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UMSIDA
DARI SINI PENCERAHAN BERSEMI

Autism Spectrum Disorders and The Development of Children's Aritmetic Aptitude and Numeracy

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Progam Studi Pendidikan Guru Sekolah Dasar

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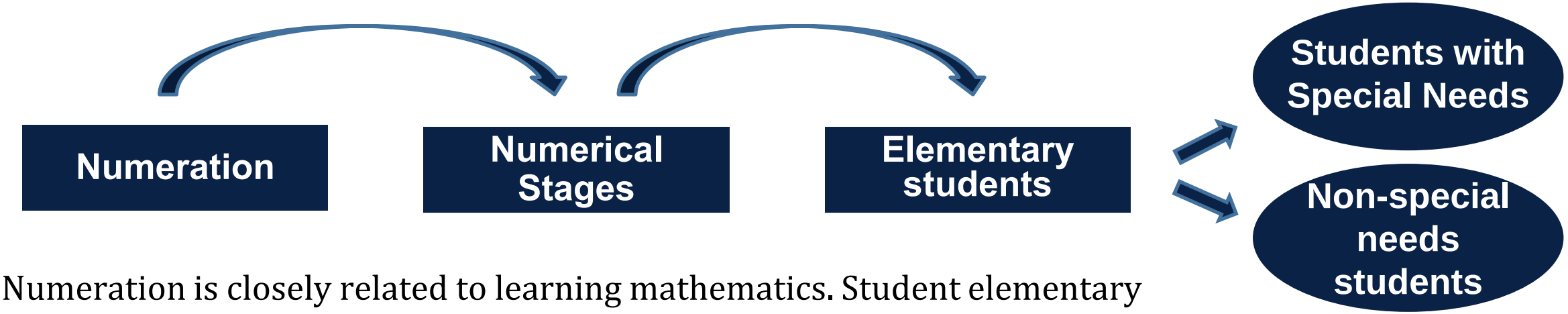
Introduction



Numeration is closely related to learning mathematics. Student elementary schools can teach numeracy in stages according to the low or high grade level. All elementary school students can learn numeracy, both those with special needs and those without. However, facts on the ground show that early numeracy learning still tends not to be the main focus of learning for children with special needs, so their numeracy skills tend to be low. Therefore, this study aims to analyze the initial numeracy skills of students with autism in recognizing numbers and simple arithmetic in two grade 3 students who have autism at SD Muhammadiyah 1 Candi Labschool Umsida.

Research Questions (Problem Formulation)

1. How is the ability of students with autism disorder to recognize numbers?

2. How is the ability of students with autism in arithmetic?

Method

Qualitative Case Studies

- **Place of Research: SD Muhammadiyah 1, Candi**
- **Research Instruments: The researchers themselves and guidelines for observations, interviews, and written tests with initial numeracy ability indicators**
- **Sample Data Source: Purposive Sampling D and N (students with autism disorder)**
- **Data Collection Techniques: Triangulation**
- **Data Analysis Techniques: Miles and Huberman Model (Data Collection, Data Reduction, Data Presentation, and Conclusion)**

This study used descriptive data in the form of an overview of the initial numeracy abilities of students with autism, namely D and N grade 3 students.

The first initial numeration indicator is knowing numbers, which is shown by the ability to recognize units, tens, hundreds, and thousands.

The second numeration indicator is simple arithmetic, which is shown by the ability to operate numbers such as addition, subtraction, multiplication, and division.

Result

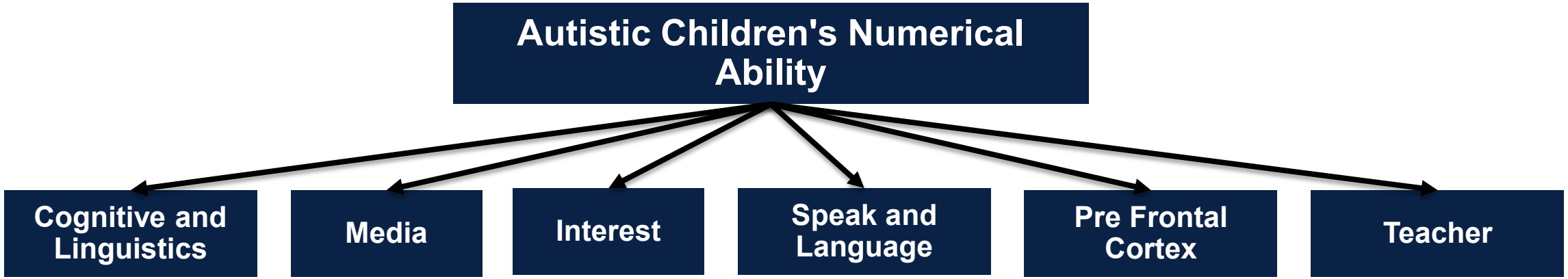
Ability to recognize numbers

Students are considered capable of meeting the indicators of knowing numbers well if they are able to recognize units, tens, hundreds, and thousands. D is able to answer all the questions and write down the tens, hundreds, and thousands of units according to the questions. N was only able to write down the answers to numbers 1–3 well, and the others were left unanswered. This indicated that N had not yet mastered the indicators of knowing units, tens, hundreds, and thousands of numbers.

Simple arithmetic skills

Students are considered capable of fulfilling simple arithmetic indicators if they can operate numbers in the form of addition, subtraction, multiplication, and division on unit numbers in the tens, hundreds, and thousands. D was only able to do the limited test questions on addition and subtraction of unit numbers well. N has not been able to answer test questions properly, so N has not been able to operate numbers or solve simple arithmetic properly.

Discussion



The ability of students with autistic disorder to achieve initial numeracy is still very low, which is caused by several factors, including cognitive and linguistic skills that experience deficits, a tendency to need help with concrete objects, difficulty focusing due to limited interests, minimal speaking and language skills, and a prefrontal cortex (PFC) that cannot function perfectly. Children with autism can learn better through visual and interactive approaches, teaching methods that are continuously repeated, and special attention from the teacher, so that students can improve their initial numeracy skills well.

Important Research Findings

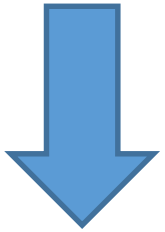
Autism Spectrum Disorders and The Development of Children's Aritmetic Aptitude and Numeracy

D **N**

In understanding the initial numeration, D and N have not been able to master the initial numeration indicators as a whole well. Based on the results of the study, it was found that autistic students tend to have an interest in visual problems. The inability to master numeracy early on in students with autism is dominated by limited interest and attention, as well as brain disorders that cause low speech and language skills, which have an impact on the mastery or recognition of numbers.

Benefits of research

Autism Spectrum Disorders and The Development of Children's Aritmetic Aptitude and Numeracy



In order to train students to improve their initial numeracy skills, it is hoped that in the future, teachers can pay special attention to autistic students and facilitate various supporting needs in mastering early numeracy so that students can improve their initial numeracy skills well.

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