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# **Rapid Automated Naming in Preschool-Age Children with Developmental Language Disorder**

Vilma Baltrušaitytė<sup>1</sup>, PhD Simona Daniutė<sup>2</sup>

<sup>1</sup>Trakai district Lentvaris Motiejus Šimelionis Gymnasium; master of master's study programme of Vilnius University Šiauliai Academy "Special Education", Lithuania

<sup>2</sup>Vilnius University Šiauliai Academy, Lithuania



# SHORT INTRODUCTION

## RAN

**Rapid automatized naming (RAN)** is a phonological skill defined as the ability to quickly and accurately name visually presented familiar stimuli (Daniutė & Staliūnienė, 2022; Gray & Powell-Smith, 2025).

## DLD

- **Developmental Language Disorder (DLD)** is a persistent language disorder in childhood, characterized by difficulties in understanding and/or using language, not explained by other known biomedical conditions (Bishop et al., 2017).
- Prevalence rates of DLD vary across countries, ranging from 3.2% to 25.6% (Al-Bluwi et al., 2025).

## RAN

- Rapid automatized naming reflects the ability to quickly access and retrieve phonological information from long-term memory (Gray & Powell-Smith, 2024; da Silva et al., 2020).
- RAN involves visual recognition, word retrieval, and articulation, reflecting processing speed (da Silva et al., 2020).



# OBJECTIVE AND METHODS

**OBJECTIVE** To reveal rapid automatized naming (RAN) skills in preschool children with developmental language disorder (DLD).

## PARTICIPANTS

- Seven preschool-aged children with developmental language disorder (DLD)
- Children's age ranged from 6;1 to 6;10
- Expressive language difficulties (n = 6)
- Expressive and receptive language difficulties (n = 1)
- Different levels of severity (mild, moderate and severe)

## ASSESSMENT

- Individual assessment sessions
- Informal RAN tasks
- Naming time (seconds)
- Number of errors
- Error types (pauses, distorted word forms, incorrect responses, etc.)

## METHODOLOGY

- Mixed-methods study design
- Case study
- Quantitative and qualitative data analysis

## RESEARCH ETHICS

Parental consent was obtained, participation was voluntary, and confidentiality was ensured.

## STUDY CONTEXT

This study is part of a Master's thesis.



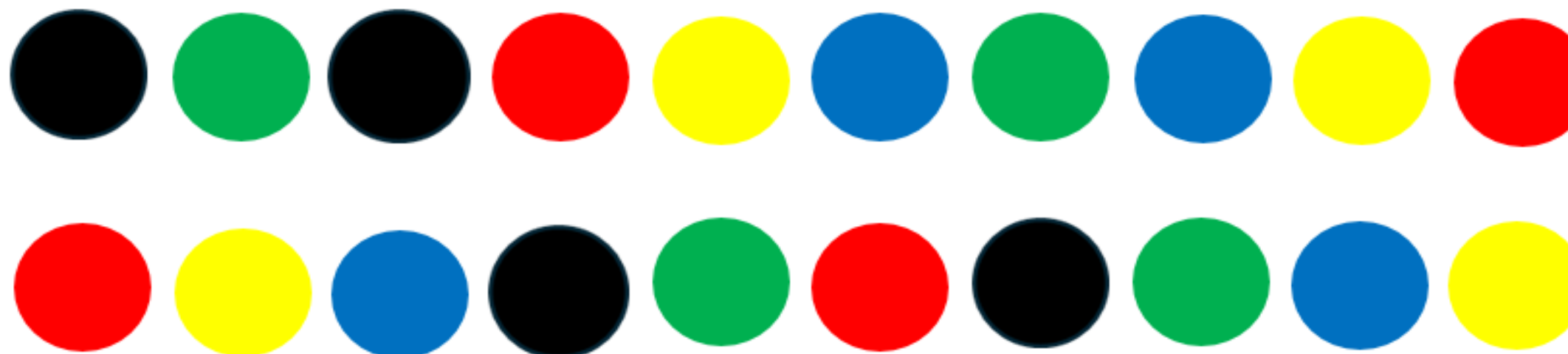
# RAN TASK STIMULI

## Objects and colors used in the task

### OBJECT NAMING



### COLOR NAMING

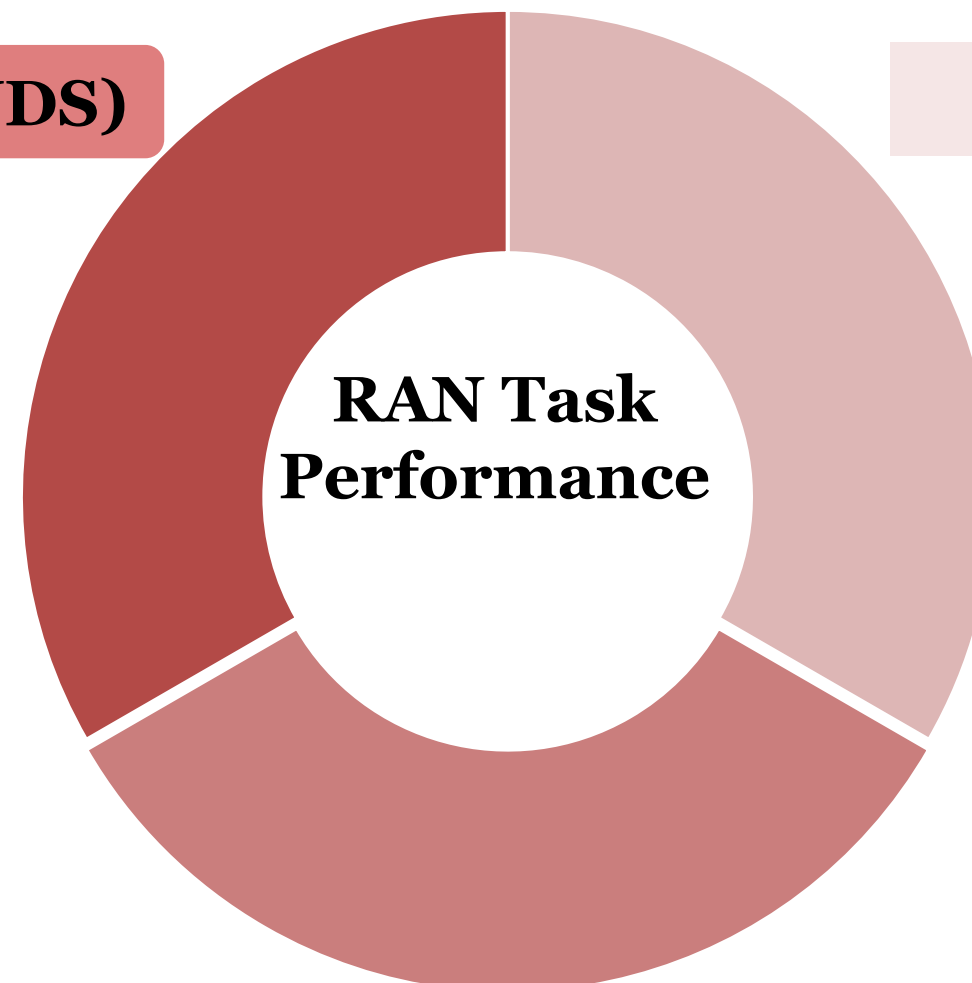




# RESULTS

## NAMING TIME (SECONDS)

- Color naming: 70–248 s
- Object naming: 66–186 s
- Completion time varied across participants
- In most cases, color naming required more time than object naming



## ERRORS

- Color naming: 4–33 errors
- Object naming: 4–26 errors
- Hesitation pauses were observed in all children with DLD
- Distorted word forms and incorrect responses were frequent
- No omissions were recorded

## REDUCED NAMING AUTOMATICITY

### INTERPRETATION

- Results indicate variability in RAN performance
- Slower naming and hesitations suggest reduced automaticity of lexical retrieval



# EXAMPLE OF RAN TASK PERFORMANCE

## Child example (age 6;9)

### COLOR NAMING

**Time: 202 s**  
**Errors: 33**

- distorted word forms (n = 7)
- incorrect responses (n = 7)
- hesitation pauses (n = 19)

More errors and slower performance

### OBJECT NAMING

**Time: 186 s**  
**Errors: 26**

- distorted word forms (n = 3)
- incorrect responses (n = 2)
- hesitation pauses (n = 21)

Fewer errors but frequent hesitations

Frequent hesitation pauses and more errors indicate reduced naming automaticity



## CONCLUSIONS

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**RAN performance** varied across participants.

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**Color naming** was slower and associated with more errors than object naming.

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**Hesitation pauses** were the most frequently observed difficulty.

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**Findings suggest** reduced automaticity of lexical retrieval in preschool children with DLD.



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