label?

**CON**

- Expectations / stigmatization
  - Selective attention to behaviours associated with the diagnosis
  - Expectations are couched in terms of the diagnosis
- Diagnostic inconsistency can be confusing
- May have no impact on service, or exclude ‘nonqualifiers’ from service
# The Debate

<table>
<thead>
<tr>
<th>Pros</th>
<th>Cons</th>
</tr>
</thead>
<tbody>
<tr>
<td>• No special intervention/service exists so no need to label</td>
<td>• Advocacy &amp; research more challenging when not identified</td>
</tr>
<tr>
<td>• Students without the diagnosis may be neglected</td>
<td>• Improving services for those with disorder helps those without the label</td>
</tr>
<tr>
<td>• Label may not be applied consistently</td>
<td>• Address the problem specifically rather than stop labeling</td>
</tr>
<tr>
<td>• Expectations/stigmatization</td>
<td>• Educate others; encourage inclusion</td>
</tr>
</tbody>
</table>
Do SLPs provide diagnostic labels?

• From a sample of 216 children with DLD,

‘The parents of 29% ... reported they had not previously been informed that their child had a speech or language problem.’

Tomblin et al., 1997
SLP Assessment Priorities

• 60 SLPs asked to rank (on a 5-point scale) the level of importance they assign to the following objectives:
  – Establishing goals for intervention  3.42
  – Determining if eligibility criteria for services are met  3.0
  – Providing parents with a diagnostic label  1.45
  – Assessing the level of functional impact  3.63
  – Identifying strengths and weaknesses  3.50
Assessment Values & Expectations

SLPs
- “Diagnostically agnostic”
  - Terminologically flexible
  - Place low value on labels
- Assessment determines
  - Eligibility
  - Treatment goals

Parents/Caregivers
- Arrive with
  - Unresolved issues surrounding nature of child’s difficulties
  - Ongoing source of parental distress & confusion
- Seeking answers
  - A diagnosis they understand
  - Value labels

For many, this never happens
What would increase label use?

• Clearly recognized label
  – Better understanding of the profile (Research)
  – More public awareness (e.g., DYSLEXIA)
  – More services available (e.g., AUTISM)
• Especially important
  – Invisible disorders
  – Limited resources
  – Service planning & prioritizing
Recent Advances

• Delphi Consensus
  – 2 studies
    • Bishop et al. (2016): Criteria used to identify LI
    • Bishop et al. (2017): Terminological issues

### Table 1. Professional group and nationality of panel members.

<table>
<thead>
<tr>
<th>Profession</th>
<th>N and Nationality</th>
</tr>
</thead>
<tbody>
<tr>
<td>Speech-Language Therapist/Pathologist</td>
<td>32 (15 UK, 6 USA, 3 NZ, 3 Ire, 1 Can, 4 Aus)</td>
</tr>
<tr>
<td>Joint SLT/SLP and Psychologist</td>
<td>7 (3 Can, 2 Aus, 2 NZ)</td>
</tr>
<tr>
<td>Psychologist/Educational Psychologist</td>
<td>8 (3 UK, 1 US, 3 Can, 1 Aus)</td>
</tr>
<tr>
<td>Paediatrician</td>
<td>3 (3 UK)</td>
</tr>
<tr>
<td>Psychiatrist</td>
<td>2 (1 UK, 1 Can)</td>
</tr>
<tr>
<td>Audiologist</td>
<td>1 (1 NZ)</td>
</tr>
<tr>
<td>Specialist teacher</td>
<td>2 (2 UK)</td>
</tr>
<tr>
<td>Charity representative</td>
<td>4 (4 UK)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>59</td>
</tr>
</tbody>
</table>

doi:10.1371/journal.pone.0158753.t001
Youtube: www.youtube.com/watch?v=OZ1dHS1X8jg

Slide share: www.slideshare.net/RADLD/developmental-language-disorder-dld-the-consensus-explained


Summary: https://www.rcslt.org/clinical_resources/docs/revised_catalise2017
Delphi Consensus Process

2. The DELPHI Technique
   - Anonymous
   - written

   Problem Stated
   - Each Member
   - Take a position

   Summary
   - numeric

   Feedback
   - Feedback

   Mean or Median Scores

   Leader / facilitator

   Round stop criteria:
   - Number of rounds
   - Achievement consensus
   - Stability of result

   Results
Study 1: Criteria

2 rounds
75% consensus

76 candidate statements → Reviewed by subset of panel → 46 Round 1 statements

Panel comments and ranks for relevance/validity

27 Round 2 statements (S4) with background (S5)

Panel sent feedback on ratings (S3) → Moderators edit statements

Panel comments and ranks for validity

Panel sent feedback (S6) → Moderators edit statements

Manuscript with summary findings

Bishop et al. (2016), p. 6
Study 1: Criteria

1. Concern about speech, language or communication
   OR
2. Behavioural or psychiatric difficulties
   OR
3. ‘Late talker’ under 2 yr old
4-7. Extreme departures from typical development in under 5-yr-olds
   OR
8-9. Persistent problems with comprehension or using language to communicate in child aged 5 yrs and above

Refer for Evaluation

Assessment of speech, language & communication

1. Combine information from multiple sources: caregiver report, observation, standardized tests, language learning context
3. Language ability is continuous, with no sharp cutoff between normality and impairment
   Use staged approach: initial assessment that taxes both expressive and receptive skills, then more specific
6. Different aspects of language vary in sensitivity to social and language background, but it is unrealistic to use language profile to distinguish social vs biological origins.
8. Measures of language learning can complement static tests of knowledge/skill
   Pragmatics/social communication should be assessed alongside other aspects of language
   Assessment by a speech-language therapist will determine if a problem with speech production is linguistic, structural or motor in origin.

Identification of additional factors

21-22. Language impairment often co-occurs with problems in motor skills, attention, reading, social interaction and behaviour.
   ‘Pure’ language impairments are the exception, not the rule.
23. Language impairment should be recognised regardless of level of nonverbal ability.
24-27. Language impairments associated with known conditions – genetic syndromes, ASD, acquired brain injury, hearing loss – need specialist assessment to identify therapy targets.
Study 1: Criteria

Universal screening not recommended

Refer for evaluation

1. Concern about speech, language or communication OR
2. Behavioural or psychiatric difficulties OR
4-7. Extreme departures from typical development in under 5-yr-olds OR
8-9. Persistent problems with comprehension or using language to communicate in child aged 5 yrs and above
   Lack of progress despite targeted classroom assistance

3. ‘Late talker’ under 2 years old

Reassess later

caregiver, teacher, healthcare professional
Early Language Study in Victoria (AUS)

2 years

- Late talkers: 19%
- Typical talkers: 81%

4 years

- Impaired: 5%
- Typical: 75%
Prognosis in Early Years

• Under 3 years
  – Prediction is difficult; many late talkers catch up; some school age children with DLD were not late to talk
  – Higher risk: Fail to combine words at 24 mths; receptive deficits; lack of gestures; lack of imitation of body movements; positive family history

• 3-4 years
  – Prediction improves: In 4-yr-olds, greater number of areas of language functioning impaired, poor sentence repetition
  – Prognosis good: expressive phonology only

• 5 years and over
  – Language problems in 5-yr-olds are likely to persist
  – Risk factor for literacy problems: Family history

Bishop et al., 2017
## Study 1: Referral indicators

<table>
<thead>
<tr>
<th>Age</th>
<th>Missing milestone</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-2 yrs</td>
<td>No babbling; not responding to speech; minimal attempts to communicate</td>
</tr>
<tr>
<td>2-3 yrs</td>
<td>Minimal interaction; lacks intention to communicate; no words; minimal reaction to spoken language; regression/stalling of language development</td>
</tr>
<tr>
<td>3-4 yrs</td>
<td>2 word utterances at most; does not understand simple commands, close relatives cannot understand child’s speech</td>
</tr>
<tr>
<td>4-5 yrs</td>
<td>Inconsistent/abnormal interaction; 3 word utterances at most; poor understanding of spoken language; strangers cannot understand child’s speech &amp; relatives struggle with more than half</td>
</tr>
<tr>
<td>5+ yrs</td>
<td>Difficulty telling story or understanding what is read or listened to; difficulty following or remembering spoken instructions; lots of talk but poor engagement in turn-taking; over-literal interpretation</td>
</tr>
</tbody>
</table>
Study 1: Criteria

- Combine information from multiple sources: caregiver report, observation, standardized tests, language learning context
- Language ability is continuous, with no sharp cutoff between normality and impairment
- Use staged approach: initial assessment that taxes both expressive and receptive skills, then more specific
- Different aspects of language vary in sensitivity to social and language background, but it is unrealistic to use language profile to distinguish social vs. biological origins
- Measures of language learning can complement static tests of knowledge/skill
- Pragmatics/social communication should be assessed alongside other aspects of language
- Assessment by a SLP will determine if a problem with speech production is linguistic, structural or motor in origin

No prescribed tools
Clinical judgment still a big part!

Bishop et al. (2016), p. 6 (s10-20)
Study 1: Criteria

Identification of additional factors

(21-22) Language impairment often co-occurs with problems in motor skills, attention, reading, social interaction and behaviour. ‘Pure’ language impairments are the exception, not the rule.

(23) Language impairment should be recognised regardless of level of nonverbal ability.

(24-27) Language impairments associated with known conditions – genetic syndromes, ASD, acquired brain injury, hearing loss – need specialist assessment to identify therapy targets.
Summary: Study 1 determined criteria for who has the problem
Study 2: Terminology

• Same panel
• 2 rounds following same format
  – 75% consensus on all statements
• Results: 13 statements
Study 2: Terminology Highlights

**Language disorder:**
Persistent language problems with significant impact on everyday social & educational progress

- Not late talkers resolved by 5 years old
- Not uncomplicated phonology problems in preschoolers (Speech Sound Disorder)
- Not those with limited exposure to language of instruction (ELLS)
- Nonverbal ability is not a criterion
Study 2: Terminology Highlights

Language disorder: Persistent language problems with significant impact on everyday social & educational progress

LD associated with X

Developmental Language Disorder (DLD)
LD associated with...

- Used to identify those whose LD occurs secondary to a biomedical condition
- Differentiating conditions
  - Brain injury
  - Sensori-neural hearing loss
  - ASD
  - Intellectual disability
  - Genetic conditions with known impacts on language development (e.g., Down Syndrome)
  - Neurodegenerative diseases with known impacts on language development (e.g., Rett syndrome)
  - Acquired epileptic aphasia in childhood
  - Cerebral palsy
- Services will need to take the condition into account
DLD

• Persistent language problem with significant impact on everyday social & educational progress
• No differentiating condition
• Broad definition
  – Need additional information
Nature of language impairments
- Phonology
- Syntax
- Semantics
- Word finding
- Pragmatics/language use
- Verbal learning & memory

Risk factors
- Family history
- Poverty
- Low level of parent education
- Neglect or abuse
- Prenatal/perinatal problems
- Male

Co-occurring disorders
- Attention
- Motor skills
- Literacy
- Speech
- Executive functions
- Adaptive behaviours
- Behaviour

DLD

No evidence of reliable subtypes
Study 2: Terminology Highlights

Language disorder:
Persistent language problems with significant impact on everyday social & educational progress

- 9.9%

LD associated with X
- 2.3%

Developmental Language Disorder (DLD)
- 7.6%

- As common as dyslexia
- Much more common than ASD

Norbury et al., 2017
Study 2: Diagnostic Terms

- Developmental language disorder
- Language disorder

Areas of impairment:
- Morphology
- Semantics
- Word finding
- Pragmatics
- Discourse
- Verbal learning/memory
- Phonology

Speech sound disorder:
- Dysarthria
- Verbal dyspraxia
- Articulation disorder
- Orofacial structural deficit

Fluency Disorders:
- Voice Disorders
- Fluency Disorders

Speech Language and Communication needs:
- Lack of familiarity with ambient language
- Language Disorder associated with biomedical condition x

Bishop et al. (2017), p. 9
Study 2: Decision Pathway

START

Child presents with difficulty producing or understanding language that affects everyday functioning

Unfamiliar with local language?
- Yes
  - Competent in another language? [4]
- No
  - Features suggestive of poor prognosis? [3]
    - No
    - Language disorder [2]
    - Yes
      - Associated biomedical condition, X?
        - Yes
          - Language disorder associated with X [6]
        - No
          - Developmental Language Disorder [7]

Additional Information
- Co-occurring disorders [9]
- Risk factors [10]
- Areas of language impairment [11]
Summary:
Study 2 recommended DLD for describing persistent language problems (with no associated condition)

Is it perfect?
DLD – Why or why not...?

✔ Developmental
  – The condition emerges in course of development
  – Not something you grow out of

✗ Specific / Primary - Problem rarely occurs in isolation

✔ Disorder
  – Emphasizes abnormality
  – Used in both DSM-5 & ICD-11

✗ Disability - Emphasizes abnormality

✗ Impairment - Does not necessarily implicate a reduction in functioning

✗ Delay - Ambiguous; not consistent with definition; no evidence

✗ Differences - Often used to refer to second language learners

✗ Needs – too weak
DLD aligns with DSM-5

Communication Disorders

- Language Disorder
- Speech Sound Disorder
- Childhood-Onset Fluency Disorder
- Social (Pragmatic) Communication Disorder
- Unspecified Communication Disorder
ICD-11 Beta Draft

Developmental Speech and Language Disorders

- Developmental Speech Sound Disorder
- Voice Disorder
- Developmental Fluency Disorder
- Developmental Language Disorder (DLD) *
  - DLD with impairment of receptive and expressive language
  - DLD with impairment of mainly expressive language
  - DLD with impairment of mainly pragmatic language
- Selective Mutism

Why make it work?

• Perfect is not possible
• Canada can join the international momentum
• Consistency in the way we talk about LDs
• Develop resources that people can find

Alternative choices?
• Keep having inconsistent / nonspecific diagnostic practices
• Engage in our consensus process & then start an opposing campaign?
Raising Awareness of DLD

• DLD 1-2-3
  – Youtube: https://www.youtube.com/watch?v=tQ-s02HWLb0
  – Resources: http://naplic.org.uk/resources/dld
Raising Awareness of DLD

DLD 1: Difficulties talking and/or understanding

DLD 2: Hidden but common

DLD 3: Support can make a real difference
Raising Awareness of DLD

• DLD 1-2-3
  – Youtube: https://www.youtube.com/watch?v=tQs02HWLb0
  – Resources: http://naplic.org.uk/resources/dld

• Supporting DLD in the classroom (Alex Cross)
  – https://youtu.be/PKegRlHFqH4
Raising Awareness of DLD

• Other Resources
  – My students’ projects:
    • https://www.uwo.ca/fhs/lwm/teaching/dld2.html
  – SAC blog: Why you should add DLD to your vocabulary:
    • https://blog.sac-oac.ca/developmental-language-disorder-why-you-should-add-dld-to-your-vocabulary/
  – DLD: The most common childhood condition you’ve never heard of:
  – iCAN fact sheet
  – RADLD youtube channel:
    www.youtube.com/user/RALLIcampaign

Join twitter!
Follow me: @larchiba6
What’s next for us?

• Developmental Language Disorder
  – Canadian context: consensus to follow the consensus?
  – Advocacy

Let’s talk
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@larchiba6
References


Youtube summary: [www.youtube.com/watch?v=OZ1dHS1X8jg](http://www.youtube.com/watch?v=OZ1dHS1X8jg)


