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## AN EMPIRICAL STUDY ON QUALITY OF PRIMARY EDUCATION SYSTEM

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### ABSTRACT

The government of India has launched many flagship programs towards the primary education and to increase the enrolment rate. Although the enrolment rate has been increasing the quality part of primary education is not increased. For a student primary education matters a lot as it acts as a base for their future studies and life.

This paper studies about the arithmetic, reading and understanding level of the students in the primary school. We have conducted surveys in select private and government schools located in the states of Andhra Pradesh and Karnataka, the test papers are taken from a well know platform.

Mathematical skill plays a crucial role in primary school and is essential for the students' future as it is the basics of secondary education. At the same time, English is also necessary for our daily lives. It is not just a mere mode of language; it is the primary fundamental language of global communication. English broadens ideas, creativity, and skills, thereby a key pointer in providing job opportunities. This paper talks about the problems and discusses the possible solution for the improvement in quality of primary education.

Education is a crucial determinant of development and a primary indicator of Human Development Index (HDI) of any country. Needless to mention, in today's world, it plays a significant role in determining a person's economic and social empowerment. Quality in primary education is on high demand and is critical for kids and their future.

**Keywords:** Schools, Primary Education, Students, Arithmetic Skills and Reading Skills.

### INTRODUCTION

Education is a key factor in determining development and a key indication of a country's Human Development Index (HDI). It goes without saying that it has a huge impact on how economically and socially empowered someone is in today's environment.

According to the report published by the National Survey of India, the Literacy Rate of India in 2022 is 77.7% with male literacy rate at 84.7% and female literacy rate at 70.3%. The literacy rate in 2011 was 73%. There is an increase in 4% compared to the last census data. But it still means that nearly one in four Indians remains unable to read or write (compared to about one in eight people worldwide).

In India the quality of education is the fundamental right of a student which helps them to achieve basic numeracy and literacy skills. From the past the literacy rates have been increased in both male and female ratios. The gender gap is narrowing from 24.8% in 1991 to 21.7% in 2001. [Nirupam and Sangeeta, 2004]. With a quality education the students can overcome poverty, hunger, economic growth etc. therefore education in the present world is important. India has been launching many schemes and programs such as Padhe Bharat Badhe Bharat, Beti Bachao, Beti Padhao, Rashtriya Avishkar Abhiyan etc for the availability and affordability of education in India. The quality of education in India is poor which ultimately leads the children to leave the education at an early age and start working which is a route cause for child labour, abuse and violence.

According to Annual Status of Education Report (ASER) 2018, approximately half of the students in grade 5 could read a text at the grade 2 level fluently after more than four years of formal education. Only 45.2% of students across all disciplines and classes achieved the intended performance levels, according to the 2017 National Achievement Survey.

In several conflict-affected areas like Assam, Chhattisgarh, Jharkhand, and Odisha, UNICEF has started working. Additionally, it strives to enhance how well the Kasturba Gandhi Balika Vidyalayas operate (KGBV). UNICEF created the Digital Gender Atlas for Advancing Girls, a tool for making decisions, to identify low-performing geographic regions for girls, especially those from marginalised groups including Scheduled castes, Muslim minority, and Scheduled tribes. In this endeavour, UNICEF has been closely collaborating with Sarva Shiksha Abhiyan, the government of India's main education programme.



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## PRIMARY EDUCATION

Six to eleven years of a child's education is referred to as primary education. The primary education of today encompasses much more than just reading, writing, and mathematics. The scope of basic education must expand as the complexity of social life increases. To be socially productive, a person must be literate in reading and writing and have a basic understanding of mathematics, geography, history, and mechanics. Primary education is free and required. If it is recognised that an illiterate workforce is the greatest impediment to the development of a democratic state, it is a wise investment on the part of the state.

### Primary Education in Finland

In science and mathematics, Finland is able to produce students who are superior to their American counterparts. Along with other European nations, Finland adheres to the pragmatist worldview. The Finnish government provides an annual budget per student of 5,200 euros. The Finnish government does not impose tuition fees on its citizens. Since the state's leadership has not changed, the previous plans established by those responsible for determining education policy can continue to be implemented [Ashok Federick, 2020].

In 1972, Finland adopted peruskoulu to replace its previous educational system. In the previous system, 11-year-olds had to choose between two streams, one emphasising practical skill and the other emphasising academics. Today, over 99 percent of students complete peruskoulu. 95% of students who pursue non-mandatory post-secondary education have a choice between general and vocational education.

### Ways to measure quality of Primary Education

Program for International Student Assessment (PISA) organised by The Organisation for Economic Co-operation and Development (OECD) for both the member and non-member countries to evaluate the 15-year-old school students in their academics. The students would be evaluated in subjects such as science, mathematics and reading. Following the initial performance in 2000, it has repeated every three years once. Its objective is to offer similar data so nations can enhance their educational strategies and results.

### Germany's "PISA SHOCK"

According to 2000 PISA results, one in five students couldn't read proficiently. OECD nations had some of the widest performance gaps between poor and wealthy students. Germany's policymakers were inspired by the PISA results to make all-day schools the norm. The government mandated educational standards and tests to measure student progress. The German government also urged teachers to invest more in their careers. Germany's reading performance improved from below average in 2000 to above average in 2015. This encouraging trend is largely due to disadvantaged and least successful students.

When analysing German reforms, it's important to note that the national educational system is regulated by the federal states ("Bundesländer"), and each has its own peculiarities. According to educational research and practitioner conversations, seven factors have contributed to the improvement, with the consolidation of Realschule and Hauptschule into Regionalschulen in various states being the most notable ("regional schools"). The PISA shock sparked a debate about German education standards. KMK created cross-border educational standards for all German federal states. Its primary mission is to define, operationalize, standardise, and evaluate Lander educational standards and create national exams. These exams cover all graduation requirements.

### India

India took part in the PISA test only once before 2009. The students were chosen from the Himachal Pradesh and Tamil Nadu were taken to participate in the PISA test. A total of 73 countries participated, and India came 72nd. It was only able to outrank Kyrgyzstan. After 2009, India never took part in the PISA test until 2022. In 2022 India is going to participate in the PISA test and students of Chandigarh have been chosen for the test.

### Brazil

Brazil scored lowest in PISA 2003. Less than 1 in 100 students reached the highest maths competency level, while more than half did not. Brazil committed to reaching the OECD average in PISA by 2021. Brazil's Brazil Literate Program aims to reduce adult illiteracy (BLP). This programme teaches in Portuguese. It offers private and public organisations financial and technical assistance to help young people, adults, and seniors learn to read. LBP aims to provide literacy education to all adolescents who did not complete primary school. By 2015, the lowest-performing students in the country improved their math scores by 34 points, equivalent to one year of schooling. Brazil's enrolment in grades 7 and above increased by 500,000, 15-year-olds. Brazil analyses its progress using PISA criteria, but it has a long way to go before achieving universal 15-year-old enrolment.



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## China

China's 1986 Law on Nine-Year Compulsory Education aims to achieve universal literacy by age 20. The National Plan for Medium- and Long-term Education Reform and Development (2010-2020) set ambitious goals for primary and secondary education, such as making preschool available to all children and enhancing the nine-year compulsory education system through "rational resource allocation" and "special support" for the less fortunate. According to China's National Bureau of Statistics, students from higher socioeconomic backgrounds have less access to high-quality education because urban residents are three times wealthier than rural ones. The Compulsory Education Law allowed migrant children in urban areas to attend local schools without a required urban 'hukou' in Wuhan.

The Stanford Centre on China's Economy and Institutions created REAP. REAP researchers found that improving students' health improved their math scores, which led the Chinese government to launch a school lunch programme in 2011 that helps more than 20 million rural students daily. REAP established early childhood education facilities in the Qinling Mountain Region to determine how a stimulating environment and successful parenting affect early children's IQ.

## ASER

ASER is a national household survey which collects information and sample of children in the rural Indian schools and learning environments. To determine if they are enrolled in pre-school or school, children aged between three to sixteen years are questioned. One-on-one evaluations are conducted with children aged 5 to 16 to determine their foundational reading and math skills. Nearly all of India's rural districts are covered by ASER, which produces district, state, and national assessments of the essential reading and math skills of kids between the ages of 5 and 14.

### ASER 2019 survey findings

According to the 2017 National Achievement Survey, one-third of third-graders struggle to comprehend short texts, and one-half struggle to apply mathematics to real-world problems. Even more shocking are the findings of the 2018 ASER report: less than 28% of fifth-grade students in rural India were able to solve division problems, and less than 50% of fifth-grade students in urban areas could read at the Grade 2 level. 35.7% of rural Indian students in Grade 1 and 42.7% of urban Indian students in Grade 1 were unable to recognise the letters of the alphabet in their language of instruction. According to the findings of the 2017 India Early Childhood Education Impact study conducted by Ambedkar University and ASER Centre, the origins of the crisis can be traced back to before first grade. Only one in ten five-year-olds could match two images beginning with the same letter, and only one in six could complete a simple visual pattern. Data from FSG's PIPE program<sup>3</sup> (pre-schoolers in urban India) and state government-led school readiness programs<sup>4</sup> supported the same conclusion (children beginning first grade in Gujarat and Karnataka).

### Primary grades (Class III)

ASER found that age distribution is most extensive in grade 1 and decreases in later grades. 53.4% of eighth-grade students could read first-grade text, and 46.1% of seventh-graders could.

NAEP measures educational progress. National Center for Education Statistics administers the test (NCES). NAEP tests math, writing, reading, arts, civics, geography, economics, science, technology & engineering, and US history. It provides information on student achievement based on gender, race/ethnicity, public or private school, instructor experience, and hundreds more variables. Student, teacher, and school questionnaires provide NAEP context. Special education and ESL worksheets collect more data (EL).

**OECD School User Survey:** It was created by the OECD Learning Environments Evaluation Programme (LEEP) as a tool for school self-evaluation. It will produce meaningful data on how a school's learning spaces are used and how they can support 21st century teaching and learning methods for school administrators, local government officials, policymakers, and the larger community. This OECD tool for students, teachers, and school leaders includes three self-assessment surveys. The survey asked about the school's history, learning areas, and tech use. Using the OECD School User Survey, one can examine how the physical learning environment is used and (2) gather users' opinions on it.

**Instruments and tools developed by Harvard Family Research Project:** These resources help programme evaluators and practitioners choose the best assessment techniques for their programme and evaluation. This resource provides details about instruments and tools used in out-of-school-time (OST) studies rather than a complete list of those that may be helpful to OST programmes. This manual's assessment tools are displayed in topic-based tables. The instruments are divided into five categories, including academics and psychological/social development, with many subcategories. Right box lists categories. These categories aren't exclusive: Some measuring tools fall into multiple categories.



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**Comprehensive Test Phonological Processes - 2nd Edition (CTOPP-2):** The CTOPP-2 measures reading-related phonological processing ability. The C-TOPP can be used to (1) identify individuals who significantly lag behind their peers in key phonological skills; (2) identify the strengths and weaknesses of developed phonological processes; (3) track individuals' progress in phonological processing as a result of specialised intervention programmes; and (4) serve as a measurement instrument in phonological processing research studies. Components of the CTOPP-2 subtests include elision, blending words, sound matching, blending nonwords, segmenting nonwords, memory for digits, nonword repetition, rapid digit naming, rapid letter naming, rapid colour naming, and fast object naming.

**DIBELS: Dynamic Indicators of Basic Early Literacy Skills (DIBELS):** consists of approaches and measures for assessing the growth of literacy skills. It is a one-minute test that may be administered periodically to detect risks and monitor the development of early literacy and reading skills in kindergarten through eighth grade. Using the DIBELS examinations, students are evaluated on four of the five essential skills, namely phonemic awareness, phonics, fluency, vocabulary, and understanding.

**The Graphical Languages in Mathematics (GLIM):** The Graphical Languages in Mathematics (GLIM) Test is a 36-item multiple-choice examination designed to measure students' proficiency with each of the six graphical languages. Each of the six graphic languages has a set of six increasingly difficult tasks. The examination was constructed using 58 graphically oriented items from a database. These questions were selected from state, national, and international exams given to students in their final three years of elementary school or to children of a comparable age and available to the public. Using mass testing techniques, all 36 items may be examined in their entirety. This exam may be divided into three smaller, more manageable tests, with two questions in each category of graphical language on each test.

## LITERATURE REVIEW

- [<sup>3</sup>Bajpai at all, 2004] The expansion of primary education in India has advanced significantly, as seen by rising enrolment rates for both boys and girls. The educational system is plagued by low teacher motivation, apathy toward instruction, and significant teacher absenteeism.
- [<sup>4</sup>Zuilkowski at all, 2017] In Kenya and Malawi the government school standards have fallen so much that most of the parents prefer to send their children to the private schools even though it's hard for them to afford. There was a survey which was conducted in more than 92 schools, 40% of their money goes for their child's education. There are several reasons why LCPS might theoretically deliver a greater quality of education.
- First, such schools seem to be more responsible to families since parents may simply move their children to other LCPS or public schools if they are unsatisfied with the education they are receiving. Secondly, instructors in the LCPS are more accountable to their employers due to the lack of job security. Thirdly, LCPS are more adaptable than government schools in that they may readily establish operations in locations with excess demand. They have limited or no educational requirements, allowing them to employ instructors more rapidly than public schools.
- [<sup>5</sup>Margo O'Sullivan, 2006] Improving educational quality requires examining the idea of quality and how policymakers in developing nations interpret it. The author contends that the teaching and learning processes that take place in the classroom should be prioritised at the top of the quality agenda. The methods of teaching and learning must be viewed as essential to raising quality. Policymakers need to stop focusing their conceptualizations of quality on input and output. Many of the important stakeholders will need to adopt a new mentality in order to accept this.
- [<sup>6</sup>Muralidharan at all, 2015] The findings and analysis suggest a number of directions for additional study in the Indian setting. One is to more accurately calculate the relationship between instructional time spent on each subject and test scores, as well as the importance of instruction language.
- [<sup>7</sup>Kingdon, 2007] In India primary school enrolment is almost universal, and the literacy rates have shown a positive increase. However, very low learning outcomes in both elementary and secondary education indicate a lack of high-quality instruction. Section IV looked at the function of private education in India. It is evident that disadvantaged families also send their children to private schools. There hasn't been any thought given to radical approaches to enhance teacher and school incentives. The research that is currently available for India is primarily descriptive in nature, and there are few thorough assessments of educational challenges.
- [<sup>8</sup>Sharmila Devi at all, 2012] ICT-based education of high quality and stakeholder knowledge of it would benefit society. By integrating ICT into different educational phases, we can improve the quality and standards of education. ICT can be used in both formal and informal settings. Education would eventually enable the students to find employment and contribute to society. ICT use in teacher education can help the government save a lot of money. One of the main problems and a direct influence on educational standards and quality is good material.
- [<sup>9</sup>Renu Singh at all, 2015] In schools that are able to use the available time of their instructors and pupils more efficiently, both the school's overall quality and the quality of instruction delivered by each individual teacher are enhanced. It is time to



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develop and apply quality assurance benchmarks and criteria in both public and commercial entities. The need for reforming teacher education programmes as well as the existing planning and monitoring methods in the educational system is urgent. It is crucial for policymakers to establish high standards for teacher professional development and curriculum reformulation.

9. [10R C Mishra, 1999] Despite all the institutional, physical, and budgetary restrictions, numerous researchers have been able to offer insightful data regarding a number of crucial issues related to educational processes.
10. [11Mukerji at all, 2005] In order to provide access and equity to quality-oriented distant education for all people, regardless of their geography, socio-cultural background, etc. The goal of providing quality-centred education to a large population still needs to be accomplished, but it is not insurmountable if consistent efforts are made.
11. [12Hani Morgan, 2012] For a number of factors, including a dedication to meeting the needs of all children and a highly skilled workforce, Finland's educational system has surpassed the majority of other nations in international tests. Finland's social values and dedication to offering robust welfare programmes for all of its residents play a role in its achievement. Finland's exceptional methods can be imitated by educators and politicians from other countries to enhance their own.
12. [13Saloviita at all, 2016] The profile of primary teachers showed obvious discontent in some crucial areas of competency across subdomains. To determine the degree to which student satisfaction is correlated with the structure and focus of their studies, international comparisons of graduating teachers' satisfaction with their education are encouraged.
13. [14Rajput at all, 2001] Action research is required in education, especially in teacher education, as evidenced by the insufficient exchange of information between researchers and practitioners. Srivastava (1970) brought attention to the sporadic nature of student teacher monitoring. Additionally, Mehrotra (1974) observed that the current procedures for supervising student instructors were flawed. Instead, then focusing on raising the calibre of their instruction, student instructors are primarily concerned with successfully completing the overall number of lessons they are supposed to deliver.
14. [15Mohapatra, 2021] The way that education is delivered should adapt to the times. Producing people who are socially responsible, globally aware, and beneficial to the country is the goal of quality institutions. Therefore, it should be our top priority to take the required steps to guarantee excellence in both K–12 and higher education.
15. [16Thinley, 2021] The basic factors that define the quality of education in a nation are the quality curricula, effective leaders, well-qualified and conscientious instructors, motivated students, supporting parents, and an abundance of resources. If the TLSmodel of high-quality education has been treated with attention, schools are more likely to be recognised for their outstanding educational achievements. Before starting any new educational initiatives for the benefit of students and the nation's future citizens, it may be advised that educators have a solid understanding of this paradigm.
16. [17Jianfeng Jeffrey Qi, 2019] To break the cycle of poverty and prepare young people for a diversified workforce, the World Health Organisation (WHO) Global Goals for Education aim to guarantee that every child has access to a high-quality, free education by 2030. Investing in public education also promotes diversity and inclusivity in our society, lowers social inequities, and empowers more people to lead sustainable and healthy lifestyles.
17. [18Hannu Savolainen, 2009] Difference of education and tracking are well-recognized contributors to educational disparity; nevertheless, inequality may not be created by differentiation per se, but rather by the implementation of differentiation. The prevalent use of special education in Finland can serve as an example, since it appears to be connected to the decrease, not the increase, of inequality (Antikainen 2006). Part-time special education appears to be successful because it can be implemented rapidly, resources can be utilised flexibly, and kids are not stigmatised or isolated from the general population. The educational system in Finland is characterised by a comprehensive learning assistance system, which includes part-time special education. An examination of the top ten educational systems validates this notion: all of the top systems strived to provide every kid with a quality education. These findings complement the Education for All initiative of the United Nations Educational, Scientific, and Cultural Organization (UNESCO) and offer promise for more inclusive education in the future.
18. [19Hubert Erti, 2006] National educational standards were first implemented in Germany in the 1990s, but their quick adoption must be seen as a direct outcome of the PISA results. It takes time to establish the measures required for putting standards into practice and creating fresh, creative instructional ideas. In the public discourse, comparisons to Finland and Sweden are also frequently made. A review of the secondary education systems in high-performing PISA nations has led to a critical evaluation of secondary education in Germany. However, criticism of the selective nature of the German educational system has not resulted in meaningful modifications to how they are created and implemented.
19. [20Ashok Fedrick, 2020] The aforementioned discussion leads to the conclusion that when it comes to philosophy, Finland's educational system is governed by the pragmatic school of thought, which exclusively considers worldly education. Three groups collaborate to create the school curricula: educators, businesses, and schools. The Scandinavian educational system embraces the idea of a humanistic curriculum that is oriented on students, who are the main focus of education (student centred). The most freedom is granted to the students. There is no homework provided to students. Even the national final examination (UAN), which is absent in this country, accomplishes very little to evaluate education in the evaluation system.



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Decentralised educational administration and governmental funding for all educational expenses (free). The educator is given a very respected position. As a result, there is a greater demand for teaching faculty in this nation than for engineering, medicine, or other faculties. The selection procedure for teachers is highly rigorous. That person who earned a master's degree and placed among the top 10 students in his class academically may be hired as a teacher.

20. [21]Sabina Donlagic at all, 2014] Using a 5-point Likert scale instead of the original 7-point scale may be acceptable for institutes of higher education. A negative gap was observed between students' expectations and perceptions of service quality. Also emphasised were the significance of students as a stakeholder group and the need of integrating quality assurance and management at the school. In this study, we outlined a negative quality gap that exists across all five aspects of this institution's service quality. The narrower the gap, the higher the quality of service. Clearly, a systematic strategy is required to enhance the quality of higher education services at this institution. The Faculty of Economics should aim for an integrated management strategy based on strategic management and quality assurance and assessment. Assessment and verification of quality are not integrated into the faculty's strategic management process. The degree of emphasis placed on strategic and quality culture will define the institution's progression towards maturity.
21. [22]Taylor at all, 2018] Higher education institutions may choose to utilise a 5-point Likert scale as opposed to the initial 7-point scale. There was a disparity between students' expectations and their perceptions of service quality. In addition, the significance of include students in the category of stakeholders and integrating quality control and management inside the institution were emphasised. The research, we highlighted a quality gap that occurs across all five service quality criteria of this institution. The quality of the service improves as the distance narrows. It is clear that a methodical strategy is required to raise the standard of higher education services provided by this university. A strategic management, quality assurance, and assessment-based integrated management approach should be the goal for the Faculty of Economics. The faculty's strategic management method does not include quality assurance and appraisal of quality. The priority attributed to strategy and quality culture determines how institutions evolve toward institutional maturity.
22. [23]Maddalena Davoli Goethe. 2018] Germany participated in the PISA test in the year 2000. Until then Germany was considered to have one of the best education systems until when the results of PISA came out. It was shocking for the country and for other countries to know that Germany was lower than the average OECD. After 2001 Germany changed its education system and policies to achieve above the OECD average. There are 6 main points for the improvement in their performance
  - a. Rethinking streaming children at the age of 10
  - b. Segregation
  - c. Standardisation of curricula
  - d. Monitoring and ensuring comparability
  - e. Introduction of central examinations
  - f. Increasing school autonomy

## RESEARCH METHODOLOGY

Research methodology specifies the procedure or techniques to identify, select, process, and analyse information about a topic. The methodology part of the research paper allows the reader to critically evaluate a study and its validity and dependability in an investigation.

### Research Objectives

Research objectives describe concisely what a researcher wishes to achieve during the project. They help summarize and narrows project and provide direction to the study.

Our research objectives for this paper include:

- Researching the educational standards in public and private institutions.
- Comparison between the quality of education in Private and Government Schools.
- Analysing the primary students' Mathematical and Reading skills.

**Survey Instrument:** The survey instrument we used to collect our data was through ASER test paper.

**Sampling Plan:** Our sample size is 250 students, and we have 301 students through our survey. The location of the study is India, and the total population of India during the time of the study had a population of 1,575,479,670,362 people, and more than 122 million were primary school students.

**Plan for data collection:** This study happened from 8th August to 25th August 2022. The students were surveyed by giving out the test paper and evaluating them. In mathematics, there were four levels, Recognition (1 – 9), Recognition (10 – 99), Subtraction, and



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[www.ijmer.in](http://www.ijmer.in)

Division. There were 8 questions in recognition (1-9). Students have to answer at least 5 correctly, recognition (10-99) has 10 questions, they have to answer 6 correctly, Subtraction has 8 questions, and students should get 5 correctly, and Division they have to get at least one correct. We can only say that a student could qualify or pass a particular level.

The student was asked to read the letters, words, paragraphs, and story out loud. If the student can read and identify the letter and word, then they will be asked to read the paragraph where the student is allowed to maximum make 2 mistakes; the student will then be asked to read the story if the student can read the story fluently then his/her reading skills are said to be good.

**Analysis plan:** The analysis plan is to use bar graphs and different graphs to make it easier for us to analyse and interpret the information we got from the survey. The questions in the test paper were about maths and English. ASER Centre designed the test paper only for the students in their primary school to test their quality of education.

**Statement of the Problem:** What is the primary education quality at public and private institutions?

### DATA ANALYSIS AND INTERPRETATION

ASER conducts yearly surveys to give reliable annual estimates of children and schools, as well as their fundamental learning levels, for each Indian state, along with the question/test papers used to evaluate the quality of primary education. ASER is the most comprehensive survey performed in India. It is the only available annual source of information on children's academic achievement in India. It is the only annual source of information on children's learning outcomes available in India. Data collected from primary schools. The students who are in 3rd, 4th, 5th students were the targeted respondents. This study is conducted to know the quality of study in government and private schools. The data collected from 301 students which comprises of 149 female students and 152 males. The student from both Private and Public schools tested their Mathematical and Reading skills. Each student has given a math paper to solve, consistent with Recognition of numbers, Subtraction and Division. There would be 8 questions on Recognition of numbers and 8 on Subtraction. The student should at least get 60% of them correctly out of 8 questions; the students should get 5 or above correctly.

Reading skills have been tested for every student by asking them to read the letter, word, paragraph, and story out loud. If the student can read and recognize the letter, they can proceed to read the words. Every student should at least get 60% of the words correct and then read the paragraph; the student can maximum make 2 mistakes. If they make more than 2 mistakes, they are considered unable to read the paragraph. The students who pass at paragraph level are requested to read the story; if a student can read the story fluently and understand it, then he/she is said to have good reading skills. The students from both the schools were not able to answer the division questions although it was in their curriculum. When we asked the teachers the reason behind it most of the teachers answered that they did not teach the students. What is in the syllabus if they are not able to teach than how will the new education policy be successful.

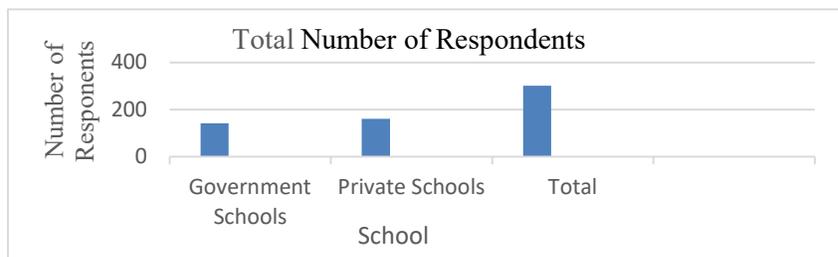


Figure 1: Total Number of respondents

School Type	Total Number of Respondents
Government Schools	141
Private Schools	160
Total	301

Table 1: Total Number of Respondents



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Table 1 shows the number of respondents during this survey. We surveyed 9 schools consisting of 5 government schools and 4 private schools. The number of students in private schools is slightly higher than in government schools.

Gender/ School	Male	Female	Total
Government Schools	73	68	141
Private Schools	79	81	160

Table 2: Gender wise categorization of respondents

Table 2 shows that there is not much variation in the gender ratio between males and females. The gender gap has reduced from what was seen in the past, and hardly any gender gap could be noticed in this data. The literacy rate in India is 74.04%, which accounts for 82.14% of males and 65.46% of females. Kerala is in the top position with a 93.91% literacy rate. From the data above, we can say that the gender ratio has been increasing, and more young females are going to school.

Grade	Government School	Private School
III Grade	46	31
IV Grade	64	129
V Grade	31	0
Total	141	160

Table 3: Grade wise categorization of respondents

In the survey we conducted we have total of 301 respondents where 141 students where from government school and 160 students from private school.

Grade	Male	Female
III Grade	42	35
IV Grade	94	99
V Grade	16	15

Table 4: Grade and Gender wise categorization of respondents.

### Analysing the Reading Skills of the Students

Learning Skills Level 1: Letter Identification of 3<sup>rd</sup>- grade Students.

The distribution of respondents shows in figure 2. In Fig 2, we can see 46 students from the 3rd class in all the government schools, and all could identify the “letter level,” so they have level 1 skills. In Fig 2, there are 31 students from private schools, and all could identify the “letter level.” By this, we can interpret that all the students in government and private schools of 3rd grade can identify the letters and have the skills of level1.

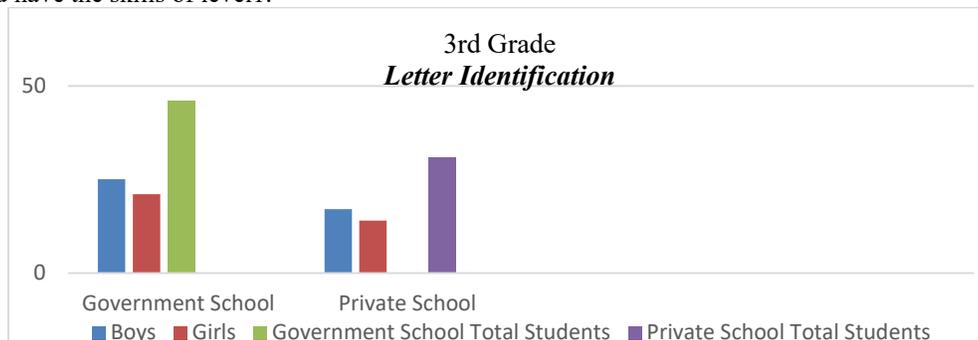


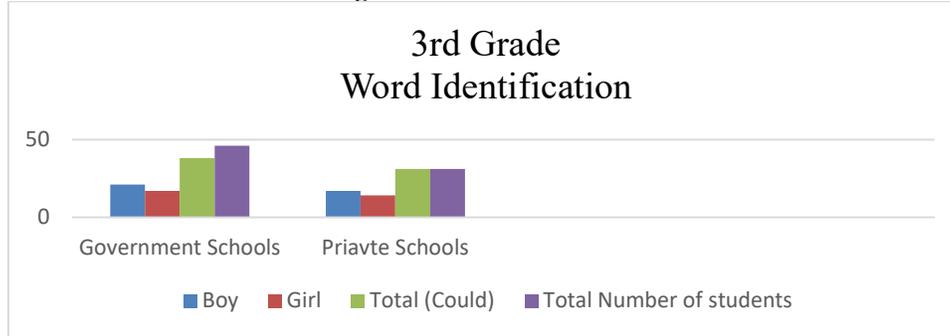
Figure 2: Letter Identification by 3rd-grade students.



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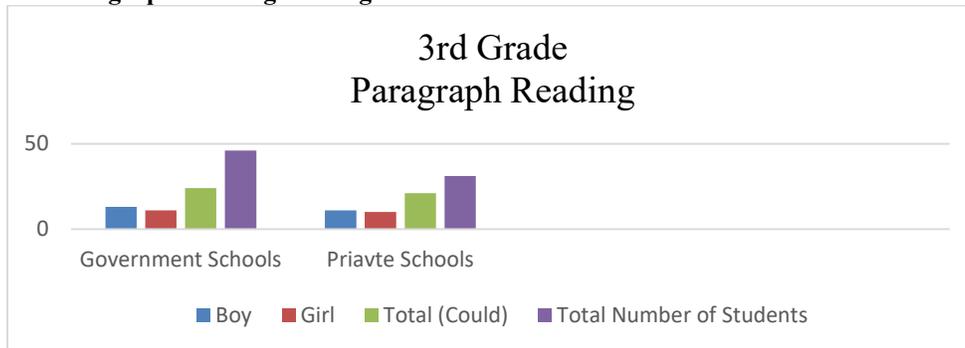
**Learning Skills Level 2: Word Identification of 3<sup>rd</sup>- grade Students.**



**Figure 3: Word Identification by 3<sup>rd</sup>-grade Students**

In Figure 3, we can see 46 students, and only 38 could read and identify the words. In private schools, all the students could read and identify the words.

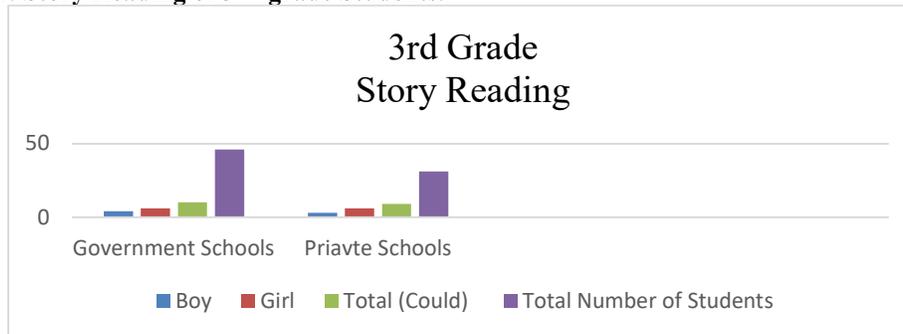
**Learning Skills Level 3: Paragraph Reading of 3<sup>rd</sup>- grade Students.**



**Figure 4: Paragraph reading by 3<sup>rd</sup>-grade Students**

In level 3, students were tested by providing a paragraph to read, and they could make two mistakes; if they made more than two mistakes, it was considered that their skills were not up to this level, and the primary schools should work on them. Private school students were better than the government school as we can see that more than 50% of the government school students could not read the paragraphs, and more than 70% of the private school students could clear this level. Therefore, we can conclude that the private school students were better than the government school students.

**Learning Skills Level 4: Story Reading of 3<sup>rd</sup>- grade Students.**



**Figure 5: Story reading by 3<sup>rd</sup>-grade Students**

In level 4, students are tested by giving them a story to read, and they are asked to read it aloud and fluently. If the student can read it fluently, then the student is said to have level 4 skills. The private school was a little better than the government school,



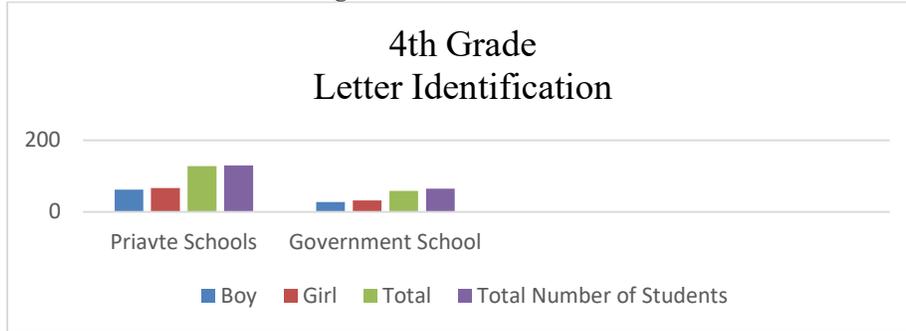
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where more than 30% of students could read the story. Therefore, we can conclude that the private school students were better than the government school students.

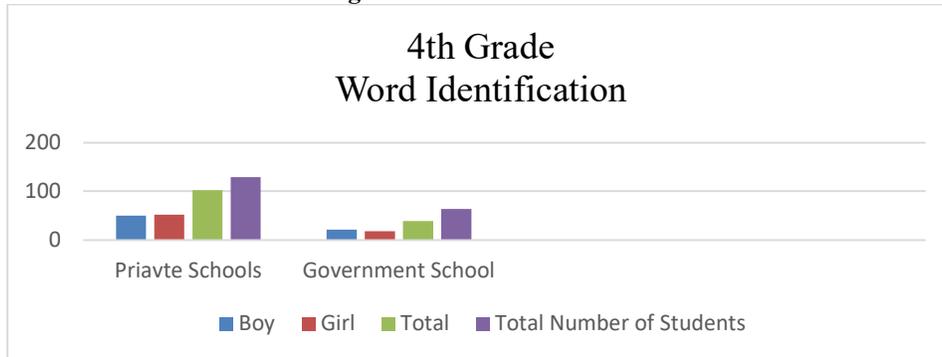
**Learning Skills Level 1: Letter Identification of 4<sup>th</sup>- grade Students.**



**Figure 6: Letter Identification by 4<sup>th</sup>-grade students.**

The distribution of respondents is shown in figure 6. In Fig 6, we see 64 students from the 4th class in all the government schools, and six students could not clear the first level. These six students could not identify alphabets, and the rest 58 students had level 1 skills. In Fig 6, there is a total of 129 students from private schools, and two could not identify the letter. By this, we can interpret that all most all the students in government and private schools in 4th grade could identify the letters, and most of them have level 1 skills.

**Learning Skills Level 2: Word Identification of 4<sup>th</sup>- grade Students.**



**Figure 7: Word Identification by 4<sup>th</sup>-grade students.**

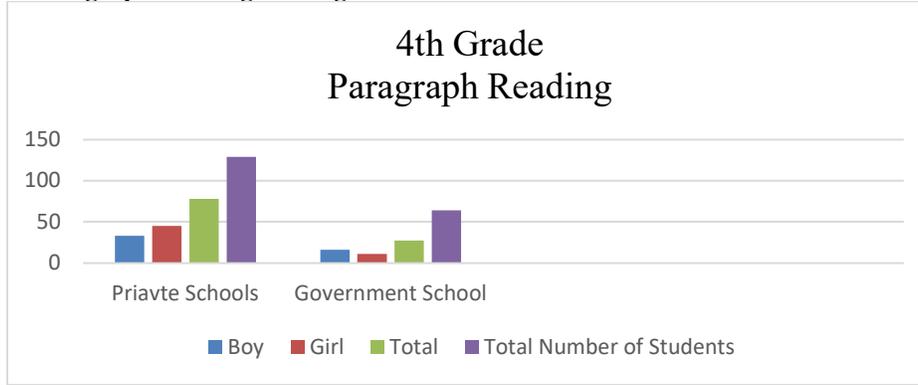
In Figure 7, Almost 60% of the students in the government school were able to read and identify the word, and in private schools, more than 79% of the students were able to read and identify the words. So, by this, we can interpret that the private school students are a little better than the government school students.



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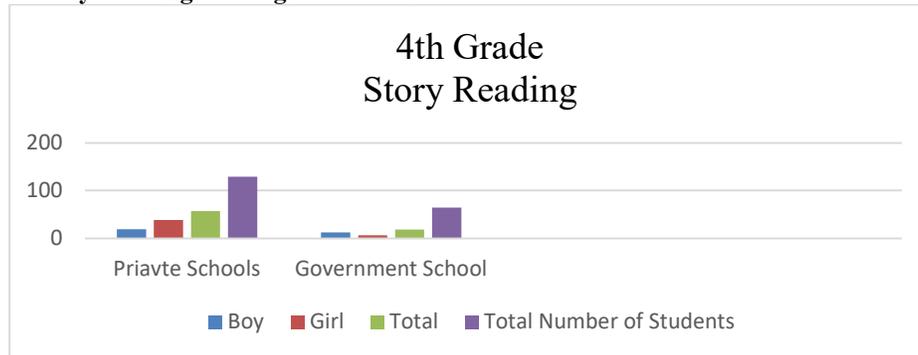
**Learning Skills Level 3: Paragraph Reading of 4<sup>th</sup>- grade Students.**



**Figure 8: Paragraph reading by 4<sup>th</sup> grade students.**

Students at level 3 are given a paragraph to read and are allowed two errors; if they make more than two errors, it is considered that their skills are not up to par and primary schools should work with them. Private school students were superior to government school students, as only 42% of government school students were able to read the paragraphs, while over 60% of private school students were able to pass this level. Therefore, we can conclude that private school students were superior to those from public schools.

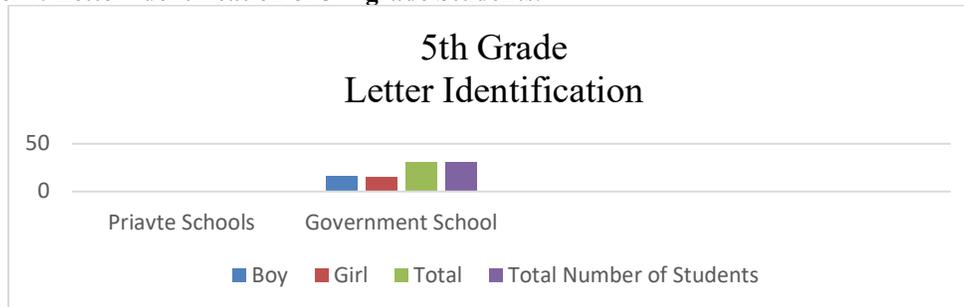
**Learning Skills Level 4: Story Reading of 4<sup>th</sup>- grade Students.**



**Figure 9: Story reading by 4<sup>th</sup>-grade students.**

At the fourth-grade level, students are given a story to read aloud and are asked to do so fluently. As evidenced by the fact that fewer than 22 percent of government school students were able to read the passage, private school students were superior to their public school counterparts. The private school was marginally superior to the public school, where more than 30% of students could read the story. Therefore, we can conclude that private school students were superior to those from public schools.

**Learning Skills Level 1: Letter Identification of 5<sup>th</sup>- grade Students.**



**Figure 10: Letter Identification by 5<sup>th</sup> grade students**

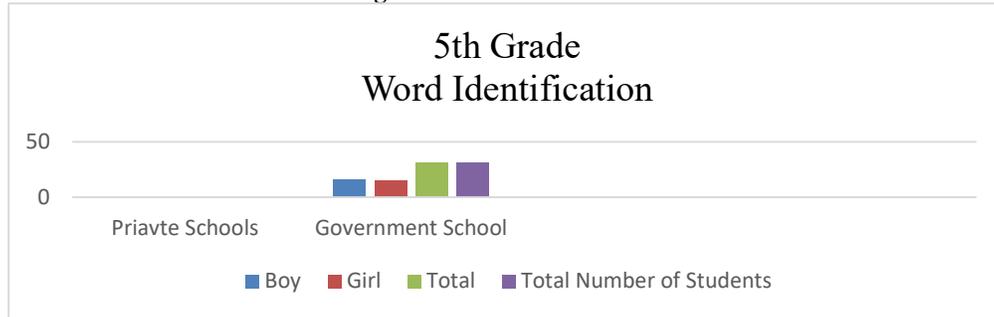


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Figure 10 demonstrates that 31 students in fifth-graders from all government schools; all of them were able to identify the "letter level," indicating that they have level 1 skills. We did not survey the fifth grade at a private school due to a lack of resources. Because there are no private school resources, comparisons cannot be made.

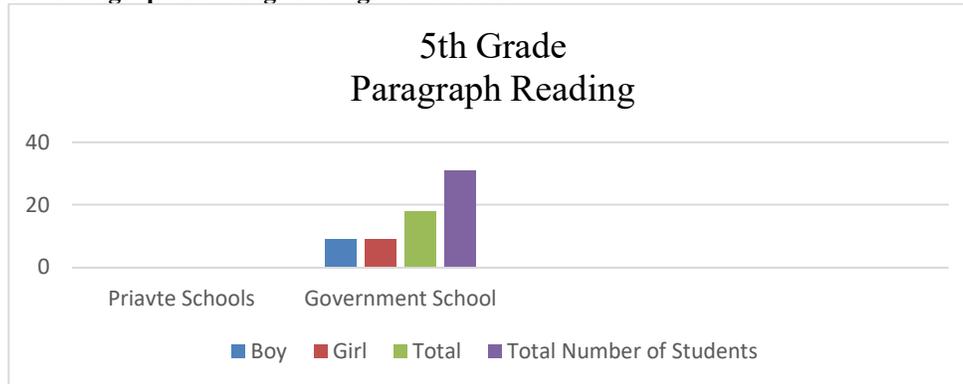
**Learning Skills Level 2: Word Identification of 5<sup>th</sup>- grade Students.**



**Figure 11: Word Identification by 5<sup>th</sup> grade students**

Figure 11 depicts that 31 students in fifth-graders from all government schools; all of these students were able to identify the "word level," indicating that they have level 2 skills. We did not survey the fifth grade at a private school due to a lack of resources. Because there are no private school resources, comparisons cannot be made.

**Learning Skills Level 3: Paragraph Reading of 4<sup>th</sup>- grade Students.**



**Figure 12: Paragraph reading by 5<sup>th</sup> grade students**

Figure 12 demonstrates that only 18 students could read the paragraphs. Approximately sixty percent of fifth-grade students were able to read paragraphs. Thus, 40% of fifth-grade students are not yet at level 3. There are no private school data, comparisons cannot be made.



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### Learning Skills Level 4: Story Reading of 4<sup>th</sup>- grade Students.

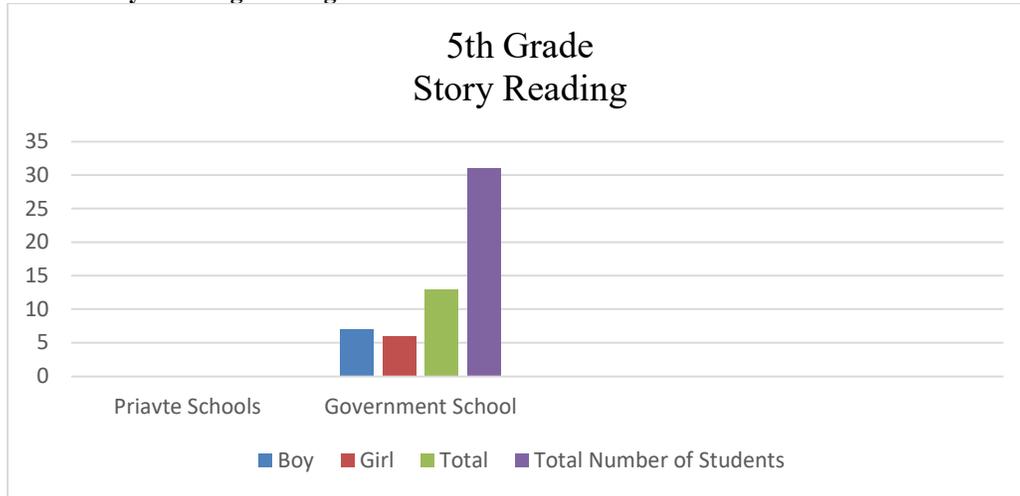


Figure 13: Paragraph reading by 5<sup>th</sup> grade students

Figure 13 depicts that approximately 41% of fifth-grade students were able to read the story. Consequently, 59% of students are still not at level 4 in fifth grade. Because there are no private school data, comparisons cannot be made.

### Data Analysis for Mathematical Skills

#### 3rd Grade Level - 1

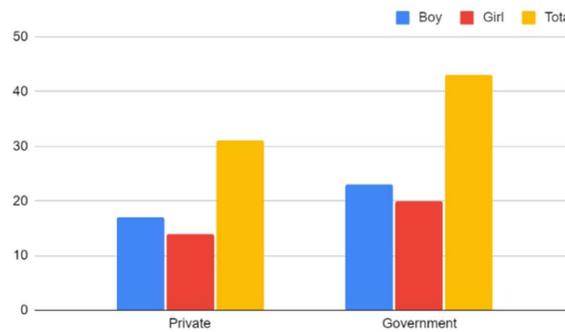


Figure 14: Level 1 - Number Recognition (1-9) by 3rd Grade students

As demonstrated by the preceding statistics, recognition of students was differentiated by gender. 43 students in government schools and 31 students in private schools were able to recognise and complete the survey. Each individual was required to recognise at least five numbers to possess level 1 skills. This suggests that the vast majority of third-grade students in both public and private schools can recognise numbers and have level 1 skills.



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3rd Grade Level - 2

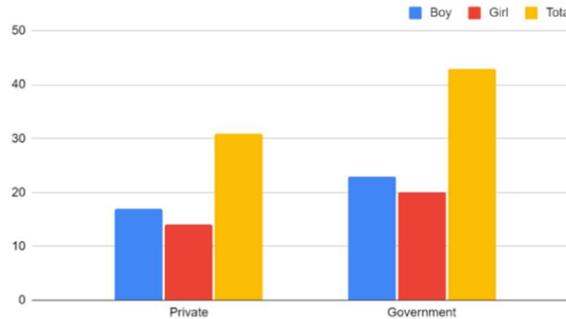


Figure 15: Level 2 - Number recognition (11-99) by 3rd Grade Students

In Figure 2, the same number of students were able to recognise and complete this survey level as for Level 1: 43 students in government schools and 31 students in private schools.

3rd Grade Level - 3

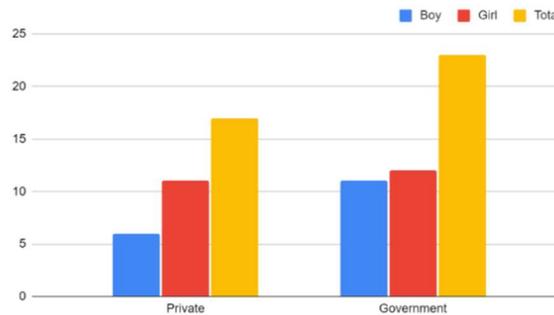


Figure 16: Level 3 - Subtraction by 3rd Grade Students

In level 3, students were required to correctly answer five subtraction problems in order to demonstrate level 3 proficiency. Currently, 23 government school students and 17 private school students were able to complete this level of the survey. In comparison to previous levels, the current student level is lower. In government schools, only 23 of 46 students could solve the problems, while in private schools, 17 of 31 students were able to do so.

3rd Grade Level - 4

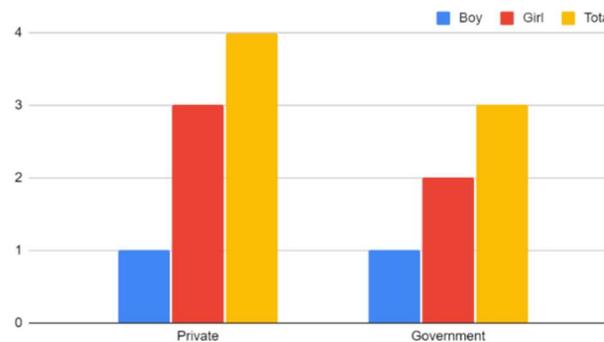


Figure 17: Level 4 - Division by 3rd Grade Students



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Figure 4 clearly demonstrates that only a small number of students were able to complete this level. There is little difference in level 4 skills between government and private school students. In government schools, only 3 students were able to solve and pass level 4, and in private schools, only 4 students were able to solve and pass level 4.

4th Grade Level - 1

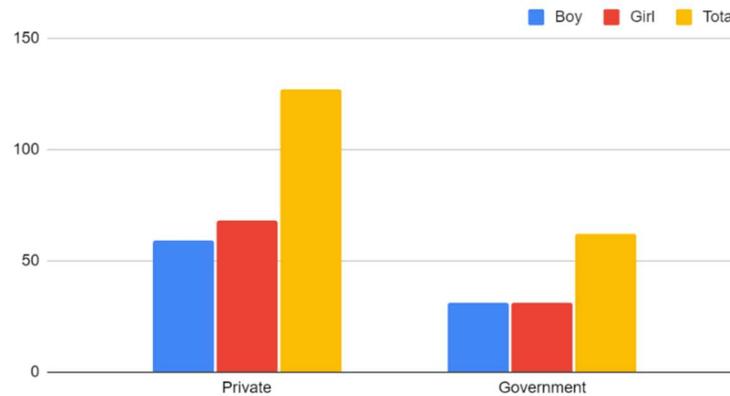


Figure 18: Number recognition (1-9) by 4th Grade Students

Figure 5 reveals that 62 fourth-graders from all government schools were able to pass the first level, while only two students could not recognise more than five numbers from 1 to 9. The same was true for private schools, where 127 students passed the first level and 2 failed out of a total of 129 students. The majority of students in government and private schools are able to recognise numbers and have level 1 skills.

4th Grade Level - 2

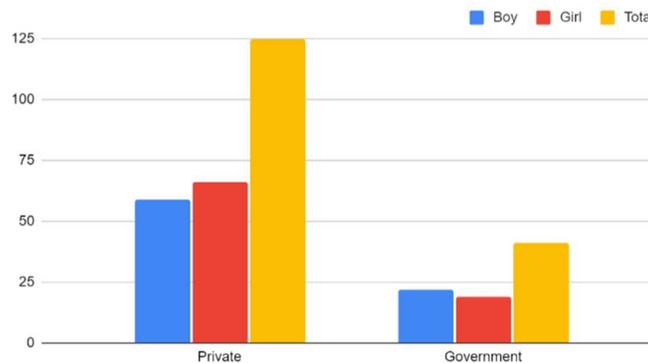


Figure 19: Number Recognition (11-99) by 4th Grade Students

Fourth graders were then required to recognise numbers (11-99). To pass the second level, students were given 10 numbers and required to recognise at least five of them. In Figure 6, we can see that a total of 41 students across all government schools were able to pass level 2, while 125 students across all private schools passed level 2. There is a decline in the number of students attending government schools. Since there is minimal to no change in the level of private school students, we can conclude that private school students were superior to those in public schools.



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4th Grade Level - 3

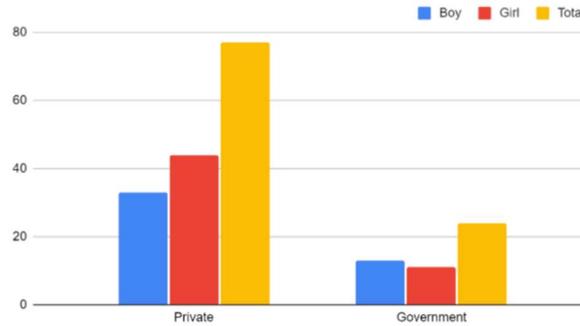


Figure 20: Subtractions by 4th Grade students

In Figure 7, we can see that 77 students out of 129 in private schools were able to solve subtraction problems, while only 24 students in government schools were able to pass the third level.

4th Grade Level - 4

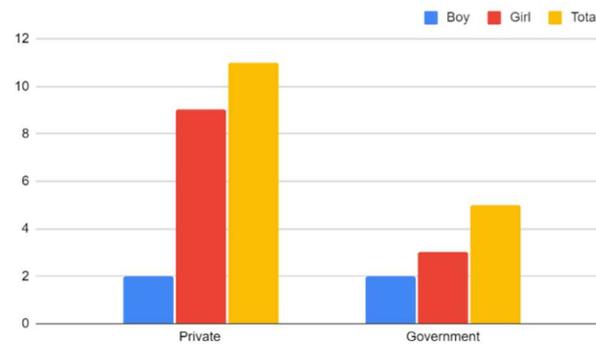


Figure 21: Division by 4th Grade Students

Only 11 students across all private schools were able to solve division problems correctly and pass the level 4 skill test, as shown in Figure 8. Only five students (2 boys and 3 girls) were able to solve the problems and pass the fourth level in government schools. This suggests that private school students are superior to those attending public schools.

5th Grade Level - 1

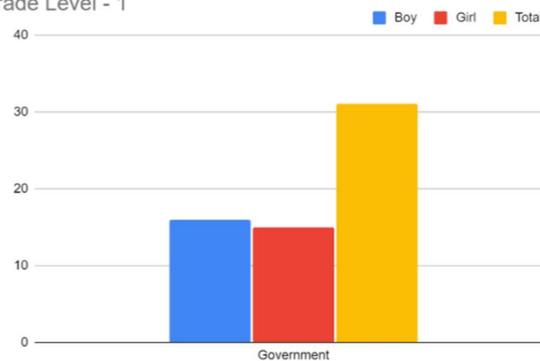


Figure 22: Number Recognition (1-9) by 5th Grade Students

All 31 fifth-grade students were able to recognise the numbers 1-9 and pass the first level, as depicted in figure 9.



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5th Grade Level - 2

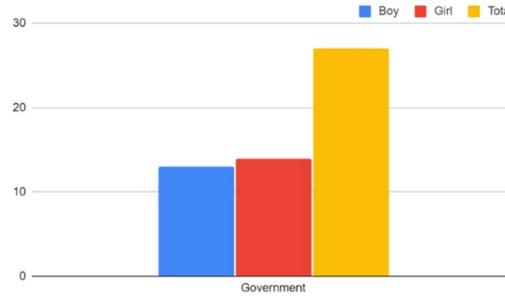


Figure 23: Number recognition 11-99 by 5th Grade Students

For the second level, the 5th grade students were asked to recognise numbers from 11-99. From the total number of students 4 students could not recognize 5 or more numbers and were unable to clear the level 2. Out of 31 students, 27 could pass the second level.

5th Grade Level - 3

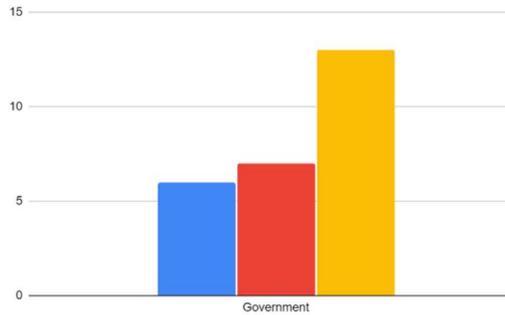


Figure 24: Subtraction by 5th Grade Students

In figure 11, we can see that the number of students who passed the level is lower than in previous levels. Only 13 students were able to solve subtraction problems and pass the third level of the survey, down from 31 students who could previously do so.

5th Grade Level - 4

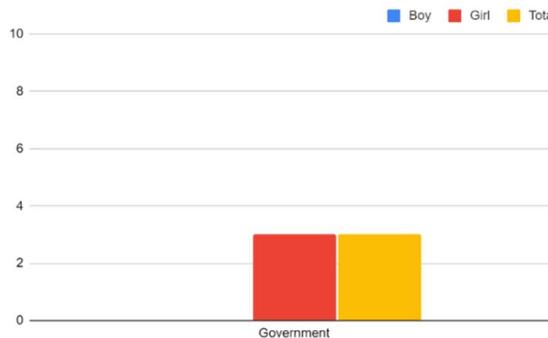


Figure 25: Division by 5th Grade Students

This graph shows that none of the boys and only three of the girls out of 31 students in the government could solve the division problems. The school could pass the fourth grade.



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## FINDINGS and OUTCOMES

### Reading skills

Almost all third-, fourth-, and fifth-grade students in both public and private schools could answer level one is letter identification. The next level is word identification, at which only a handful of students were unable to succeed. Level 3 paragraph reading was accomplished by approximately 48.93% of government school students and 61.875% of private school students. The students were required to read the story fluently and were evaluated on their comprehension. Only about 29% of students in public schools were able to read and comprehend the story. Almost 41.25 percent of private school students were able to read and understand the story.

During individual reading tests, we noticed that the students had memorised the spellings instead of understanding and assimilating them. They'd read the first 2 to 3 letters and say a non-text word. Most students could read basic words (he, she, his, her, was, had, it, they, etc.) but not complex words like cloudy, rainy, lived, liked, fox, etc. Teachers and students must collaborate to improve students' comprehension of difficult words like "cloudy," "rainy," "lived," "liked," "fox," etc. This can be achieved with significant efforts from both the teachers and students. In an everyday context, students may be made to learn a new word every day with "Word of the Day," and a student may be asked to formulate a sentence where the teacher could tell a story surrounding the said word.

### Mathematical Skills

The above respondents can judge math skills. All 3rd, 4th, and 5th graders in public and private schools passed Level 1 of this math test (1-9). We can assume that private and public schools are equal in Level one. Most students answered Level 2. 19.85% of government school students failed Level 2: Number Recognition (10-99). The difference between public and private schools is huge. 78.53% of government school students and 97.55% of private school students passed Level 2. Subtraction is Math Level 3. Many students from both school sectors fell short. Government school students achieved this level in 42.5%. Comparatively, private school students did better, with 58.75% scoring well at this level. Third, fourth, and fifth graders should have learned subtraction and borrowing, but from our survey, they couldn't do it and many struggled to understand. Division is the last test level. 7.81% of public-school students passed, while 9.35% of private school students got at least one correct. Private school students are better than government school students, but both have poor performance.

We noticed that many students were only comfortable with simple subtraction and needed help with borrowing. It shows that their Math and Arithmetic skills are insignificant and must be improved. Both teachers and students must work hard. Helping students who are falling behind and making math more manageable and fun would strengthen their math skills.

### Reasons for the inefficiency of teachers in a government school

1. The ASER 2011 study found that the children who were present in schools more often did better than those who were not. It also includes the fact of how much interest the student has in attending school. However, with a poor standard of teaching, particular interests cannot be high. As Dreze and Sen Quote, "quality of teaching in Indian schools seems to be exceptionally low over a wide range of institutions." This clearly has an impact on the learning of the students. The reading abilities and the ability to do simple mathematics of Indian students have been falling over the years. The ASER centre brought this on. There is lack of systematic approach to assessing children's learning in classrooms and most textbooks provide only a broad overview of how students need to interact with textual material to be successful. (BIG GOVERNMENT).
2. As tests make it more important to pass exams than to learn skills and concepts, students are focusing more on memorization than actual learning. Vocational training is not considered essential. Conceptual understanding is not prioritized since testing does not focus on it. (What the Economy Needs Now).
3. Although the general educational system consistently produces individuals who go on to achieve worldwide brilliance in their profession, there are still significant inequities. However, it also generates the greatest proportion of primary school graduates who are not adequately literate and numerate at even a second or third-grade level. (What the Economy Needs Now).
4. One important factor is that the curriculum and texts were still the same as they were when a significantly lower percentage of pupils were enrolled in the educational system. Children who fall behind in the curriculum frequently learn next to nothing while attending school since the system places so much emphasis on "passing" tests that are tied to the syllabus. This is due to the fact that enhancing learning at levels below the present grade level is not rewarded for instructors, parents, or students. Students who fall behind early are left behind forever since it won't help them pass the grade level because it won't help them pass the grade level tests. (What the Economy Needs Now).



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5. The quality of education in India is low, students who completed primary education are neither literate nor numerate. (What the Economy Needs Now).
6. An education system defined by rote memorization to pass tests rather than fundamental and conceptual learning that can be applied and employed in real settings has resulted from an excessive concentration on exams and grades. (What the Economy Needs Now).
7. This is also partially a result of point [1], as the only practical course of action for students who fall behind is to prepare for examinations in the hopes of passing them by having questions they could encounter in the exams memorised. (What the Economy Needs Now).
8. 8. The World Absenteeism Survey, sponsored by the World Bank and six nations, was conducted in 2002 and 2003. Bangladesh, Ecuador, India, Indonesia, Peru, and Uganda are the six nations. The countries with the most teachers absent were Uganda and India. In India, instructors are frequently observed chatting with co-workers or drinking tea while they are on the job and meant to be teaching. More than 50% of the teachers in government schools are not there in class on time. (Poor Economics).
9. Lack of infrastructure: According to a 2010 study, about 95.2% of schools are not yet compliant with the whole set of RTE infrastructure indicators. They lack access to potable water and working toilets, and there are no separate facilities for girls. Multiple boards contribute to the lack of curricular standardisation throughout India, making it difficult to maintain quality standards.
10. Lack of funds: Funding insufficiency is the primary obstacle to education progress. The expenditure on education in Five Year Plans has decreased. Most educational institutions lack infrastructure, science equipment, libraries, etc. due to low funding. Because of this, intended outcomes cannot be attained.
11. Numerous elementary schools are taught by a single teacher, and many schools lack instructors. Consequently, the high incidence of attrition is grounds for worry.

### How can we get rid of rote learning?

Rote learning isn't necessary if the basic ideas can be illustrated or expressed graphically. Mathematical formulas can be taught with their derivations and creators' stories, political science and history dates can be displayed as timelines, and 3D graphics can be used to highlight geographic elements. We can avoid rote-learning by presenting scientific experiments as movies or documentaries.

Most Indian graduates are rote learners from elementary school through college, so eliminating it won't be easy. It's old. They can't meet modern organisations' cognitive needs. The Economist says less than 25% of Indian engineering graduates are employable. Mettle found that fewer than 5% of engineers have the analytical skills needed for software engineering in start-ups.

Our teaching teaches students to memorise and regurgitate textbook material for exams. Most Indian classrooms use "telling," a one-way transmission of information. It's also the norm for most adult-child interactions. Adults continue to instruct children. Children learn without interpreting, analysing, or evaluating. It hinders learning and comprehension.

Our curriculum emphasises memorising textbook terms, formulas, and data. 14% of Indian primary school classrooms use instructional resources other than the textbook, according to NCERT research. Children quickly associate the textbook symbol "1/4" with fractions. But when they see 1/4 of a real-world object, they struggle.

- The National Curriculum Framework of India (NCF) published in 2005 made it clear that teachers should switch from teacher-centred instructional strategies to student-centred learning that engaged kids in "active engagement through inquiry, exploration, questioning, debates, application, and reflection, leading to theory building and the creation of new ideas." The study placed a lot of emphasis on encouraging peer interactions to advance learning.
- The dominating teaching tactic is still lecturing, coupled with the chalk-and-talk method, and teachers spend a lot of time in the classroom using rote teaching and learning techniques like writing information from textbooks onto the chalkboard and instructing students to do the same in their notebooks.
- For learners of the same age at primary level, an uniform curriculum is essential, but there isn't one because there are many regulating bodies. ICSE follows a distinct, non-standardized syllabus in order to get the precise grade necessary to pass the exam compared to State and CBSE board.
- Students cannot perform basic math and easy English reading. A test was administered by the Annual State of Education Report (ASER) in one randomly selected village of 600 districts. In total, 7 lakh kids were tested. When evaluated, 35% of



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those between the ages of 7 and 14 were unable to read elementary-level paragraphs, while over 60% of kids were unable to read straightforward stories. Only 30% of students could do "basic division" in second-grade math (Poor Economics).

### Limitations

- As our topic is related to Quality of Education, every year the process should be repeated to know the improvement in the Education.
- We conducted survey in limited schools.
- Quality of Education is a very broad and subjective topic, it was difficult for us to cover all the aspects and factors affecting it.
- Many research articles focused on the enrolment and education but very few research papers spoke about the quality of education and how it could be improved.
- Our respondents and the survey happened only in 2 Cities, Bangalore and Chittoor, as we had limited ways to reach the other parts of India.

### Suggestions for Improvement

1. Every potential teacher who is doing their training for becoming an educator has to work in a government school, teaching the students as part of their training program. They will learn how to educate and experience it first-hand in this way. Since there aren't many instructors at the government school, this will result in a large influx of teachers, which will be advantageous to government, teachers and the kids. The teachers should be aware of the input the pupils provide on them. This is something that any primary schools/educational institutions can do by keeping the students anonymous.
2. Conduct test like ASER, PISA, LEEP Etc. can determine how well students comprehended the concept of their syllabus. Annually choose students to represent other schools without informing the schools beforehand. Teachers will then instruct the kids correctly as a result. Teachers and the government will react positively if we recommend that randomly selected students be submitted to the test as they would not want to generate a national notoriety.
3. It should be mandated that teachers receive additional coaching for their professional development if the students are not performing well.
4. Rote education damages a child's capacity for original thought. Since students must adapt to and overcome circumstances in the real world, creative thinking is crucial. Conceptual learning should take precedence over rote learning, which should not be used as a teaching method. Schools should offer incentives to instructors and students to engage in conceptual learning. Teachers must be given rewards for their learners' conceptual knowledge.
5. If the government levies a fee, then the parents will be made responsible and take their children to school on time, without many absences. In many cases the students do not attend school or study because their parents are negligent of their kid's learning. Because we don't appreciate what we receive for free, charging parents a tiny cost will encourage responsibility.

### CONCLUSION

We conducted this study to analyse and understand the quality of primary education in India, as primary education plays an essential role in one's child's life. Edelgard Bulmahn says, "One thing is clear: the foundations for successful learning are laid early in life. We must concentrate our efforts on early childhood education". Quality of education can be improved at any point in time, and an example is Germany in the year 2000 when it participated in the PISA test. It found out that its education system and quality of education were below the average OECD Average. Later, Germany was prompted to take corrective measures by implementing and changing its policies, like designing assessments to measure pupils' progress regarding those legally mandated educational standards criteria. Effectively, Germany's education system has improved. Other exemplary countries like Finland, China, Brazil, and Russia have drastically improved the quality of their education due to effective policies and legislation. In India, the reputation of most government schools is inferior compared to private schools due to their learning environment and ambiance. This is why many parents enrol their children in private schools, even if that might put them in a tight financial situation. From our research, we found out that the quality of a private school's education is not necessarily better to a great extent than a government school's, but it is still more effective. One factor might be that a private school's student-teacher ratio is more substantial. Still, ignorant of the former fact, families of middle-income groups choose private schools over public ones. Government schools can employ new constructive measures to upgrade the educational quality they provide to future generations. India improving the quality of its education will not only benefit its younger generations but also provide a fruitful return on educational investment.



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