

A practice-based approach to establishing consensus for categorizing and defining preschoolers' speech and language impairments

Barbara Jane Cunningham, Elaine Kwok, Janis Oram Cardy
University of Western Ontario, London, Ontario, Canada



BACKGROUND

- Practice-based research can increase the relevance of research and help to close the research-to-practice gap¹⁻²
- This project used practice-based research to address 2 aims:
 - Establish researcher-clinician agreement for **categories** and **definitions** (*terminology*) for preschoolers' communication impairments
 - Determine whether SLPs can reliably categorize preschoolers' impairments using consensus documents

METHOD

Study 1 – Develop Consensus Documents

- Phase I* – Draft documents for (1) broadly-focused impairments, (2) language disorder sub-categories, and (3) speech sound disorder sub-categories
- Phase II* – Modified Delphi Study³
 - 38 SLPs participated in 4 rounds to review documents and give feedback
 - Documents revised between rounds to integrate research and clinical expertise
 - 90% criterion reached across documents

Study 2 – Interrater reliability

- Pairs of SLPs ($N = 6$) independently assessed and classified impairments for 28 preschoolers ($M_{age} = 38.45$ months, $SD = 13.76$, 55% male) using consensus documents

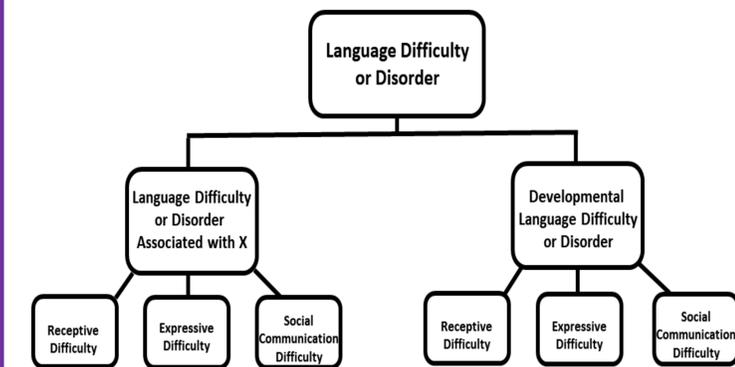
Community SLPs and researchers reached consensus on terminology that defines and classifies preschoolers' speech and language impairments

and

Community SLPs showed high interrater reliability in using the terminology to classify their caseloads

RESULTS

Study 1 – Delphi Consensus (example categories)



LANGUAGE DIFFICULTY OR DISORDER: An impairment in the comprehension and/or use of a spoken, written and/or other rule-based symbol system.⁴ Language difficulties and disorders can relate to children's prelinguistic communication skills (e.g., vocal, gestural, and gaze behaviours); expressive or receptive language skills; or social communication skills.⁴⁻⁵

Study 2 – Interrater reliability

Broadly Focused Categories (N = 38)	% agreement	kappa
Age appropriate communication skills	84.21%	$k = 0.62$ 95%CI [.34-.89]
Speech sound delay or disorder	94.74%	$k = 0.86$ 95%CI [.68-1.00]
Language difficulty or disorder	89.47%	$k = 0.79$ 95%CI [.59-0.98]
Fluency disorder	92.11%	$k = 0.36$ 95%CI [-.20-.92]
Voice and/or resonance disorder	92.11%	$k = -0.04$ 95%CI [-.11-.04]
Feeding and/or swallowing disorder	n/a	n/a
Emergent literacy concern	97.37%	$k = 0.79$ 95%CI [.38-1.00]

Language sub-categories (n = 19)	% agreement	kappa
Language difficulty or disorder associated with X [biomedical condition]	94.74%	$k = 0.83$ 95%CI [.50-1.00]
Developmental language difficulty or disorder	94.74%	$k = 0.83$ 95%CI [.50-1.00]
Receptive difficulty	78.95%	$k = 0.46$ 95%CI [.005-.91]
Expressive difficulty	89.47%	$k = 0.46$ 95%CI [-.14-1.00]
Social communication difficulty	89.47%	$k = 0.68$ 95%CI [.28-1.00]

Speech sub-categories (n = 9)	% agreement	kappa
Rule-based errors	66.67%	$k = 0.31$ 95%CI [-.31-.92]
Motor-based errors	88.89%	n/a
Mixed error types	77.78%	$k = 0.50$ 95%CI [-.10-1.00]
Articulation impairment	n/a	n/a
MSD-NOS, CAS	n/a	n/a
Dysarthria	n/a	n/a

CONCLUSIONS

- Consensus terminology is evidence-based, stakeholder friendly, clinically meaningful, and can be reliably used in practice
- Results will support *classification tool development* and *consistent terminology use* for practice-based and population-level research

REFERENCES

1. Crooke & Olswang (2015). Practice-based research: Another pathway for closing the research-practice gap. *JSLHR*, 58(6), S1871-S1882.
 2. Green (2008). Making research relevant: If it is an evidence-based practice, where's the practice-based evidence? *Family Practice*, 25(suppl 1), i20-i24.
 3. Keeney et al. (2011). *The Delphi Technique in nursing and health research*. Oxford, UK: Wiley-Blackwell.
 4. Paul & Norbury (2012). Models of child language disorders. In R. Paul & C.F. Norbury (Eds.), *Language disorders from infancy through adolescence*, fourth edition (pp. 1-21). St. Louis, MO: Elsevier Mosby.
 5. Spencer (2011). Prelinguistic communication. In S. Goldstein & J.A. Naglieri (Eds.), *Encyclopedia of child behavior and development* (pp. 1145-1146). New York, NY: Springer Science + Business Media.

Corresponding Author: bcollin7@uwo.ca

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