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Identifying The Deficiencies In Learning Among Fifth-Grade Students In Addition To

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Abstract:

The most crucial factor in people's arithmetic learning is addition. In this paper, we examined several forms of learning deficiencies among school-level readers based on their answers on the Essential Problem Arithmetic Test.

The 200 fifth-grade high school pupils who read under CG board were the subject of the current study. The study found a few typical mistakes made when learning addition. The study's findings suggest that there was a gender variation in learning addition. Statistical analysis has made use of descriptive statistics. The study's conclusion is that weak students should be provided with thorough counseling and remedial programming tailored to their individual levels of abstract ability.

Keywords: ***Arithmetic learning deficiencies, Addition learning challenges, Essential Problem Arithmetic Test, Gender variation in arithmetic, Remedial programming for weak students***

Introduction:

The idea that all children should receive an education has gained acceptance during the previous several decades or so. However, it has made teaching twice as difficult and increased the proportion of weak students. Since mathematics fosters intellectual habits, numeracy, and calculation skills, it is the most significant topic in the curriculum. A vital place in one's life has been gained by addition, which largely aids in learning these skills. In addition, the basis of mathematics is taught from the start of the school to ensure that students are competent in carrying out basic mathematical operations because they are necessary in the community.

Understanding concepts, counting, memorizing math facts, and adhering to instructions are just a few of the numerous skills needed to do addition. Weaknesses in any one component can eventually affect how well a child does in the other component. For example, when youngsters struggle with a particular assignment, they may start to believe that they are "no good at math" and get depressed about it (Danvir & Brown, 1986). A lot of kids struggle with one or more aspects of addition. Since this varies on the criteria that are employed, it is impossible to quantify the percentage of people that have trouble.

There are numerous reasons, including mathematical difficulties. There is a good chance that between 15% and 20% of people struggle with addition to the point where it poses a serious practical and pedagogical challenge for the individual (Bynner & Parsons, 1997, 2005: Every Child a Trust, 2008). After doing numerous case studies of kids who were struggling in math class, Ginsberg (1972–77) and his associates discovered that while certain

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kids had unique and atypical patterns, other kids shared more common patterns of strengths and weaknesses. Children with arithmetical impairments typically struggled with a number of issues, but the most prevalent one was difficulty doing multi-step arithmetic, according to research by Bryant, Bryant, and Hammill (2008).

A Review Of Connected Works

A diagnostic investigation on the challenges students in standard third were having with computation was carried out by Jasmine (2004). The study's findings show that pupils' performance level was extremely low when it came to adding four digits to a one-digit number.

A test that is based on the successive processes of learning an additional process can yield diagnostic information. Schonell & Schonell (1947) broke down each basic procedure into a number of steps that they felt were indicative of the steps youngsters took to advance in their understanding of arithmetic operations. A study on "The Assessment of Math Learning Difficulties in a Primary Grade 4 Child with High Support Needs: Mixed Methods Approach" was carried out by Munida, l (2013). They discovered that elementary school students have a number of challenges when learning arithmetic. In 2010, a study titled "Developmental Dynamics of Math Performance from Pro School to Grade 4" was undertaken by Aunola, K., Leskinen, E., Lerkknen, M.K., and Nurmi, J.They discovered that counting ability was the best indicator of the beginning level of arithmetic performance in their long-term study spanning from pro school to the fourth grade. They also discovered that children's conceptual understanding of counting objects and their understanding of number order are critical components of later arithmetic performance. on 2013, Fragnant, A. and Vlassis, J. carried out a study titled "Analysis of the impact of schematic representation in arithmetical problem solving on grade 5 students."

A significant percentage of students are able to solve new mathematical problems by salvaging the presentation they see, which is the study's main finding. Schematic representation has a demonstrably positive impact on students' performance overall. A study of children with normal and mathematically disabled abilities in counting knowledge and skills in cognitive addition was conducted by Geary et al. (2012). The study's main conclusions are that young children with math challenges exhibited significant conceptual issues and were more prone to make procedural mistakes when counting. An investigation into the diagnostic mistakes made by standard V math students when completing problems was conducted by Gurusamy, S. (2011).

The study's main conclusions are that there was a significant decrease in errors and an improvement in students' mean achievement scores.

In 2010, a study was conducted by Bryant, D.P., Braynt, B.R., and Hammill, D.D. on the "Characteristic behavior of students with learning disabilities who have teacher defined with weaknesses in arithmetic." The study's main conclusions are that while children with mathematical deficiencies frequently experience a variety of challenges, mastering multi-step arithmetic was the most prevalent issue. "Developmental differences in solving simple arithmetic problems and simple number facts problems: a comparison between mathematically normal and mathematically disabled children" was the topic of S. Osted's (2008) research. The investigator employed a longitudinal study. From Norwergain City, 36 students in grade 5 who struggled with math and 36 students who did not were chosen.

The mathematics achievement test from Norway was standardized. The study's main conclusion is that kids with arithmetic problems almost exclusively utilized counting-based techniques, whereas kids without math problems were more likely to employ retrieval or derived fact

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procedures. Furthermore, as they become older, children who struggle with math use retrieval techniques more frequently and count-based procedures less frequently; yet, the strategies employed by these kids do not alter as they become older. Desoete and Gregoire (2007) carried out research on the topic of "Numerical competence in young children and children with learning disabilities in mathematics."

The investigator discovered that first-graders with math impairments had already faced challenges with number in early childhood education. Additionally, they discovered some indication that third-grade students with arithmetic impairments did not have similar numerical abilities. Children's profiles of addition and subtraction understanding was the subject of a study conducted in 2005 by Canobi, H., and Katherine. The study's main discovery is that children's innate recognition of the existence of integers between 0 and 1 is closely linked to their understanding that such numbers are infinitely divisible—that is, they can be split again without ever reaching 0.

"Diagnosis of weaknesses in Arithmetic as related to the Basic Arithmetic Skills and their Remedial Measures" was the topic of a study done in 1983 by Rastogi, S. The study was designed primarily with an experimental approach. A diagnostic exam for fundamental math skills was created. The sample comprised 406 class VIII students (230 boys and 176 girls) from nine distinct schools, one in each of Arunachal Pradesh's districts. The study's main conclusion is that a weak grasp of fundamental arithmetic skills—which is strongly correlated with achievement—was one of the major factors contributing to mathematical backwardness.

Purpose Of The Study

The present study aims to achieve the following objectives:

1) Identifying and analyzing the various kinds of mistakes these kids made when learning addition.

2) To draw attention to a few widespread myths that were found by using the diagnostic tool.

Research Design

Due to the fact that this study focuses on the current addition issues that fifth-grade children face, a descriptive methodology will be used. Factfinding survey design, one of the key components of descriptive research, has been used by the researcher to carry out the current field of study.

Research Aid (Tools)

For the purpose of achieving the research objectives, the researcher collected data using the following tool. The researcher developed a "Schonell Diagnostic Arithmetic Test," developed by F. J. Schonell in 1947, based on the "Essential Problem Arithmetic Test.

Outcome

Examining several kinds of errors in Arithmetic's that students in Grade V have committed.
The Essential Problem Arithmetic Test data set is being analyzed in order to study the various addition errors made by pupils in grade v. Un-attempted questions were considered a different type of error, and their percentage of all questions was calculated. The bar chart in Figure 4.5 displays the relative frequency distribution of the percentage of errors made by male and female students simultaneously. Every color denotes a distinct kind of mistake.

Different types of faults in learning addition are displayed in Table 1.

Name of errors	Boys		Girls	
	Number	Percentage	Number	Percentage
Errors in Combination	30	9.4339	71	20
Omitted	51	16.0377	43	12.1126

Carry Figure				
Carried Wrong Number	67	21.0691	77	21.6901
Added Number From Other Column	4	1.2578	10	2.8169.
Added Carrying Number Twice	13	4.0880	11	3.0895
Omitted Number From Column	31	9.7842	37	10.4225
Carry When Nothing To Carry	11	3.4591	3	0.8450
Retraced Worked Partly Done	11	3.4591	18	5.0704
Added Carried Number Irregularly	3	0.9433	7	1.9037
Wrote Number To Be Carried	12	3.7735	5	1.3623
Subtracted Instead Of Addition	12	3.7735	2	0.5633
Subtracted And Addition Both	3	0.9433	5	1.3623
Irregular Procedure	70	22.0125	78	1.654
Total	318		367	
Mean	24.4615	7.6923	28.2307	7.9438
S.D.	23.8139	7.4886	29.6764	8.3664

It is evident that 21% of both male and female pupils made mistakes when transporting numbers. To calculate addition between two or three digits, the majority of students (22&and 21.97%) employ irregular approach. In Figure 4.6's bar chart, the relative frequency distribution of the error percentages for male and female students is simultaneously presented. Every color stands for a distinct kind of inaccuracy.

Conclusion Of The Study

It is evident that a lot of kids struggle with some or all of the arithmetic concepts.
Mathematical difficulties can take many different forms and have many different reasons since mathematical reasoning comprises so many different components.

That being said, a sizable segment of the populace struggles with specific aspects of mathematics, enough to give them at least some practical and educational issues. Throughout the lesson, educators should constantly be aware of the kinds of mistakes that their students are making and adjust their lesson plans accordingly. When it comes to pupils who struggle greatly with math, teachers need to use caution. Remedial programs and thorough counseling should be made available to weak students, taking into account their cognitive abilities.

Study's Limitations

The researcher found certain limitations in the study despite taking every precaution during the process.

1) The research has certain limitations. Firstly, the study was restricted to the rural areas of South 24
   Parganas.
2) The research was restricted to government added secondary and higher secondary schools in class V.

Further Research

The results of this study led to several areas, including the identification of learning weaknesses in addition to those students who belong in class V. Of course, more research is required to demonstrate the difficulties related to other aspects of arithmetic. More research would

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explore what influence this variable on participant in problem arithmetic test. In this study, I felt that there was a need for a remedial treatment for the students who are very weak. Therefore, there is room for more research. Teachers were not included in the study, so there is a gap between their understanding of different types of weaknesses and the weak students.