Research Article

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A Comparative Study Of Learning Gaps In The Cognitive Development Of Learners At The Primary Level Based On NAS 2017 And 2021 In Chhattisgarh

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ARTICLE INFO	ABSTRACT
	This research paper presents a comparative analysis of learning gaps in the cognitive development of primary-level students in Chhattisgarh, using data from the National Achievement Survey (NAS) conducted in 2017 and 2021. The study focuses on key learning outcomes in Environmental Studies (EVS), Language, and Mathematics at the Grade III and Grade V level. The findings indicate a noticeable decline in student performance across several cognitive domains, suggesting widening learning gaps over the four-year period. A critical factor contributing to this decline is the COVID-19 pandemic, which significantly disrupted regular schooling, reduced instructional time, and widened existing educational inequities. The analysis reveals that Chhattisgarh's average performance not only declined between the two survey years but also remained below the national average in multiple learning indicators. This study underscores the urgent need for targeted remedial strategies, inclusive digital infrastructure, and policy interventions to bridge the learning gaps and strengthen foundational literacy and numeracy among early-grade learners. **Key words:** Cognitive Development, Learning Gaps, Primary Education, NAS, EVS, Language Learning, Mathematics, Learning Outcomes

1.0 Introduction

Primary education forms the cornerstone of a child's academic journey, laying the foundation for cognitive, social, and emotional development. The early years, particularly at the primary level, are crucial for acquiring essential skills in literacy, numeracy, and environmental awareness, which are vital for higher-order thinking and lifelong learning. Cognitive development at this stage not only influences academic achievement but also shapes a child's ability to interact meaningfully with their surroundings.

In India, the National Achievement Survey (NAS) serves as a comprehensive tool to assess learning outcomes across key subjects at various grade levels. Conducted periodically by the Ministry of Education, NAS evaluates students' competencies in core subjects and provides insights into the effectiveness of classroom instruction, curriculum implementation, and educational equity. By comparing performance across different years, the survey helps in identifying trends, strengths, and gaps in student learning.

This research focuses on Grade III and Grade V students in Chhattisgarh, with an emphasis on identifying and analyzing learning gaps in cognitive development in the subjects of Environmental Studies (EVS), Language, and Mathematics. The study draws on comparative data from NAS 2017 and NAS 2021, offering a temporal perspective on learning progress or decline.

A significant contextual factor influencing the outcomes between these two survey periods is the COVID-19 pandemic. The unprecedented school closures, limited access to digital learning resources, and reduced instructional engagement during the pandemic have disrupted traditional learning processes, particularly affecting young learners in socio-economically disadvantaged regions like Chhattisgarh.

This study aims to address this gap by providing a detailed comparative analysis of learning outcomes in Environmental Studies (EVS), Mathematics, and Language for Grade III and Grade V students in Chhattisgarh before and after the pandemic, based on the NAS data from 2017 and 2021. It will explore the extent of learning gaps during the pandemic and offer insights into how these can be bridged through targeted interventions. This study, therefore, also seeks to explore the impact of these disruptions on foundational learning outcomes, with the goal of informing future educational policy and intervention strategies.

2.0 Objectives of the Study

The objectives of this study are:

1. To analyze the learning outcomes of primary-level students in Chhattisgarh in Environmental Studies (EVS), Language, and Mathematics, using data from the National Achievement Survey (NAS) of 2017 and 2021.
2. To compare the performance of Grade III and Grade V students in Chhattisgarh across the years 2017 and 2021, identifying significant changes or trends in cognitive development and subject-specific skills.
3. To examine the learning gaps in key cognitive domains such as identifying relationships, solving mathematical problems, and understanding language and environmental concepts, as reflected in the NAS data.
4. To assess the impact of the COVID-19 pandemic on student learning outcomes, particularly focusing on disruptions in education, changes in access to learning resources, and the shift to remote or hybrid learning models.
5. To provide recommendations for targeted interventions and policy changes to address the identified learning gaps and improve educational outcomes in the state of Chhattisgarh.

3.0 Review of Related Literature

The issue of learning gaps in primary education has been a significant area of research, particularly in developing countries where access to quality education is often inequitable. These gaps are particularly pronounced in foundational subjects such as literacy, numeracy, and environmental awareness. Several studies have highlighted how socio-economic disparities, access to resources, and the quality of instruction contribute to learning inequalities, especially in rural and underprivileged areas. In India, learning gaps in early education have been persistent, with students from socio-economically disadvantaged backgrounds often lagging behind their urban peers in achieving basic literacy and numeracy skills. This disparity is exacerbated by factors such as inadequate school infrastructure, limited access to quality learning materials, and a shortage of trained teachers. In states like Chhattisgarh, rural students face significant challenges in mastering core subjects like Mathematics and Language, which are foundational for further academic success. Studies have shown a marked difference in learning outcomes between urban and rural students, with rural students consistently performing below the national average in subjects such as Environmental Studies (EVS), Mathematics, and Language. The National Achievement Survey (NAS) data from 2017 revealed that Chhattisgarh performed below the national average in these subjects, highlighting the existence of significant regional and socio-economic disparities in educational attainment.

The National Achievement Survey (NAS) has become an important tool in assessing the learning outcomes of students across India. NAS data consistently reveals that rural students, particularly those in underdeveloped states like Chhattisgarh, underperform in key subjects such as Mathematics, Language, and Environmental Studies. The NAS 2021 data showed a significant decline in student performance across all key subjects, suggesting that the COVID-19 pandemic had a lasting negative impact on students' cognitive development. The pandemic disrupted educational systems worldwide, with more than 1.6 billion students affected by school closures, as reported by UNICEF (2021). In India, access to online education became a major challenge for many students, particularly in rural areas, where infrastructure and socio-economic barriers limited access to digital learning platforms, adequate devices, and internet connectivity.

During the COVID-19 period, students in Chhattisgarh, like many other regions, experienced significant disruptions in their education. School closures led to a loss of regular instructional time, affecting not only academic progress but also students' social and emotional development. The lack of face-to-face learning, compounded by limited access to technology, further widened the gap between students from urban and rural areas. In rural areas, where home learning environments were not conducive to remote education, the reliance on radio or television-based lessons had minimal impact on addressing learning deficits. Studies by Pandey and Sinha (2021), as well as Bhatnagar (2022), noted that these factors exacerbated the educational challenges for rural students, making it even harder for them to catch up with the curriculum.

Several studies have focused on the learning losses caused by the pandemic, with Panda et al. (2020) noting that children who were already lagging behind prior to the pandemic faced greater academic challenges during the lockdowns. The transition to remote learning further exacerbated these learning gaps, as students in rural regions were often unable to access the necessary technology or internet connectivity. Mehta et al. (2021) confirmed that foundational literacy and numeracy were among the hardest-hit areas during the pandemic, with students falling behind in critical subjects such as Language, Mathematics, and Environmental Studies (EVS). In Chhattisgarh, the Ministry of Education (2021) reported that students' learning outcomes in NAS 2021 were significantly lower compared to previous years, reflecting the educational setbacks caused by the pandemic. A survey by the Azim Premji Foundation (2021) found that students in rural Chhattisgarh were particularly vulnerable to learning losses, with many failing to keep up with the curriculum due to limited access to digital resources and the absence of regular school instruction.

As the educational system moves into the post-pandemic phase, there has been a renewed focus on bridging these learning gaps. Kumar and Gupta (2021) suggested that catch-up education programs, alongside targeted interventions for foundational literacy and numeracy, are essential to help students recover from the academic losses incurred during the pandemic. These recovery programs include remedial education, increased teacher

training, and the use of digital tools to support learning. Sundar et al. (2022) argued that it is essential to implement localized, context-sensitive strategies to address the unique needs of students in states like Chhattisgarh, where digital divide issues are more pronounced. These strategies include community-based learning initiatives, radio/television-based educational programs, and mobile-learning solutions that could help bridge the gap for students who were left behind during the pandemic.

In light of the reviewed literature, it is evident that educational setbacks have been consistently influenced by socio-economic factors and, more recently, by the COVID-19 pandemic. While significant efforts are underway to address these issues, the learning gaps experienced by students, particularly in rural areas like Chhattisgarh, require a concerted effort from policymakers, educators, and communities to ensure that all students have access to quality education and opportunities to succeed.

4.0 Methodology

The present study focuses on exploring the learning gaps in primary education in Chhattisgarh during the COVID-19 pandemic. The primary objective is to assess the extent of learning gaps in cognitive areas, particularly in subjects such as Environmental Studies (EVS), Language, and Mathematics. These learning gaps are analyzed using the National Achievement Survey (NAS) results from 2021, which provide insight into students' performance across these subjects. Survey was conducted on students and stakeholders about the learning gaps during Covid. The study yields both quantitative and qualitative data for which mixed method design was used for data analysis.

4.1 Sample
The sample for the present study consists of two districts of Chhattisgarh; Durg and Mahasamund, four blocks from these two districts, 21 primary schools from these blocks, and 976 Students from these schools of Grade III and Grade V. Sample for this study has been selected by using a multi-stage sampling method.

4.2 Tool
The learning gaps in cognitive areas such as EVS, language and mathematics are studied as per the NAS result 2021 and 2017. The NAS was conducted by the NCERT in the year 2017 and in 2021 across the country. The items of the test are based on competencies and learning outcomes. The test items were developed by the subject experts drawn from the different parts of the country, reviewed and finalized in a confidential manner. Hence, the test has high validity. The result was published in terms of the attainment of learning outcomes at district, state and National level. For this study, the NAS results of class-3 and class-5 of two districts namely Durg and Mahasamund of Chhattisgarh and at the national level were taken and analyzed in terms of the learning outcomes to find out the gaps in learning.

5.0 Data Analysis and Interpretation

Understanding the progress and challenges in foundational learning is essential for strengthening educational outcomes at the primary level. A detailed analysis of learning gaps in the cognitive development of students, as identified through the National Achievement Survey (NAS) data from the years 2017 and 2021. The analysis covers student performance across key learning areas—Environmental Studies (EVS), Language, and Mathematics—for Classes 3 and 5, with a specific focus on the state of Chhattisgarh. The comparison of state-level NAS data over the two survey cycles offers crucial insights into the decline or improvement in students' attainment of prescribed learning outcomes. The interpretation also attempts to contextualize the findings within the broader socio-educational disruptions, particularly the impact of the COVID-19 pandemic, which significantly affected school functioning and students' access to continuous learning.

5.1 Learning Gaps in the Cognitive Development of Learners of Grade III

An in-depth analysis of NAS 2017 and 2021 data for Grade III reveals critical learning gaps across key subject areas, highlighting the foundational challenges that young learners in Chhattisgarh are facing. The National Achievement Survey (NAS) results of 2017 and 2021 at the national and state levels were used to identify learning gaps in terms of learning outcomes in Environmental Studies (EVS), Language, and Mathematics presented in subsequent tables and figures.

Table-1: Gaps in the performance of class-3 students in different learning outcomes of EVS

Learning Outcomes	State Average performance in 2017	State Average performance in 2021	Difference in the state average performance	National average 2021
Identifies simple features (e.g. movement, at places found/ kept, eating habits, sounds) of animals and birds in the immediate surroundings	50	53	+3	62
Identifies relationships with and among family members	53	42	-11	51
Identifies objects, signs (vessels, stoves, transport, means of communication, transport, signboards etc.), places (types of houses/shelters, bus stand, petrol pump etc.) activities (work people do, cooking processes, etc.) at home/school/ neighborhood	60	55	-5	65
Describes need of food for people of different age groups, animals/birds, availability of food and water and use of water at home and surroundings	62	45	-17	52
Groups objects, birds, animals, features, activities according to differences/similarities using different senses. (e.g. appearance/place of living/ food/ movement/likes-dislikes/ any other features)	63	55	-8	63
Identifies directions, location of objects/places in simple maps using signs/symbols/verbally	55	56	+1	66
Guesses properties, estimates quantities of materials/activities in daily life and verifies using symbols/non-standard units	66	56	-10	67
Records observations, experiences, information on objects/activities/places visited in different ways and predicts patterns etc	51	46	-5	54
Observes rules in games (local, indoor, outdoor)	32	35	+3	43
Voice's opinion on good/bad touch, stereotypes for tasks/play/food in family w.r.t gender, misuse/wastage of food and water in family and school	74	51	-23	63

The table-1 indicated difference between state average performance in 2017 state NAS and 2021 state NAS is 11 in attaining learning outcomes related to identifying relationships with and among family members. Similarly, there is 17 and 8 differences in average performance of 2017 state NAS and 2021 NAS learning outcomes in describes need of food for people of different age groups, animals/birds, availability of food and water and use of water at home and surroundings and groups objects, birds, animals, features, activities according to differences/similarities using different senses (e.g. appearance/place of living/ food/ movement/ likes-dislikes/ any other features). The table also revealed the difference of 23 in learning outcome of average performance of 2017 state NAS and 2021 state NAS on voices opinion on good/bad touch, stereotypes for tasks/play/food in family w.r.t gender, misuse/wastage of food and water in family and school.

It can be concluded that there is a gaps in attaining learning outcomes by students in EVS at class- 3 between 2017 and 2021 NAS. Further the learning gaps are negative in majority of learning outcomes when compared with National average performance of students with state of Chhattisgarh. It can also be said that the range of average performance as per the NAS 2021 in the different learning outcomes in EVS ranges from 35 to 56. That means gaps in attaining learning outcomes is vary from average at state level as per the NAS 2021. The gaps in learning EVS are graphically presented in the figure 1.
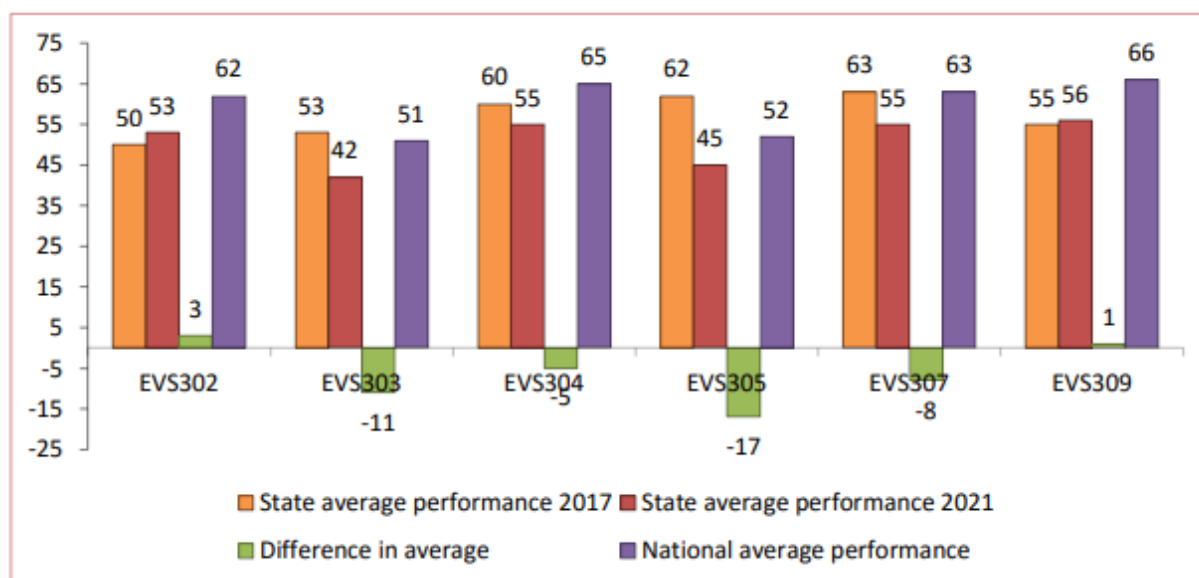
Fig 1: Average performance of students in EVS in NAS 2017 and 2021

Table-2: Gaps in performance of class-3 students in different learning outcomes of languages

Learning Outcomes	State Average performance in 2017	State Average performance in 2021	Difference in the state average performance	National average 2021
Reads small texts with comprehension i.e., identifies main ideas, details, sequence and draws conclusions	64	53	-11	64
Reads printed scripts on the classroom walls: poems, posters, charts etc	61	49	-12	58

The table-2 indicates negative difference of 11 and 12 between learning outcome of reading small tests and printed scripts on the classroom walls: poems, posters, charts etc. in the state average performance in state 2017 NAS and 2021 NAS. The language performance of class-3 students of Chhattisgarh is not that much significant when compared with national average performance 2021 presented in fig-2.
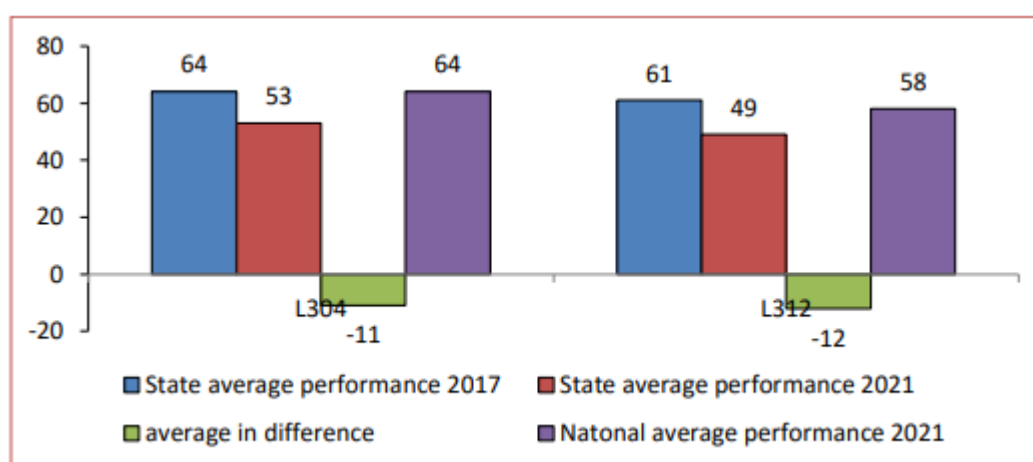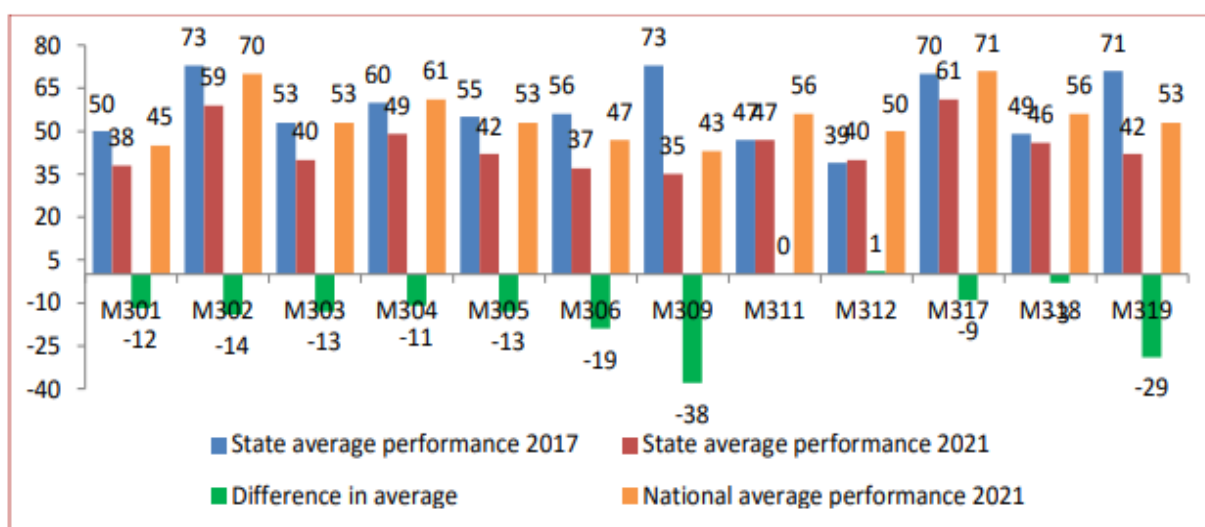

Fig 2: Average performance of students in Language in NAS 2017 and 2021

Table-3: Gaps in performance of class-3 students in different learning outcomes of Mathematics

Learning Outcomes	State Average performance in 2017	State Average performance in 2021	Difference in the state average performance	National average 2021
Reads and writes numbers up-to 999 using place value	50	38	-12	45
Compares numbers up to 999 based on their place values	73	59	-14	70
Solves simple daily life problems using addition and subtraction of three digit numbers with and without regrouping	53	40	-13	53
Constructs and uses the multiplication facts (up till 10) in daily life situations	60	49	-11	61
Analyses and applies an appropriate number of operations in the situation/ context	55	42	-13	53
Explains the meaning of division facts by equal grouping/sharing and finds it by repeated subtraction	56	37	-19	47
Identifies and makes 2D-shapes by paper folding, paper cutting on the dot grid, using straight lines etc.	73	35	-38	43
Fills a given region leaving no gaps using a tile of a given shape	47	47	0	56
Estimates and measures length and distance using standard units like centimeters or meters & identifies relationships	39	40	+1	50
Reads the time correctly to the hour using a clock/watch	70	61	-9	71
Extends patterns in simple shapes and numbers	49	46	-3	56
Records data using tally marks, represents pictorially and draws conclusions	71	42	-29	53

The table-3 signifies the difference of 12 between the state NAS 2017 and NAS 2021 on the learning outcome of Reading and writing numbers up-to 999 using place value in mathematics of class III. The table revealed that, the difference between state NAS 2017 and NAS 2021 on the learning outcomes of solving simple daily life problems using addition and subtraction of three digit numbers with and without regrouping is 13 learning outcomes such as analyses and applies an appropriate number of operations in the situation/ context, explains the meaning of division facts by equal grouping/sharing and finds it by repeated subtraction and identifies and makes 2D-shapes by paper folding, paper cutting on the dot grid, using straight lines etc is 13, 19,and 38 respectively. It also represents in the table that, learning outcome of state NAS 2017 and NAS 2021 is significantly difference by 29 on records data using tally marks, represents pictorially and draws conclusions. The average performance of students in NAS 2017 and 2021 is graphically presented in the figure 3.

Fig 3: Average performance of students in Mathematics in NAS 2017 and 2021

5.2 Learning Gaps in the Cognitive Development of Learners of Grade V
The performance of Grade V students reflects significant setbacks in their academic progress, with marked declines across most learning outcomes, signaling deeper issues in upper primary education during the pandemic period shown in subsequent tables.

Table-4: Gaps in performance of class-5 students in different learning outcomes of EVS

Learning Outcomes	State Average performance in 2017	State Average performance in 2021	Difference in the state average performance	National average 2021
Identifies relationships with and among family members in extended family	56	41	-15	50
Records observations/ experiences/information for objects, activities, phenomena, places visited in different ways and predicts patterns and activities/ phenomena	53	44	-9	50
Explains the super senses and unusual features (sight, smell, hear, sleep, sound, etc.) of animals and their responses to light, sound, food etc	46	38	-8	45
Describes the interdependence among animals, plants and humans	58	32	-26	50
Explains the role and functions of different institutions in daily life (Bank, Panchayat, Cooperatives, Police station, etc.)	65	39	-26	48
Establishes linkages among terrain, climate, resources (food, water, shelter, livelihood) and cultural life. (e.g. life in distant/difficult areas like hot/cold deserts)	27	40	+13	48
Group objects, materials, activities for features/properties such as shape, taste, color, texture, sound, traits etc	34	45	+11	48
Traces the changes in practices, customs, techniques of past and present through coins, paintings, monuments, museums etc. and interacting with elders	51	42	-9	47
Guesses (properties, conditions of phenomena), estimates spatial quantities (distance, area, volume, weight etc.) and time in simple standard units and verifies using simple tools/set ups	48	44	-4	48
Records observations/experiences/information in an organized manner (e.g. in tables/ sketches/ bar graphs/ pie charts) and predicts patterns in activities/ phenomena to establish relation between cause and effect	48	47	-1	55
Identifies signs, directions, location of different objects/landmarks of a locality /place visited in maps and predicts directions w.r.t. positions at different places for a location	57	36	-21	45
Voice opinions on issues observed/experienced and relates practices /happenings to larger issues of society	48	45	-3	54
Suggests ways for hygiene, health, managing waste, disaster/emergency situations and protecting/saving resources	65	30	-35	35

The table-4 related to learning outcomes of class 5 EVS revealed that difference between average performance of state NAS 2017 and NAS 2021 on learning outcomes of identifies relationships with and among family members in extended family and records observations/ experiences/information for objects, activities, phenomena, places visited in different ways and predicts patterns and activities/ phenomena is 15 and 9 respectively. Similarly difference of 8, 26 and 26 in learning outcomes of NAS average performance 2017 and 2021 found for the explains the super senses and unusual features (sight, smell, hear, sleep, sound, etc.) of animals and their responses to light, sound, food etc, describes the interdependence among animals, plants and humans and explains the role and functions of different institutions in daily life (Bank, Panchayat, Cooperatives, Police station, etc.) learning outcomes respectively. The table also indicates difference of 9 and 4 between the state NAS average performance of 2017 and 2021 in traces the changes in practices, customs, techniques of past and present through coins, paintings, monuments, museums etc. and interacting with elders

and guesses (properties, conditions of phenomena), estimates spatial quantities (distance, area, volume, weight etc.) and time in simple standard units and verifies using simple tools/set ups learning objectives. The learning outcome of identifies signs, directions, location of different objects/landmarks of a locality /place visited in maps and predicts directions w.r.t. positions at different places for a location has also a difference of 21 between the state average performance of NAS in 2017 and 2021. A huge gap of 35 between the state average of NAS 2017 and 2021 also revealed in the table with the learning outcome of suggests ways for hygiene, health, managing waste, disaster/emergency situations and protecting/saving resources. The learning gaps in class-5 EVS is graphically presented in the figure 4.
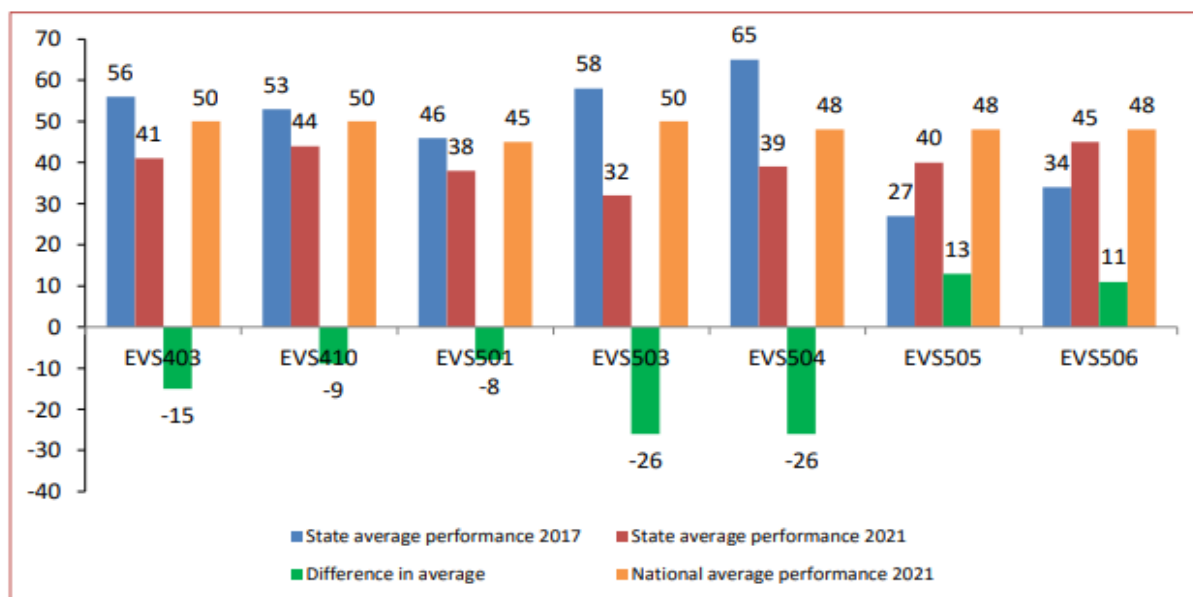

Fig 4: Average performance of students in EVS in NAS 2017 and 2021

Table-5: Gaps in performance of class-5 students in different learning outcomes of languages

Learning Outcomes	State Average performance in 2017	State Average performance in 2021	Difference in the state average performance	National average 2021
Reads text with comprehension, locates details and sequence of events	55	48	-7	55

The table-5 indicates a difference of 7 between the state average of NAS in 2017 and 2021 in reads text with comprehension, locates details and sequence of events learning outcome. It can be conclude from the data that the language base performance of class 5 students had of inferior quality to some extent. The learning gaps in class-5 EVS is graphically presented in the figure 5.
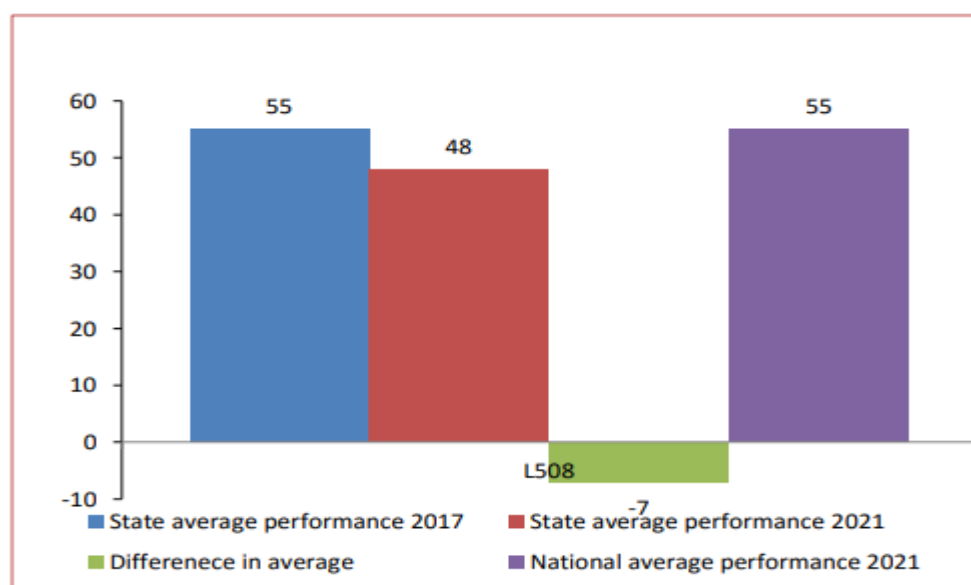
Fig 5: Average performance of students in Language in NAS 2017 and 2021

Table-6: Gaps in performance of class-5 students in different learning outcomes of mathematics

Learning Outcomes	State Average performance in 2017	State Average performance in 2021	Difference in the state average performance	National average 2021
Applies operations of numbers in daily life situations	31	37	+6	45
Explores the area and perimeter of simple geometrical shapes (triangle, rectangle, square) in terms of given shape as a unit	49	27	-22	36
Calculates time intervals/duration of familiar daily life events by using forward or backward counting/addition and subtraction	60	37	-23	47
Represent the collected information in tables and bar graphs and draws inferences from these	51	33	-18	42
Reads and writes numbers bigger than 1000 being used in her/his surroundings	58	47	-11	55
Estimates sum, difference, product and quotient of numbers and verifies the same using different strategies like using standard algorithms or breaking a number and then using operation	50	36	-14	46
Finds the number corresponding to part of a collection	54	48	-6	55
Identifies and forms equivalent fractions of a given fraction	37	31	-6	38
Converts fractions into decimals and vice versa	52	33	-19	43
Classifies angles into right angle, acute angle, obtuse angle and represents the same by drawing and tracing	51	38	-13	48
Relates different commonly used larger and smaller units of length, weight and volume and converts larger units to smaller units and vice versa	47	31	-16	38
Estimates the volume of a solid body in known units	32	32	0	41
Applies the four fundamental arithmetic operations in solving problems involving money, length, mass, capacity and time intervals	41	34	-7	43

| Identifies the pattern in triangular number and square number | 41 | 39 | -2 | 46 |
| Collects data related to various daily life situations, represents it in a tabular form and as bar graphs and interprets it | 61 | 37 | -24 | 46 |

The table-6 presents large number of differences between the state average performance of NAS 2017 and NAS 2021 in the learning outcomes of mathematics of class 5. Out of 15 learning outcomes, total of 12 learning outcomes has negative difference with the previous NAS reported in 2017 and only 2 learning outcomes indicates positive difference between the state average performance of NAS 2017 and NAS 2021. It can be concluded from these data that, there are some major concerns like effect of Covid-19 pandemic and others related issues, had a significant effect over the learning outcomes of class 5 students in mathematics. The learning gaps in class 5 mathematics is graphically presented in the figure 6.
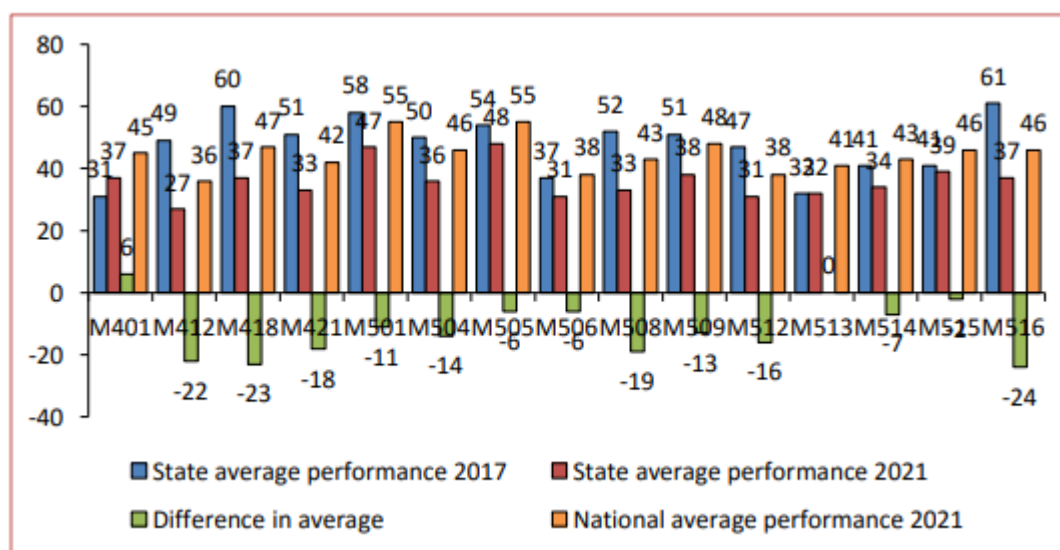

Fig 6: Average performance of students in Mathematics in NAS 2017 and 2021

5.3 Impact of COVID-19 on Learning Outcomes

The period between NAS 2017 and NAS 2021 coincided with the outbreak and widespread effects of the COVID-19 pandemic, which profoundly disrupted the education system across India. One of the most significant consequences was the extended closure of schools, which drastically reduced classroom interaction and necessitated a sudden shift to digital and home-based learning modalities. This transition posed immense challenges in states like Chhattisgarh, where many students, particularly in rural and tribal areas, faced limited or no access to digital devices, reliable internet connectivity, or academic support at home.

The loss of instructional time during lockdowns directly affected students' engagement with foundational concepts, especially in primary grades where consistent guidance and hands-on learning are critical. The digital divide widened the gap between urban and rural learners, making remote education inaccessible for a large portion of the student population. Economic hardships during the pandemic further increased the risk of school dropouts, particularly among students from disadvantaged backgrounds, as families prioritized income generation over education. Moreover, the absence of peer interaction and structured school activities impeded the social aspects of learning, which are crucial for cognitive development in early years.

These challenges are clearly reflected in the NAS 2021 results, which indicate a significant decline in students' cognitive abilities, conceptual understanding, and overall confidence in learning. The pandemic thus not only disrupted the continuity of education but also deepened existing learning inequalities, highlighting the urgent need for targeted interventions and recovery strategies.

5.4 Recommendations

To address the learning gaps identified in the post-COVID context, a comprehensive set of strategies must be implemented. One of the foremost recommendations is the introduction of learning recovery programs that focus on targeted bridge courses and academic interventions in foundational subjects such as Language, Mathematics, and Environmental Studies. These programs should be designed to help primary level students catch up on missed learning and rebuild core competencies.

In addition, adopting blended learning models is essential to ensure continuity of education, especially in areas with limited digital access. Low-tech and no-tech solutions such as printed worksheets, radio broadcasts, and

community-based peer-led learning initiatives can serve as effective alternatives where digital infrastructure is lacking. Capacity building for teachers is another critical area, with a focus on equipping educators with adaptive teaching strategies, digital literacy, and skills to provide socio-emotional support to students recovering from the pandemic's disruptions.

6.0 Conclusion

The findings of this comparative study underscore notable learning gaps in the cognitive development of primary-level students in Chhattisgarh, as evidenced by a decline in performance across core subjects—Environmental Studies, Language, and Mathematics—between the National Achievement Survey (NAS) of 2017 and 2021. These gaps reflect not only long-standing systemic issues but also the severe disruption caused by the COVID-19 pandemic, which led to reduced classroom engagement, limited access to remote learning, and heightened educational inequalities. The study highlights the urgent need for targeted remedial efforts, innovative teaching practices, and stronger school-community partnerships to address these setbacks. Prioritizing foundational learning and ensuring equitable educational opportunities for all learners will be essential in rebuilding students' cognitive skills and restoring confidence in the learning process.

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