

# DIAGNOSING CHILDREN WITH ARITHMETIC DIFFICULTIES IN THE PRIMARY EDUCATION

Paper ID

IJIFR/V6/ E9/ 003

Page No.

01-04

Research Area

Education

Key Words

Arithmetic Difficulties, Diagnosis, Primary Education

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## Abstract

*Most of the children in the primary schools have difficulty in solving basic level arithmetic problems. In spite of diligent efforts made by teachers and administers, a large number of children, year after year, pass through the school and college with little skill in manipulating numbers. Understanding the ascending order, descending order, concept of zero, borrowing number, carryover number and solving statement problems are some of the important challenges faced by the children in primary education. Early diagnosis is most warranted and specific training to be provided for teachers.*

## 1. INTRODUCTION

The term arithmetic difficulty is used to describe a child who has problems in learning arithmetic. These problems are generally in the areas of manipulating numbers, acquiring arithmetic pre-requisite skills and perceptual organisation abilities. Parents and teachers usually notice these problems when the child fails to cope with maths related tasks in school work. Many children in the primary education experience difficulties with maths related task. In spite of diligent effort made by teachers and administers, a large number of children, year after year, pass through the school and college with little skill in manipulating numbers. Arithmetic difficulties can have major consequences for their future career and for their self- confidence to live independently in society. The initial diagnosis of children with arithmetic difficulties is seldom made by the teachers. In most instances it is the parent and teacher who is the first to suspect a developmental problem and label them as dull headed. These children are endowed with potentialities, but

ignored by the school system and family members. The teachers have to identify these children in the early stage and appropriate remediation to be initiated. In this study the investigator attempted to diagnose the arithmetic difficulties of the children in the primary education.

## 2. OBJECTIVES

- I. To identify the children with arithmetic difficulties in the Primary education.
- II. To diagnose the arithmetic difficulties of the children.
- III. To suggest remedial instruction for the arithmetic difficulties

## 3. METHODOLOGY

The investigator followed the survey method for the present study. Diagnosis Test of Arithmetic Difficulties (DTAD) developed by the investigator was administered to the select elementary school children of Coimbatore, Madurai and Salem Districts of Tamilnadu. The elementary school children have responded to the DTAD. The data thus collected were put into appropriate analysis.

### 3.1 Sample for the study

The purposive Sampling technique was applied to select the 5 Government Schools, 2 aided schools and 5 unaided schools from the Coimbatore, Madurai and Salem district of Tamilnadu. Diagnosis test scores of 528 children (276 Boys and 252 Girls) from Std IV and V were collected from 12 different schools.

### 3.2 Tool used in the Study

The investigator developed Diagnosis Test of Arithmetic Difficulties (DTAD) consisted of 20 domains related to basic arithmetic tasks. Identifying numbers, Counting objects, ascending order, descending order, simple addition, simple subtraction, simple multiplication, simple division, filling the missing numbers, statement problem related to identifying number of objects, statement problem related to simple division, statement problem explain maths, statement problem related to simple subtraction, abstract subtraction, subtraction task -nonverbal form, time concept, numerical ability, set concept, reasoning ability and creativity are the domains included in the DTAD.

## 4. RESULT AND DISCUSSION

In this study the investigator applied qualitative analysis. As qualitative analysis, the answers given for DTAD were diagnosed in the terms of errors committed by the children. The following table-1 is the self- explanation of the errors committed by the children in arithmetic tasks.

**Table.1: Errors committed by the children in Arithmetic tasks.**

Sl. No.	Arithmetic Task	No. of children committed Errors	Percentage
1.	Identifying numbers	43	8.14
2.	Counting objects	51	9.66
3.	ascending order	76	14.39
4.	descending order	106	20.07
5.	simple addition	76	14.39
6.	simple subtraction	102	19.32

7.	simple multiplication	278	52.65
8.	simple division,	269	50.94
9.	filling the missing numbers	141	26.70
10.	statement problem related to identifying number of objects	82	15.53
11.	statement problem related to simple division	111	21.02
12.	statement problem explain maths	159	30.11
13.	statement problem related to simple subtraction	87	16.47
14.	abstract subtraction	67	12.69
15.	subtraction task -nonverbal form	79	14.96
16.	time concept	131	24.81
17.	numerical ability	69	13.06
18.	set concept	57	10.80
19.	reasoning ability	319	60.41
20.	creativity	312	59.09

From the analysis it is observed that more than 50 per cent of the children in the primary education are committing frequent errors in solving simple multiplication, simple division, reasoning ability and creativity thinking. Children in the primary education are facing challenges in deal with Carryover tasks, borrowing tasks, understanding place value, by hearing tables and understanding the signs related to manipulating numbers. The teachers have to apply scientific strategies to overcome the problems of the children. Teachers have to practice some of the strategies such as individualised instruction, mastery learning, designing meaningful learning situation, providing concrete examples before proceeding to abstract concepts, creating opportunities for activity based learning to overcome the arithmetic difficulties of the children in the primary education.

## 5. CONCLUSION

Several studies conducted by the researchers over the past decades have consistently showed that difficulty with arithmetic is a common problem (Cummins. D. D. 1991; Foong, P.Y. 1994 and Kaur. B. 1997). Deficits in the understanding of basic arithmetical concepts can be effectively addressed through short-term remedial instruction for primary -school students with arithmetic difficulties. Enhancing the arithmetic skill among primary school play a key role in promoting higher education. Political, cultural, socio-economic development and behavioural decisions today rests on the ability to manipulate numbers.

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#### **TO CITE THIS PAPER**

**Rajaguru, S. (2019) :: “Diagnosing children with arithmetic difficulties in the primary education” *International Journal of Informative & Futuristic Research (ISSN: 2347-1697)*, Vol. (6) No. (9), May 2019, pp. 01-04 Paper ID: IJIFR/V6/E9/003.**  
Available online through- <http://www.ijifr.com/searchjournal.aspx>

www.ijifr.com

*E- Certificate*

ISSN: 2347-1697

# International Journal of Informative & Futuristic Research

*An Enlightening Open Access, Peer Reviewed, Internationally Acclaimed & Indexed Journal of Multidisciplinary Research*

**IJIFR Impact Factor (2016) = 6.051**

**Volume 6, Issue 9, May 2019**

*This is certified that the paper entitled  
Diagnosing Children with Arithmetic Difficulties in the Primary Education  
Authored by*

***Dr. S. Rajaguru***

*Principal, Sri Ramakrishna Mission Vidyalaya, College of Education, Coimbatore (India)  
has been accepted & published online in IJIFR continuous 70<sup>th</sup> edition*

***Volume 6-Issue 9, May 2019 under Paper ID: IJIFR/V6/E9/003***

*The mentioned paper is accepted after rigorous evaluation through double blind peer reviewed process.*

*Authorised Signature With Seal!*



Dated : 30/05/2019