LARGE SCALE ASSESSMENT 2024

LSA GRADE 5

PUNJAB EXAMINATION COMMISSION

LARGE-SCALE ASSESSMENT 2024

LSA GRADE 5

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List of Abbreviations / Acronyms

AEO	Assistant Education Officer
ALP	Accelerated learning Programme
APF	Assistant Policy Frame work
ASER	Annual Status of education Report
AV	Audio-Visual
B.A.	Bachelor of Arts
B.Sc.	Bachelor of Science
CPD	Continuous Professional Development
CRQ	Constructed Response Question
DEAs	District Education Authorities
ECE	Early childhood Education
ERQ	Extended Response Question
HED	Higher Education Department
HCF	Highest Common Factor
IT	Information Technology
ITSP	Innovative Teacher Support Package
LCM	Least Common Multiple
LSA	Large Scale Assessment
M.A	Master of Arts
MCQ	Multiple Choice Question
MEA	Monitoring and Evaluation Assistant
MSc	Master of Sciences
NFBE	Non-Formal Basic Education
NSB	Non-Salary Budget
PCTB	Punjab Curriculum and Textbook Board
PEC	Punjab Examination Commission
PEF	Punjab Education Foundation
PEIMA	Punjab Education Initiative Management Authority
PESP III	Punjab Education Sector Project III
PISA	Program for International Student Assessment
PMIU	Programme Monitoring and Implementation Unit
PPP	Public Private Partnership
PRP	Pakistan Reading Project
PTM	Parent Teacher Meeting
RRQ	Restricted Response Question
QAED	Quaid-e-Azam Academy for Educational Development
SAFED	South Asian Forum for Education Development
SBA	School Based Assessment
SED	School Education Department
SIS	School Information System
SLO	Student Learning Outcome
SNC	Single National Curriculum
SOPs	Standard Operating Procedures
SRP	Sindh Reading Programme
STR	Student-Teacher Ratio
TA	Technical Assistance
TFM	Teacher Forum Meeting
ToS	Table of Specification
WB	World Bank
WPM	Word per Minute

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MESSAGE FROM CHIEF EXECUTIVE OFFICER, PEC

Under the Assessment Policy Framework (2019), the Large-Scale Assessment (LSA) stands as one of its core components, characterized by distinctive features relevant to all stakeholders in the education sector. I would like to express my deepest appreciation to my team at the Punjab Examination Commission (PEC) for their expertise in aligning this year's assessment with skills based on Bloom's Taxonomy. Their efforts have gone beyond simply evaluating reading, listening, and speaking skills, providing comprehensive feedback to all allied departments within the education system.

I extend my sincere gratitude to the School Education Department (SED), Quaid-e-Azam Academy for Educational Development (QAED), Punjab Curriculum and Textbook Board (PCTB), Programme Monitoring and Implementation Unit (PMIU), District Education Authorities (DEAs), Punjab Education Initiative Management Authority (PEIMA), and Punjab Education Foundation (PEF). Their instrumental roles in the development and execution of the LSA have been invaluable. I also express my thanks to the teachers, students, and parents whose participation and cooperation contributed significantly to the success of this project. The LSA will serve as a crucial tool in advancing education quality in Punjab.

I particularly acknowledge Tariq Iqbal, former CEO of PEC, for his leadership in overseeing the completion of the LSA for Grade 5. Additionally, I appreciate the contributions of Ayaz Aqdus Goraya, Director of Admin & Finance; Dr. Muhammad Azeem, Director of Research & Analysis; and Dr. Nasir Mehmood, Director of Assessment & Framework, along with their respective teams, for successfully achieving this milestone in line with the Assessment Policy Framework.

Furthermore, I am pleased to announce that specific excerpts from this report, focusing on curriculum alignment, textbooks, teacher capacity building through training programs, public-private partnership (PPP) school quality, district performance, and other policy matters, will be shared with allied departments and stakeholders—SED, QAED, PCTB, PMIU, DEAs, and more—for future policy considerations. These insights will guide actionable decisions toward holistic improvement in education quality across Punjab.
I also commend the leadership of the PEC Commission members and the Chairperson, whose decisive guidance ensured successful implementation. I am particularly grateful to the Secretary of the School Education Department for their unwavering support in facilitating the assessment across Punjab.

The first LSA for Grade 5 was conducted in 2021 during the height of the COVID-19 pandemic. However, due to the widespread disruptions in education, the 2021 LSA results were deemed unreliable for establishing a baseline. Therefore, the LSA was repeated in 2022, and these results were adopted as the new baseline for future assessments. The 2022 LSA provided a more accurate reflection of student learning recovery post-pandemic and will serve as the benchmark for the 2024 LSA. We also aim to align the upcoming LSAs with the Global Proficiency Framework (GPF), enabling us to assess and report student proficiency against Sustainable Development Goal (SDG) Indicator 4.1.1. This indicator tracks the proportion of students meeting global minimum proficiency standards in reading and mathematics allowing for comparative analysis and progress tracking on an international scale.
I wish my PEC team continued success in these endeavors.

Dr Abdul Waheed Raza

Chief Executive Officer, PEC

EXECUTIVE SUMMARY

In February 2020, the Government of Punjab introduced the Assessment Policy Framework (APF) 2019, marking a significant shift from traditional examinations to a comprehensive, multi-tiered assessment system. The APF consists of three interrelated assessments—system-level, school-level, and classroom-level—each serving a distinct purpose in improving education outcomes. These assessments aim to inform key policy decisions, drive school-based changes, and facilitate adjustments in teaching and learning practices. The APF assessments are categorized into three types: Large Scale Assessment (LSA), School-Based Assessment (SBA), and Formative Assessment (FA). LSA 2024, the fourth iteration following the LSAs of 2021, 2022, and 2023, forms the focus of this report. The LSA 2024 was designed to assess the literacy (Urdu and English), numeracy, and science skills of Grade 5 students, aligned with the Single National Curriculum (SNC).

The LSA 2024 serves as a baseline for future LSAs, offering a comprehensive overview of its design, implementation, and results. The report elaborates on the sampling methodology, instrument design, background questionnaires, and analytical techniques used to gather and interpret data. The LSA was conducted in a stratified random sample of 1,000 schools across Punjab, representing schools from three administrative arrangements: the School Education Department (SED), Punjab Education Foundation (PEF), and Punjab Education Initiative Management Authority (PEIMA). The sample included both boys and girls across various school levels, including primary, middle, secondary, and higher secondary. Data collection was carried out using two instruments: assessment test papers and background questionnaires.

The assessments evaluated students' knowledge in literacy (Urdu and English), numeracy, and science skills, following the learning objectives outlined in the SNC. Background questionnaires collected information from headteachers, teachers, school councils, parents, and students, providing insights into school and classroom pedagogies. The LSA 2024 was conducted under the supervision of the Punjab Examination Commission (PEC) with support from SED staff. Test administrators were nominated by the District Education Authorities (DEAs) from public schools. Comprehensive Standard Operating Procedures (SOPs) were followed, and field staff received training from PEC experts to ensure smooth execution of the assessment. Based on the findings, the report offers recommendations for policymakers, educators, and school administrators to enhance student outcomes in future assessments.

Key findings of the LSA 2024 highlight a decline in the overall mean scores compared to 2022. The average score for all students in 2024 was 68, down from 72 in 2022. Boys scored slightly lower, with a mean score of 67 compared to girls' 70, both of which reflect a small decline from 2022. Performance across subjects showed varied trends. English scores dropped slightly from 71 in 2022 to 69 in 2024, while Urdu remained stable at 71 in both years. However, Math saw a significant drop, from 76 in 2022 to 71 in 2024, and Science performance declined from 69 to 62 over the same period.

Further analysis of the results showed a decrease in both multiple-choice questions (MCQs) and constructed response questions (CRQs). In English, MCQ scores fell from 75 in 2022 to 73 in 2024, and CRQ scores decreased from 70 to 68. Similarly, Urdu MCQs dropped from 82 to 77, and CRQs from 66 to 61.

Math MCQs declined from 80 to 75, and CRQs from 71 to 65, while Science saw a notable decline with MCQs dropping from 80 to 74 and CRQs from 59 to 53.

Despite these declines, English reading fluency showed improvement, with a score of 92 in 2024 compared to 86 in 2022. English reading proficiency for both boys and girls improved, with boys' scores rising from 83 in 2022 to 88 in 2024, and girls' scores increasing from 90 to 97 over the same period. Girls consistently outperformed boys in English reading proficiency. However, Urdu reading fluency declined slightly, with boys' scores dropping from 110 in 2022 to 108 in 2024, and girls' scores decreasing from 120 to 118. Nonetheless, girls continued to outperform boys in Urdu reading proficiency.

The report also analyzed teacher performance in English, Urdu, Math, and Science for both 2024 and 2022. English teacher performance improved from a score of 77 in 2022 to 82 in 2024, and Urdu saw a slight improvement from 78 to 79. However, Math scores dropped from 87 to 82, and Science experienced the most significant decline, from 84 in 2022 to 74 in 2024. Overall, the average performance of teachers showed a marginal decline, from 81 in 2022 to 80 in 2024. Female teachers outperformed male teachers slightly in English (83 vs. 82) and Science (75 vs. 74), while male teachers scored higher in Math (84 vs. 81). In Urdu, both male and female teachers scored equally at 79. Over time, both male and female teachers showed improvement in English but experienced declines in Math and Science.

Performance across educational levels also declined between 2022 and 2024. In 2024, the average score was 68 across primary, middle, and high levels, with higher secondary schools scoring 66. In contrast, in 2022, scores were higher, with 72 for primary and middle, 70 for high, and 73 for higher secondary. This decline reflects a consistent drop in performance across all educational tiers, with the most significant decrease at the higher secondary level.

Several factors influencing student performance were identified. Schools using both English and the local language for instruction reported better outcomes than those using only English. Schools with facilities such as playing grounds and audio-visual aids also showed improved academic performance. Teacher competence emerged as a crucial factor, with subject-specific teachers and those with relevant training positively influencing student achievement. Furthermore, teacher satisfaction with salaries and curriculum alignment with students' mental abilities were linked to better performance. A supportive home environment, particularly strong parental communication, further enhanced student achievement.

CHAPTER 1 INTRODUCTION

Building a strong education system that promotes learning for all is fundamental to a country's development and economic growth (Clarke & Luna, 2021). The role of 'assessment' through tracking and measuring of this learning cannot be ignored. Developed education systems worldwide focus on having a strong centralized assessment mechanism that measures student performance, provides feedback for policy actions, and assists in aligning all actors. For the province of Punjab, the assessment mechanism is led by the Punjab Examination Commission (PEC). Under its Commission, PEC is mandated to 'design, develop, implement, maintain, monitor and evaluate a system of examination for elementary education (Grade 1-8). Till 2019, PEC conducted annual curriculum-based examinations for Grades 5 and 8. The new assessment regime replaced the examination system from February 2020, the Assessment Policy Framework (APF).

1.1 The New Assessment System Under the Assessment Policy Framework (APF 2019)

The APF is the overarching framework for assessments in the province focused on serving all purposes of a best practice educational assessment system: (i) tracking changes from one learning point to the other, (ii) making informed choices for grade promotions, and (iii) helping teachers make informed decisions to refine teaching practices according to student learning needs.

Large Scale Assessments (LSA) (International, National and Regional Level) – to assess the overall performance of a large group of students across various schools in the province, providing data for educational policymaking, resource allocation, and accountability purposes.

School-Based Assessments (SBA) (Summative and Formative) – to track students' progress at different intervals to refine teaching instructions and classroom assessments to provide real- time information to aid teaching and learning process in classrooms.

Objectives of APF and the Three Systems of Assessment

The Assessment Policy Framework aims to:

- help establish a systematic way of developing, implementing and utilizing assessments for teaching and learning process.
- assist and bridge information gaps by providing a platform to all stakeholders for discussion and use of assessment results for improved practices
- help the province to adopt internationally recognized best assessments practices appropriate to the context of the province of Punjab.

The APF Three-Tiered System Establishment:

The institutionalization of the system leads to the following.

- Sample-Based Large-Scale Assessments (LSA),
- Summative School-Based Assessments (SBA) and
- Formative Assessments (FA)

System Level	The system level LSA focuses on assessing: elementary level curriculum of key subjects and skills, early grade assessment of literacy and numeracy, and need-based assessments.
School Level	The school level SBA is a term-wise curriculum-based assessment conducted by schools themselves. Test papers were constructed using centralized item banks (developed by PEC).
Classroom Level	The classroom level FA is consistent testing by teachers during and after lessons periodically. These are an evaluation of students on a continuous basis on an SLO/unit/topic/subtopic etc.

The new assessment system focuses on introducing transparency and autonomy for teachers. This is a marked change from the previous examination system that focused on the notion of accountability with greater punishments attached to assessment results. The conduct of high-stakes examinations previously led to the creation of an unfriendly learning environment at the school level, leading to continuous pressure on teachers to achieve results, with students resorting to more rote learning and cheating.

The APF eliminates these concerns by introducing a set of three complimentary interlinked systems that cater to all tiers of the system: (1) system level through provision of feedback for improved policy decisions, (2) school-level feedback for school-based changes, and (3) classroom-level consistent feedback for the teacher to continuously change and improve teaching and learning practices. While complementary in nature, all three systems are diverse in design, purpose, methodology, and use of assessment results. The key objectives and three-tiered system are given in Box 1.1. The envisioned system under APF can be classified into two types

1.2 Implementation of the Large-Scale Assessment (LSA)

Large Scale Assessments (LSA) provide information on overall levels of student achievement in the system for a particular curriculum area and at a particular grade level. Literature shows us that these assessments vary globally in terms of (i) school grades and age levels tested, (ii) population coverage, (iii) subjects and skills coverage, (iv) frequency, (v) test administration, (vi) collection of background data and (vii) reporting and use of results. The assessment has a two-fold purpose as per its intended design:

- To assess core Literacy, Numeracy and Scientific Skills through subjects of English, Urdu, Mathematics and Science skills of students of Grade 5;
- To collect background information on external factors influencing the learning of students.

LSA 2024 provides the system with overall feedback on overall student performance of Grade 5 for improvements in teacher development and training, curriculum and textbooks and related policy considerations. The assessment has been conducted in a representative stratified sample of 1000 schools in all 36 districts of the province. LSA 2024 has been designed following international best practices and a comprehensive development process including private and government school teachers, academicians and relevant experts from all government education departments such as the Quaid- e-Azam Academy of Educational Development (QAED), Punjab Curriculum and Textbook Board (PCTB), Programme Monitoring and Implementation Unit (PMIU), Punjab Education Foundation (PEF) and the Punjab Education Initiative and Management Authority (PEIMA).

Key Questions that LSAs address

LSAs can provide support in policy decisions by addressing some key questions:

- How well are students learning in the education system? Are they meeting specific learning standards?
- Are there particular strengths and weaknesses in student knowledge and skills?
- Do particular subgroups perform worse than others? Are there disparities, for example, between the performance of boys and girls or students from different language groups?
- What factors are associated with student achievement? To what extent does student achievement vary with the characteristics of the learning environment (teacher knowledge and preparation, school resources etc.) or with student's home circumstances?
- Does student achievement change over time? What factors are linked to changes in student achievement over time?

1.3 Structure of the LSA Under APF 2019

The APF provides the overall structure for all system-level LSAs. The key components and structure have been developed by PEC following a rigorous consultative process. The final structure of the assessment has been drafted taking into account the best international assessment models conducted globally; the Programme for International Student Assessment (PISA), Trends in International Mathematics and Science Study (TIMSS) and the Progress in International Reading Literacy Study (PIRLS). Key components of the LSA include:

Composition of Assessment

a. Assessment of Literacy, Numeracy, and GK skills at primary level and cover additional subjects as directed by SED.
b. Assessment of knowledge and key skills of core subjects at the middle level and cover additional subjects as directed by SED.

Population Coverage

The assessments cover selected students through a representative stratified sample of schools, students, teachers and any other target audiences/points as per the assessment requirement.

Frequency and Timing

The assessments are conducted at regular intervals (alternate years). PEC implements the LSA in a way that the pilot study of a grade is administered along with the full-scale study. Hence, LSA for a specific grade is conducted simultaneously with the pilot testing of another grade.

Curriculum Coverage

a. Literacy skills (English and Urdu languages), Numeracy (Mathematical skills), and Science skills for primary level.
b. Selected (prioritized) and measurable SLOs in core subjects at the middle level.

Output: LSA aims to achieve the following**:**

a. Scores for Literacy, Numeracy, and Science for primary schools' sampled students.
b. Scores in core subjects' knowledge and key skills/disciplines/ competencies assessed for sampled students from middle schools.
c. Identification of factors influencing teaching and learning experiences.

Reporting of Results:

Reporting of students' and teachers' scores in form of percentage and mean scores.

1.4 Guide to the Report

The LSA 2024 Main Findings report presents key insights and evidence on the performance of Grade 5 students and teachers. The report is organized into the following chapters

Chapter 1 introduces the implementation and structure of the Large-Scale Assessment within the framework of the Assessment Policy.

Chapter 2 outlines the methodology used in the development of LSA 2024, detailing the sampling methods, assessment instruments, background data collection tools, and analysis techniques employed.

Chapter 3 presents the detailed assessment results. Key highlights are summarized in the Executive Summary at the beginning of the report. The detailed data is divided into three parts:

a) overall student performance, including score comparisons with teachers and between students from different school administration types (SED and non-SED);
b) the relationship between student scores and key factors; and
c) feedback from stakeholders, including teachers, parents, and school councils.

Chapter 4 offers recommendations to various departments on how to effectively utilize the LSA findings. It includes tailored suggestions for improving educational policies, enhancing teaching practices, and addressing identified gaps in student performance. The recommendations are designed to guide departments in leveraging the insights gained from the LSA to drive meaningful improvements in education.

CHAPTER 2 METHODOLOGY

The LSA 2024 was conducted across all 36 districts of Punjab, focusing on the Single National Curriculum (SNC). The assessment was aligned with the Student Learning Objectives (SLOs), which were developed and subsequently revised following the implementation of the SNC. These revisions were carried out by the Punjab Education Sector Project (PESP III) team to ensure that the assessment accurately reflects the curriculum's goals and learning outcome.

2.1 Research Methodology

Target Population: The total population of this study consists of 1000 schools under which 10,000 students have been assessed in 36 districts of the Punjab.

2.1.1. Sampling Methodology

Stratified random sampling based on probability proportional to size (PPS) was used for conducting this LSA.

Composition of Sample

Various types of schools are included as per their administrative arrangement: SED, PEF, PEIMA. The sample selected has the following characteristics:

a) Gender (Boys and Girls Schools)
b) Type of school level (Primary, Middle, High and Higher Secondary Schools)
c) Location (Rural and Urban areas) in the data

1. Schools with less than 10 students were excluded.
2. Mosque schools were not part of the sample.
3. Co-education schools were categorized into boys or girls` schools according to the number of girls' and boys' students, i.e., the schools with more girls than boys are categorized as girls` schools and vice versa.
4. If the school has less than 10 students after its categorization on the basis of gender, it is excluded from the sample.
5. High schools are considered Secondary schools.

The sample was stratified by district, with further subdivisions based on urban and rural areas, school type (Higher Secondary, Secondary, Middle, and Primary), and gender (boys' and girls' schools. Considering the characteristic variability for which estimates needed to be prepared, population distribution, and reliability constraints, different sample sizes for each type of school were computed and fixed. The following sample sizes were selected to provide reliable estimates of key variables at both district (SED schools) and provincial levels (PEIMA and PEF schools):

Table 1: Sample Size of Schools of Grade 5 for LSA 2024

School Administration	Number of schools	Students (10 per school)
SED	830	8300
PEF	152	1520
PEIMA	18	180
Total	1000	10,000

The assessment included a total of 1,000 schools across three different types of school administrations in Punjab. Of these, 830 schools were under the School Education Department (SED), contributing 8,300 students. The Punjab Education Foundation (PEF) contributed 152 schools with 1,520 students, while the Punjab Education Initiative Management Authority (PEIMA) contributed 18 schools with 180 students. From each school,10 students were selected for participation, resulting in a total of 10,000 students taking part in the assessment.

Table 2: Number of Schools by District

Sr#	District	No of Schools	Sr#	District	No of Schools
1	Attock	17	19	Lodhran	20
2	Bahawalnagar	29	20	Mandi Bahauddin	25
3	Bahawalpur	21	21	Mianwali	21
4	Bhakkar	24	22	Multan	30
5	Chakwal	20	23	Muzaffargarh	28
6	Chiniot	22	24	Nankana sahib	17
7	D.G. Khan	26	25	Narowal	26
8	Faisalabad	58	26	Okara	33
9	Gujranwala	35	27	Pakpattan	29
10	Gujrat	30	28	Rahimyarkhan	30
11	Hafizabad	19	29	Rajanpur	17
12	Jhang	34	30	Rawalpindi	29
13	Jhelum	18	31	Sahiwal	28
14	Kasur	35	32	Sargodha	33
15	Khanewal	39	33	Sheikhupura	24
16	Khushab	21	34	Sialkot	30
17	Lahore	52	35	Toba Tek Singh	27
18	Layyah	28	36	Vehari	25

2.1.2 Assessment Instruments

LSA 2024 assessment uses two types of instruments:

Assessments (Tests)

– for literacy (Urdu and English), Numeracy, and Science Skills

Background Questionnaires

– for head teachers, teachers, school council members, students, and students' parents

• Type of Assessment Instruments

The assessments (test papers) are further divided by type. For LSA 2024, the students of Grade 5 have been tested using 4 types of instruments:

Table 3: Types of Assessments Conducted in LSA 2024

Sr#	Types of Assessment Instrument	Skills Assessed
1	Listening (Oral)	Literacy (English and Urdu)
2	Reading Fluency (Oral)	Literacy (English and Urdu)
3	Speaking (Oral)	Literacy (English and Urdu)
4	Curriculum/SLO Knowledge (Written)	Literacy (English and Urdu), Numeracy (Math), and Science

• Curriculum Content and Cognitive Levels Assessed

The LSA 2024 focuses on assessing literacy, numeracy and understanding of different scientific concepts and their application in daily life as presented in the Single National Curriculum (SNC). This includes competencies, key learning areas and learning strands respectively. A brief description of each area includes:

Table 4: Summary of Content Coverage

	Literacy
Description	i. Literacy is the ability to identify, understand, interpret, create, communicate, and compute using printed and written materials associated with varying contexts. ii. It encompasses a continuous learning process that helps individuals reach their goals, expand their knowledge and abilities, and actively engage in their community and society at large. iii. With the knowledge of words, grammar, and visuals, literacy has two major processes: iv. comprehending texts through listening, reading, and viewing v. Composing texts through speaking, writing, and creating.
Content Coverage Under LSA	LSA 2024 has assessed the knowledge, understanding, application level, and higher-order thinking skills related to the two processes (excluding viewing and speaking), along with knowledge of vocabulary, sentence structure, and grammar.
	Numeracy
Description	Numeracy is the ability to use numbers and solve problems in real life. Students must have the confidence and skill to use numbers and mathematical approaches in all aspects of life. It is organized into six interrelated elements: (a) estimating and calculating with whole numbers (b) recognizing and using patterns and relationships (c) using fractions, decimals, percentages, ratios and rates (d) using spatial reasoning (e) interpreting statistical information (f) using measurement.
Content coverage Under LSA	LSA 2024 has assessed the knowledge, understanding, application level, and higher-order thinking skills related to the Grade 5 curriculum.
	General Science
Description	The term 'Science' encompasses a broad set of skills and knowledge that are applicable across various disciplines and in everyday life. It is crucial for students to grasp concepts that bridge science and society, as this understanding fosters a deeper comprehension of the world, encourages curiosity, and cultivates essential skills such as inquiry, observation, prediction, analysis, reasoning, and explanation. Primary Science involves both the process of inquiry and a reservoir of knowledge. The cultivation of scientific skills and attitudes is closely intertwined with the evolution of scientific ideas. As students' conceptual frameworks

	develop, it becomes imperative to grasp the essence of science, including its interconnections with technology, society, and the environment.
Content coverage Under LSA	LSA 2024 assessed the knowledge, understanding, application level, and higher-order thinking skills related to the three areas of primary Science. Technology and Technical Information content involves hands-on experience (operate, use, practice, assemble, prepare) and could not be assessed through the paper-pencil test. Therefore, the list of Science student-learning outcomes (SLOs) does not contain technology-based outcomes. The curriculum of Science of Grade 5 is divided into three key learning areas: (a) Physics, (b) Chemistry, (c) Biology, (d) Environmental pollution, (e) Technology in everyday life, (f) Earth structure.

PEC followed a consultative process with the Punjab Curriculum and Textbook Board (PCTB), Quaid e Azam Academy for Educational Development (QAED) along with practicing teachers from private and public schools to prioritize SLOs for Literacy (English and Urdu), Numeracy (Mathematics) and General Science (GS). All SLOs included have undergone a thorough review process by the experts. The final selection of SLOs under SNC was done through a series of workshops in 2022.

LSA 2024 includes: Targeted SLOs for the Basic Concepts of Grade 5

These were selected by practicing teachers and assessment experts as they are considered the minimum benchmarks/ foundational knowledge needed for promotion to the next Grade.

SLOs Needed to Align with the International Benchmarks for Literacy and Numeracy

Practicing teachers and assessment experts studied the national curricula for literacy and numeracy in three countries, namely Australia, Canada, and Bangladesh, and noted the common topics/concepts. The prevalence of common topics/ concepts in the curricula of different countries indicates the significance of these topics as fundamental to the primary-level education system.

Quality Assurance of Assessment Instruments

All assessments have undergone quality controls set by PEC. The validity and reliability of the assessment have been checked under the institutional processes and protocols set by the organization, which are aligned with the best practices of international assessment agencies.

2.1.3 Background Data-Collection on Influencing Factors

The LSA 2024 focuses on understanding all factors that affect students' performance. While the assessment instruments are designed to collect information on academic performance, additional factors such as socioeconomic status, household set-up, interests in learning, etc., are equally important. For this purpose, comprehensive background questionnaires are used in the LSA that can provide information about school and classroom pedagogy.

Information under the assessment has been collected at three levels which are as follows:

- Home-Related factors
- School-Related factors
- Classroom-Related factors

2.1.4 Standard Operating Procedures (SOPs) for Conduct and Marking of LSA

PEC has led the implementation of LSA 2024 with its core team and staff of SED. Test administrators nominated from schools were the major actors engaged in the conduct of the assessment at the school level. To assist the administration team, comprehensive SOPs detailing steps for conducting and marking assessments were developed. The SOPs were finalized following a consultative process with all internal wings at PEC (research, administration, finance and IT wings). Universal Business System was contracted to scan instruments and e-mark them. The SOPs provide defined roles and responsibilities for each stakeholder engaged in conducting and marking activities.

Table 5: Overview of the LSA Conduct and Marking Process

Stage 1
Conduct of LSA
• Invigilators conducted assessment in schools and collected background information
• Teachers provided support in conduct of listening and reading fluency
• Students attempted the assessment following directions
Stage 2
Marking of LSA
• Invitation to teachers for e-marking through online registration.
• Trained teachers for each subject conducted e-marking of their relevant subject following rubrics and SOPs. • PEC team monitored and rechecked 20% of the total data
• PEC contracted Universal Business System for e-marking of assessment papers.

PEC trained all the test administration teams about their supervisory responsibilities in schools through a 1-day workshop. The trainings were carried out across the 36 districts. Required material packs were provided with detailed instructions for students and test administrators to ensure the smooth conduct of the assessment. Similarly, all teachers engaged in the marking of the assessment were provided training for the use of the rubrics and related materials.

2.1.5 Quality Assurance Parameters of Assessment

For quality assurance, PEC and SED developed a robust monitoring system to observe the conduct of assessments in the field. A monitoring plan invigilator conducted assessments in schools and collected background information. Students attempted the assessment following directions. Trained teachers for each subject conducted e-marking of their relevant subject following rubrics and SOPs. The PEC team monitored and rechecked 20% of the total data—invitations to teachers for e-marking through online registration. Teachers provided support in the conduct of listening and reading fluency assessments.

During the Conduct of Assessment

a. PEC members along with 36 District Education Authorities (DEAs) conducted spot checks and visits across the province.
b. PEC created a provincial control room to assist the test administrators to resolve all issues arising in the field.

During the Marking of Assessment

a. PEC team monitored 50% of scanning and cropping to ensure visibility of each part of written questions for valid and reliable e-marking.
b. PEC team rechecked 20% of the e-marked instruments to ensure data quality and reliability.
c. Monitoring results indicate that the assessment was successfully carried out across the province without any major issues. All stakeholders involved adhered to the established processes throughout the assessment.

2.1.6 Data Analysis LSA

Data has been analyzed using appropriate statistical techniques relevant to the nature of the variables. These include using:

- Descriptive Analysis
- Inferential Analysis

The analysis results are explained in detail in Chapter 3 of this report. The descriptive analysis has been divided into various sections, i.e., students' mean scores, teacher's mean scores, teachers' and students' comparative mean scores, and comparison of mean scores based on types of school administration and school levels. Binary logistic regression analysis has been used to assess the relationship between students' performance and factors related to schools, teachers, head teachers and parent's background. Odd ratio for each category were calculated by comparing different categories for high and low performing students. It is pertinent to note that only significant results are included in the analysis unless there is a valid reason or inference from results that are not statistically significant.

FINDINGS

3

CHAPTER 3 FINDINGS

Section 1

The findings of the Large-Scale Assessment Grade 5 provide crucial insights into the academic performance and learning trends of students across English, Urdu, Math, Science subjects. This year's assessment focused on evaluating students' proficiency in Literacy, Numeracy and Science, identifying strengths and areas requiring targeted intervention. Data from the 2024 cycle were compared with previous year 2022 to assess progress and highlight gaps. The analysis incorporates multiple variables such as student background, instructional practices, and school environments. The results are designed to inform educational stakeholders, guiding policy development and enhancing teaching strategies to improve learning outcomes across the province.

3. Performance of Students and Teachers

The findings from the Large-Scale Assessment (LSA) provide overview of students and teachers performance across gender, subject areas and cognitive domains. The results highlight both achievements and learning gaps, offering a detailed analysis of performance trends. These insights will help drive future educational reforms and targeted interventions to elevate student learning outcomes.

3.1 Performance of Students

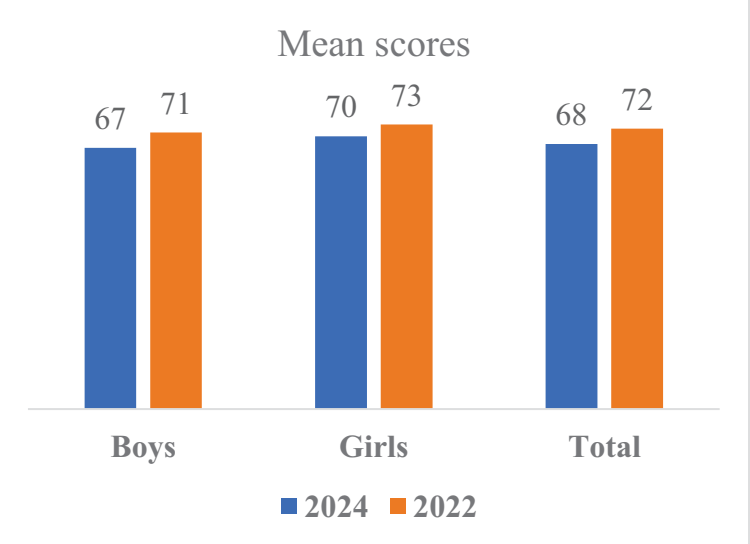
The findings from the Large-Scale Assessment (LSA) provide overview of students' performance across gender, subject areas and cognitive domains.

3.1.1 Overall Performance of Students

Figure 1 presents a comparative analysis of Grade 5 students' performance based on mean scores for the years 2024 and 2022, categorized by gender.

Figure 1: Students' Overall Mean Percentage Scores

Figure 1 presents a comparative analysis of Grade 5 students' performance based on mean scores for the years 2024 and 2022, categorized by gender. In 2024, boys achieved a mean score of 67 with an SD=13, while girls attained a slightly higher mean score of 70 with an SD=12. Overall, the combined mean score for all students in 2024 was 68, SD=12. From 2022 to 2024, both boys and girls showed a marginal decline in mean scores.

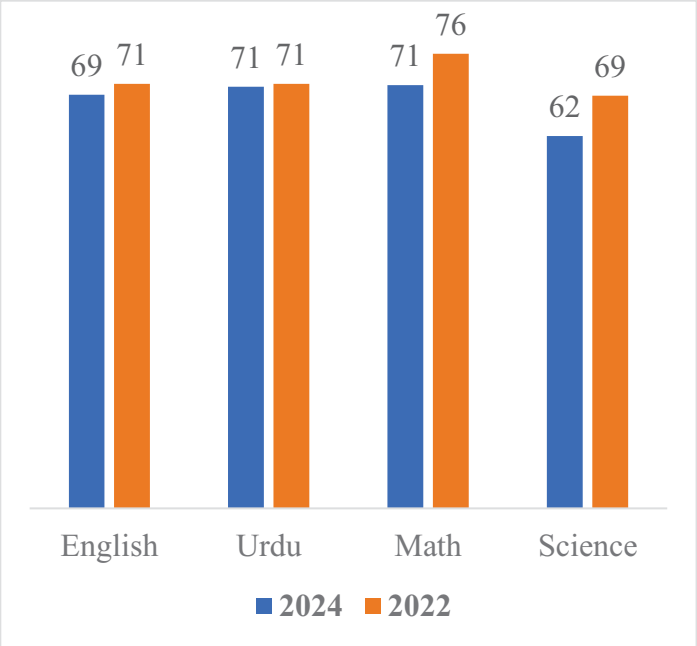


3.1.2 Subject Wise Performance of Students

Figure 2 reflect the scores for English, Urdu, Math, and Science for the years 2022 and 2024.

Figure 2: Subject-wise Comparison of Students' Performance: 2024 vs. 2022

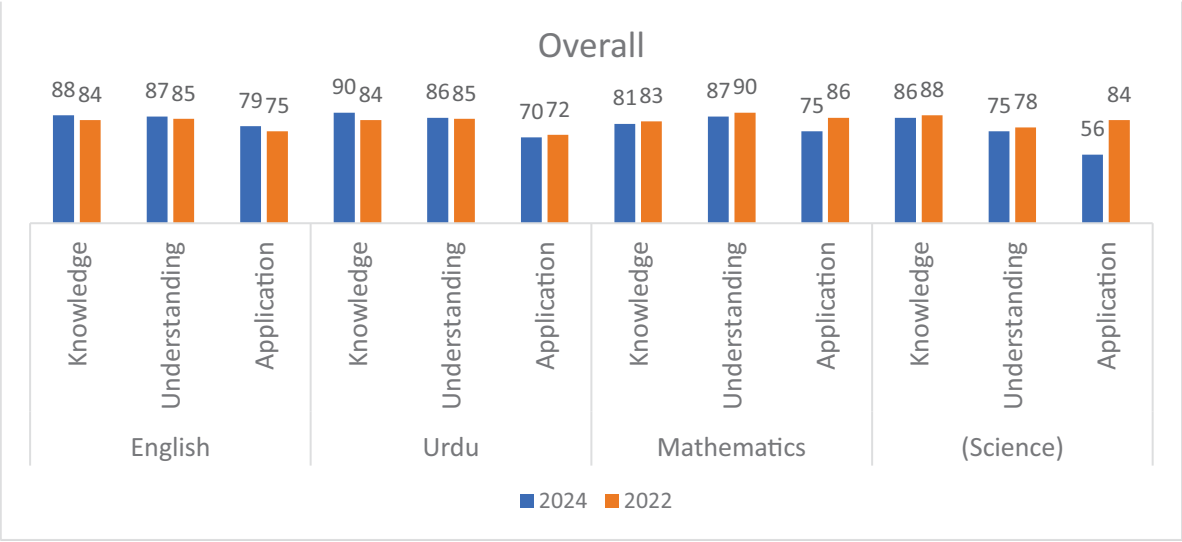
Figure 2: The scores for English, Urdu, Math, and Science for the years 2022 and 2024 show varying levels of performance over time. In English, there was a slight decrease from 71 in 2022 to 69 in 2024, indicating a small decline in proficiency. Conversely, Urdu scores remained consistent at 71 for both years. Math scores declined noticeably from 76 in 2022 to 71 in 2024, indicating a drop in performance over the two years. Science scores also decreased from 69 in 2022 to 62 in 2024, reflecting a significant decline in performance in this subject.



3.1.3 Students' Performance Under Targeted Cognitive Domain

Figure 3 shows scores across different subjects (English, Urdu, Mathematics, and Science) categorized into three domains: Knowledge, Understanding, and Application, for the years 2022 and 2024.

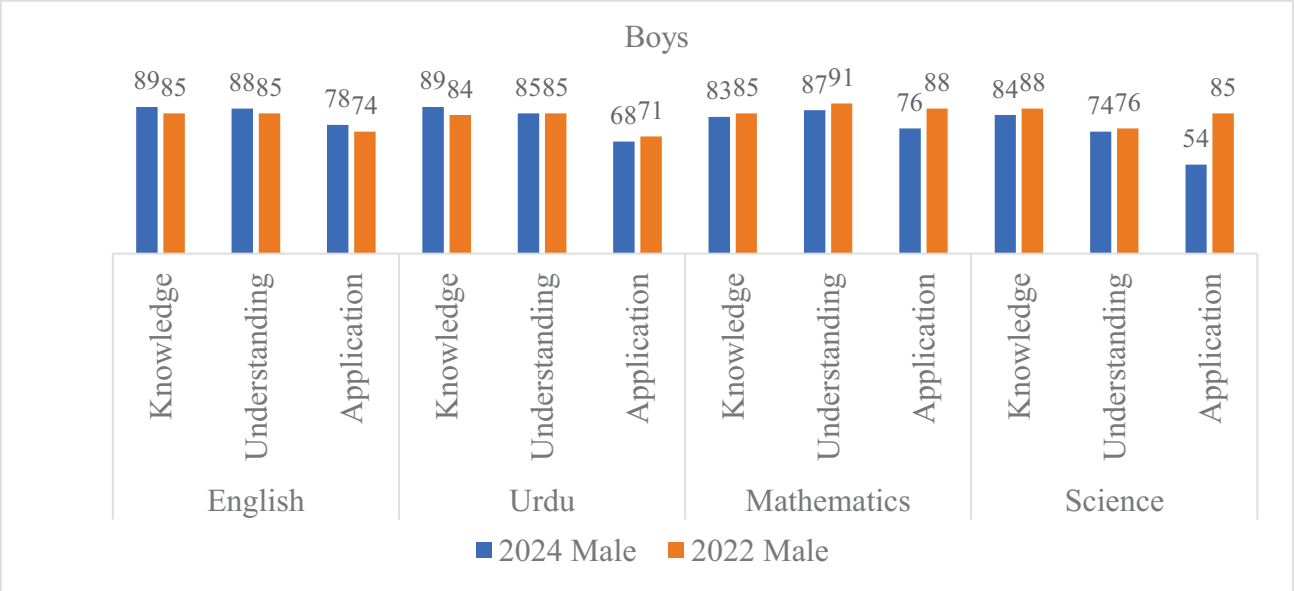
Figure 3: Comparison of Scores in Cognitive Domains Across Subjects: 2024 vs. 2022



In English, scores were increased across all domains from 2022 to 2024. Specifically, Knowledge rose from 84 to 88, Understanding increased from 85 to 87, and Application improved from 75 to 79. Urdu also showed improved Knowledge, rising from 84 to 90, while Understanding remained stable at 85 in both

years. However, there was a slight decrease in Application scores from 72 in 2022 to 70 in 2024. Mathematics exhibited a mixed performance, with a decrease in Knowledge from 83 to 81 but an increase in Understanding from 90 to 87. Application scores also declined from 86 in 2022 to 75 in 2024.
On the other hand, Science saw a decline in scores across all domains. Knowledge decreased from 88 to 86, Understanding dropped from 78 to 75, and Application saw a significant decrease from 84 to 56. Overall, the data suggests varying trends in academic performance across subjects and domains. While English and Urdu showed overall improvement or stability, Mathematics displayed mixed results, and Science experienced notable declines in all areas. These trends highlight potential areas for focused educational interventions and curriculum adjustments to enhance student learning outcomes, particularly in science, where the decline was most pronounced.

Figure 4: Boys' Scores in English, Urdu, Mathematics, and Science Categorized by Knowledge, Understanding, and Application Domains



The figure provides scores across various subjects (English, Urdu, Mathematics, and Science) of boys categorized into three domains: Knowledge, Understanding, and Application, for the years 2022 and 2024. In English, there was an improvement across all domains from 2022 to 2024. Knowledge increased from 84 to 88, Understanding rose from 85 to 86, and Application improved from 76 to 79. Urdu also demonstrated improvement in Knowledge, increasing from 84 in 2022 to 91 in 2024. Understanding remained steady at 85 in both years, while Application scores improved slightly from 73 to 71. Mathematics showed a decline in Knowledge, decreasing from 82 in 2022 to 79 in 2024. Understanding also decreased from 89 to 87, and Application scores dropped from 84 to 74 over the same period. Science saw a mixed performance with Knowledge decreasing slightly from 88 to 87. Understanding decreased from 78 to 76, and Application scores dropped significantly from 84 to 58. Overall, the data reveals varied trends in academic performance across subjects and domains. English and Urdu generally showed improvement or stability, while Mathematics and Science displayed declines in one or more domains. These results suggest potential areas for targeted educational interventions and curriculum adjustments to bolster student learning outcomes, particularly in Mathematics and Science where declines were observed.

Figure 5: Girls' Scores in English, Urdu, Mathematics, and Science Categorized by Knowledge, Understanding, and Application Domains

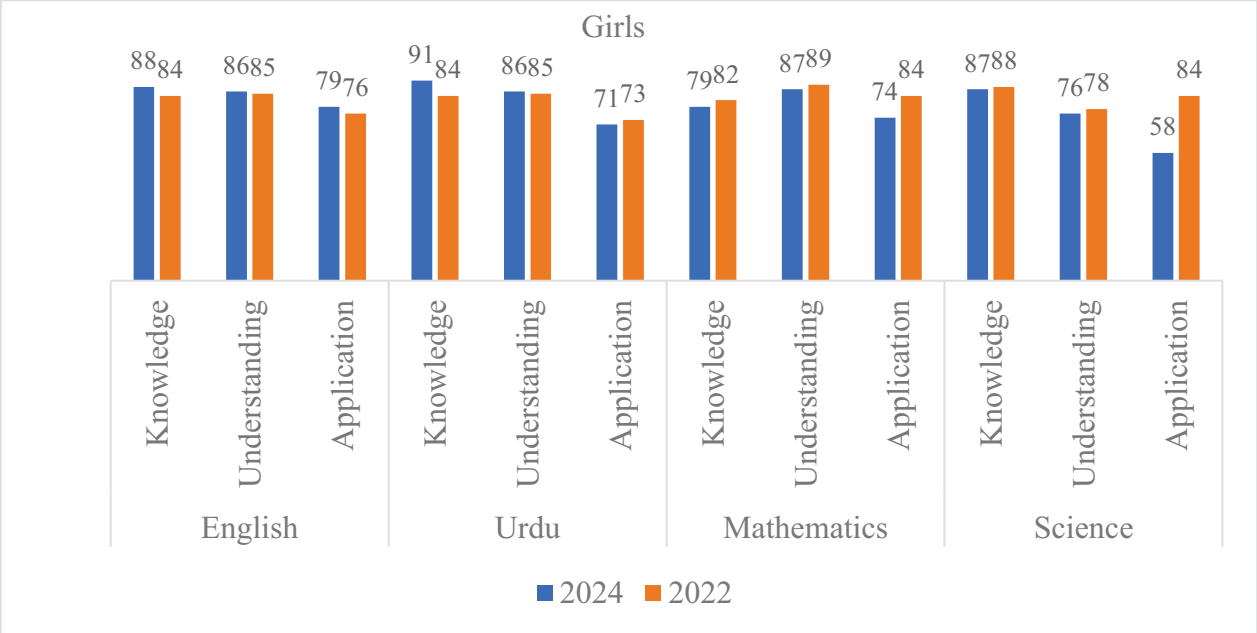


Figure 5 shows scores across different subjects (English, Urdu, Mathematics, and Science) of girls categorized into three domains: Knowledge, Understanding, and Application, for the years 2022 and 2024. In English, there was improvement across all domains from 2022 to 2024. Knowledge scores increased from 84 to 88, Understanding improved from 85 to 86, and Application rose from 76 to 79. Urdu also showed improvement in Knowledge, increasing from 84 in 2022 to 91 in 2024. Understanding remained consistent at 86 in both years, while Application scores decreased slightly from 73 to 71.

Mathematics displayed a decline in Knowledge, decreasing from 82 in 2022 to 79 in 2024. Understanding scores also decreased from 89 to 87, and Application dropped from 84 to 74. Science demonstrated mixed results: Knowledge scores decreased slightly from 88 in 2022 to 87 in 2024. Understanding decreased from 78 to 76, and Application scores declined significantly from 84 to 58. Overall, while English and Urdu showed overall improvement or stability, Mathematics and Science displayed declines in one or more domains. These trends suggest areas where additional focus may be needed to enhance student performance, particularly in Mathematics and Science where decreases were observed in multiple areas.

3.1.4 Topic-Wise Performance of Students

Grade 5 students were tested on numeracy and literacy skills, and understanding of General Science concepts as per the division of the content areas into different standards/ components/ strands given in the Single National Curriculum (SNC). The topic wise performance of the students in the 2024 assessment is given below:

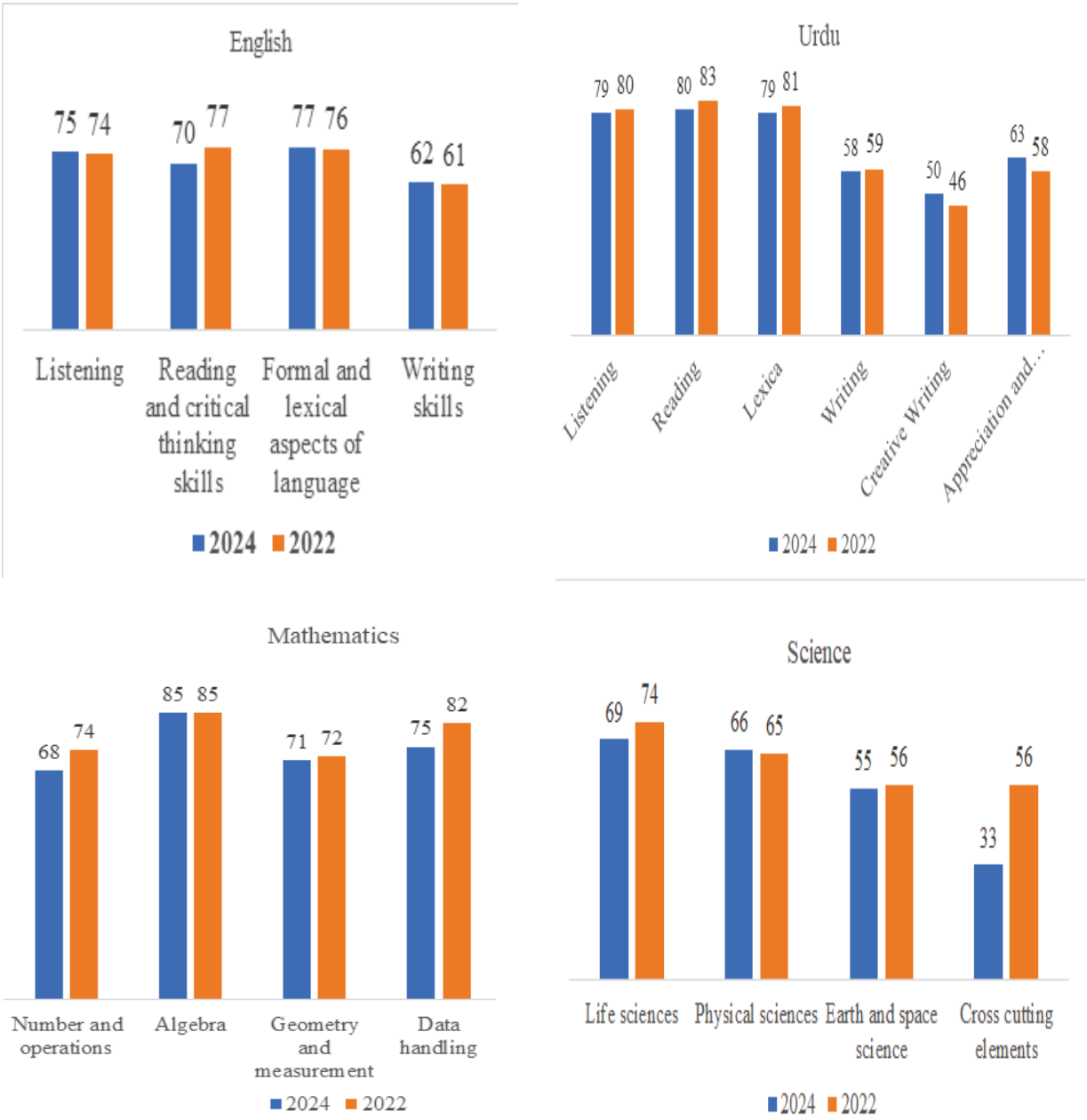
Table 6: Overall Students' Performance by Topic

Grade 5 students were tested on numeracy and literacy skills, and understanding of science concepts as per the division of the content areas into different standards/ components/ strands given in the Single National Curriculum (SNC). The topic wise performance of the students in the 2022 assessment is given below.

Subject/Topic	2024 Mean Scores	2022 Mean Scores
English		
Listening	75	74
Reading and critical thinking skills	70	77
Formal and lexical aspects of language	77	76
Writing skills	62	61
Urdu		
Listening	79	80
Reading	80	83
Lexica	79	81
Writing	58	59
Creative Writing	50	46
Appreciation and Criticism	63	58
Mathematics		
Number and operations	68	74
Algebra	85	85
Geometry and measurement	71	72
Data handling	75	82
Science		
Life sciences	69	74
Physical sciences	66	65
Earth and space science	55	56
Cross cutting elements	33	56

Table 6 shows that the mean scores for various subjects and topics in 2022 and 2024 reflect noticeable trends in academic performance. In English, scores varied across different skills: listening improved slightly from 74 to 75, while reading and critical thinking skills decreased from 77 to 70. Formal and lexical aspects of language showed a minor increase from 76 to 77, and writing skills saw a marginal improvement from 61 to 62. In Urdu, listening skills remained somewhat stable at 80 in 2022 and 79 in 2024, while reading abilities decreased from 83 to 80. Lexical proficiency declined slightly from 81 to 79, whereas writing skills reduced slightly from 59 to 58. Creative writing improved marginally from 46 to 50, and appreciation and criticism skills increased from 58 to 63. Mathematics scores showed variations, with numbers and operations decreasing from 74 to 68, algebra remaining steady at 85, geometry and measurement slightly declining from 72 to 71, and data handling decreasing from 82 to 75. In Science, performance in life sciences decreased from 74 to 69, physical sciences slightly increased from 65 to 66, while earth and space science scores declined from 56 to 55. Notably, scores for cross-cutting elements dropped significantly from 56 to 33. These shifts highlight areas where academic focus and support may be necessary to maintain or enhance student achievement across different subject areas and topics.

Figure 6: Competency Scores Across Subjects: English, Urdu, Mathematics, and Science

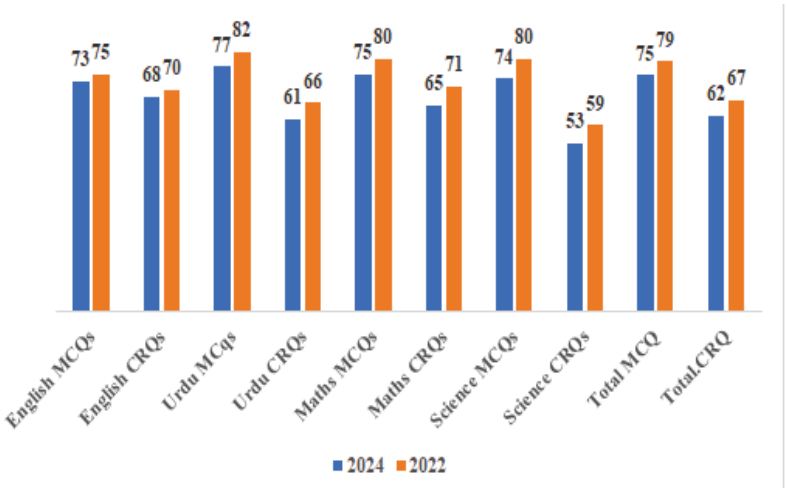


3.1.5 Overall Students' Performance Based on Items Type

The following figure shows the percentage of correct responses by the students in multiple-choice questions (MCQs) and constructed response questions (CRQs)

Figure 7: Percentage of Correct Responses in MCQs and CRQs by Students

Figure 7: In English, the scores for MCQs decreased from 75 in 2022 to 73 in 2024, while CRQs saw a reduction from 70 to 68. For Urdu, MCQs dropped from 82 to 77, and CRQs went down from 66 to 61. In Math, MCQs fell from 80 to 75, and CRQs decreased from 71 to 65. Science scores for MCQs declined from 80 to 74, and CRQs from 59 to 53.



3.1.6 Students' Performance in SLOs

The table below shows the subject-wise SLOs in which students performed poorly. Students' scores in these SLOs were significantly lower than the overall mean score in the subject.

Table 7: SLOs with Weak Student Performance

Cognitive Level	SLOs Text
	English Literacy SLOs
Application	Respond to, and ask simple questions starting with be, do and have.
Application	Recall the rules of punctuation learnt earlier.
Application	Practice and use simple SVO pattern sentences. Demonstrate the use of subject-verb agreement according to person and number.
Application	Using pre-reading strategies to predict the content of a text from topic/picture, title heading etc. by using prior knowledge.
Application	Write a story using the elements of story writing. Write a short passage, anecdote, fable, etc., for pleasure and creativity.
Application	Write short informal invitations for a variety of purposes to demonstrate the use of conventions of short invitations.
	Urdu Literacy SLOs
Application	Use words that express emotions, such as grievance, appeal, and sadness.
Understanding	Understand the difference in opposite and similar words
Application	Able to read newspapers, Journals, Magazines, advertisements and letters to editors
Application	Understand poetry and essays
Application	Able to write story with the help of pictures and advertisements
	Numeracy SLOs
Understanding	Find LCM of two numbers, up to 2-digit numbers, three numbers up to 2 digit numbers using prime factorization method and division method.
Application	Solve real life problems involving division of fractions.
Understanding	Convert a fraction to decimals using division.
Understanding	Convert measures given in:

Cognitive Level	SLOs Text
	i. kilometers into meters. ii. meters into centimeters. iii. centimeters to millimeters and vice versa.
Knowledge	Identify and describe triangles with respect to their angles (acute angle triangle, obtuse angle triangle and right-angle triangle).
Application	Solve real life problems involving HCF and LCM.
Science SLOs	
Understanding	Differentiate between vertebrates and in-vertebrates.
Understanding	Describe and demonstrate the states of water (i.e., melting, freezing, boiling, evaporation, and condensation).
Understanding	Explain the formation of shadows.
Understanding	Investigate, that light travels in a straight line.
Understanding	Describe the uses of various satellites in space i.e., geostationary, weather, communication and global positioning system (GPS).
Understanding	Identify similarities and differences among the different types of soil
Application	Use first aid box to dress a wound.

3.1.7 Students' Performance in Reading Fluency

Reading fluency is gaining recognition as an essential element of every reading programme. Keeping in view the critical need to build reading skills in students and make them independent readers, LSA 2024 has assessed Grade 5 reading fluency skills. Reading fluency assessment has been carried out in Urdu and English. It mainly focuses on the rate of reading, measured as words per minute (WPM). To assess reading fluency, the student was given a paragraph to read, and the test administrator recorded the number of words read by the child in a minute. In addition, some words were highlighted in the paragraph to assess the accuracy (correct pronunciation). Reading fluency is calculated by taking the total number of words read in one minute and subtracting the number of errors:

Total Words Read — Errors = Words Per Minute

According to Urdu reading standards developed under the Pakistan Reading Project (PRP), at the Grade 5 level, a student should read the text at a rate of 100 to 140 correct words per minute.

Similarly, under the reading competency of the Single National Curriculum (SNC) for Urdu, one of the learning outcomes states that students should be able to "read with accuracy at least 100 words per minute. For native English speakers, the rate is 100 to 150 words per minute, whereas a pilot study informed that in Punjab, the rate for English (WPM) falls between 40 and 80 words.

Figure 8: Performance of Students in Reading Fluency Assessments

Figure 8: Presents a comparative analysis of English and Urdu scores for the years 2024 and 2022. In 2024, the English score is 92, which shows an improvement from the score of 86 in 2022. The Urdu score has slightly declined, with a score of 113 in 2024 compared to 115 in 2022.

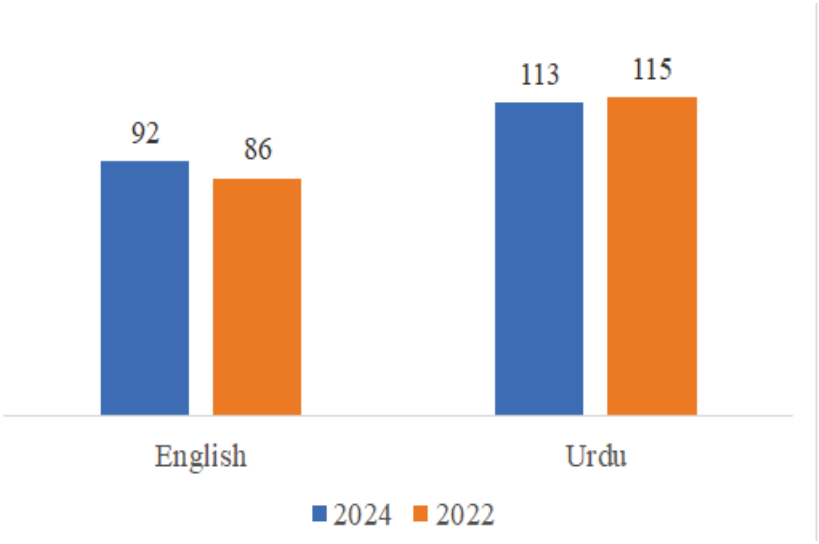


Figure 9: Gender-wise Student Performance in Reading Fluency

Figure 9: In English reading proficiency, boys and girls have improved from 2022 to 2024. Boys' scores increased from 83 in 2022 to 88 in 2024, while girls' scores rose from 90 in 2022 to 97 in 2024. This indicates a positive trend in English proficiency for both genders, with girls consistently scoring higher than boys in both years.

For Urdu, there is a slight decline in scores for both boys and girls. Boys' scores decreased from 110 in 2022 to 108 in 2024, and girls' scores dropped from 120 in 2022 to 118 in 2024. Despite this decline, girls continue to outperform boys in Urdu in both years

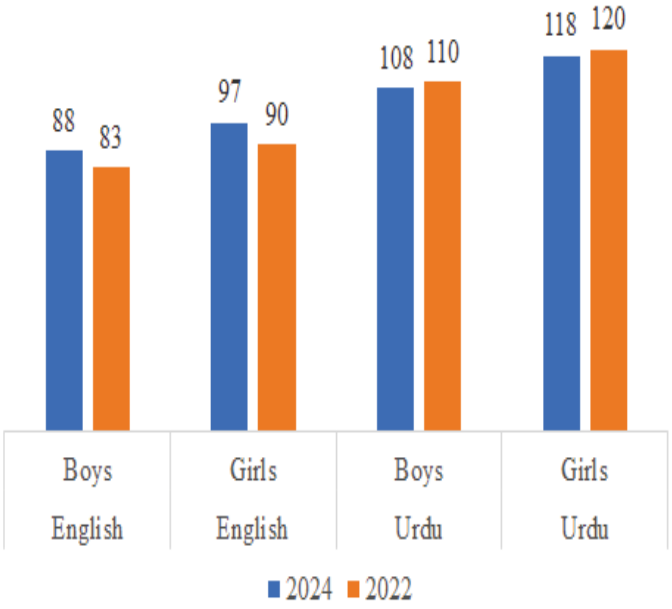
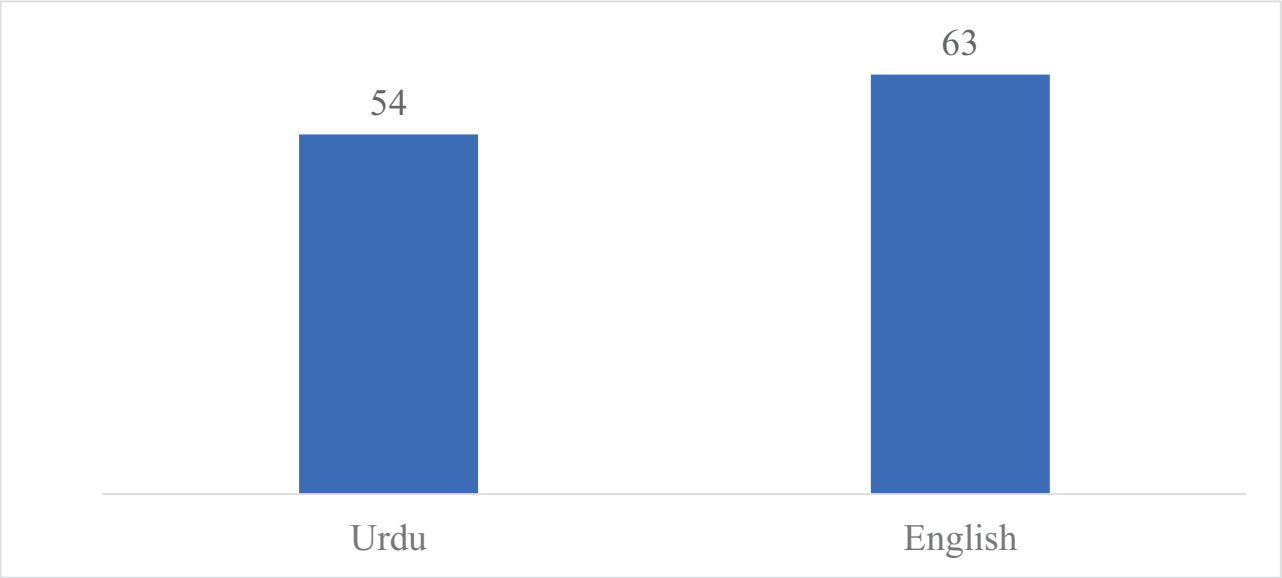


Figure 10: Students' Performance in Reading Fluency by Curriculum Benchmarks



3.2 Performance of Teachers

The findings from the Large-Scale Assessment (LSA) provide overview of Teachers performance across gender, subject areas and cognitive domains.

3.2.1 Subject Wise Performance of Teachers

Figure 11 shows the performance of teachers across four subjects (English, Urdu, Math, and Science) for the years 2024 and 2022

Figure 11: Subject Wise Performance of Teachers

Figure 11. shows the performance of teachers across four subjects (English, Urdu, Math, and Science) for the years 2024 and 2022, as well as the overall average performance for both years. In English, there was a noticeable improvement from a score of 77 in 2022 to 82 in 2024. Similarly, Urdu slightly increased from 78 in 2022 to 79 in 2024. However, Math experienced a decline, with scores dropping from 87 in 2022 to 82 in 2024. The most significant decrease was observed in Science, where scores fell from 84 in 2022 to 74 in 2024. Overall, the total average performance of teachers decreased marginally from 81 in 2022 to 80 in 2024.

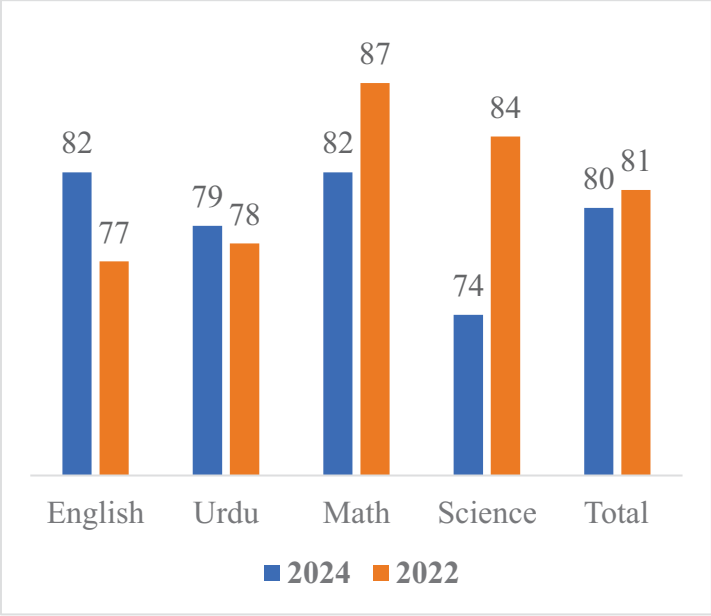
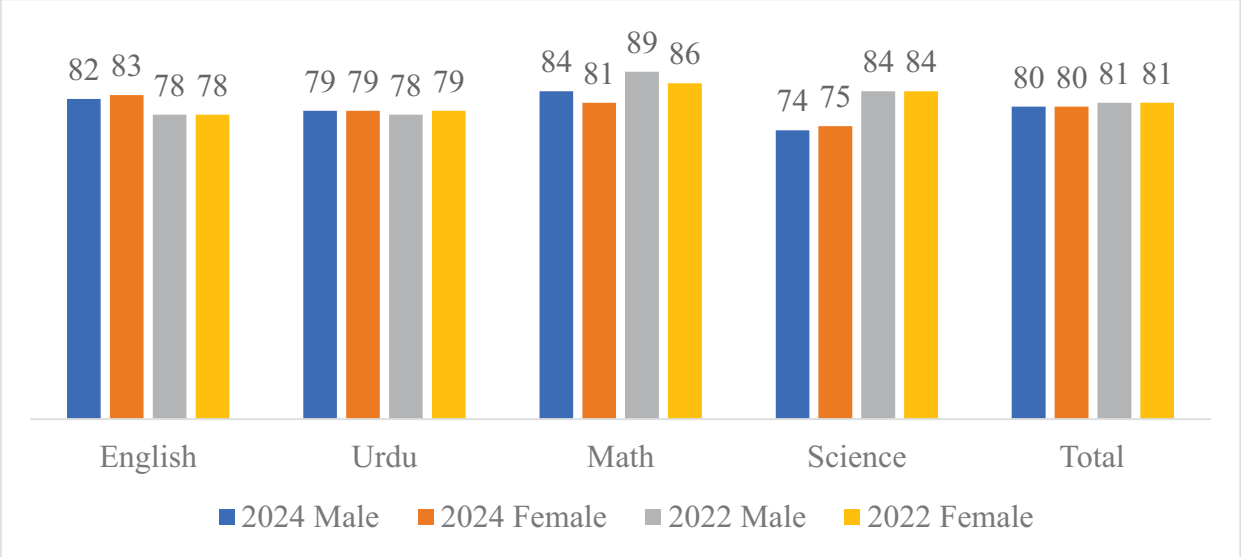


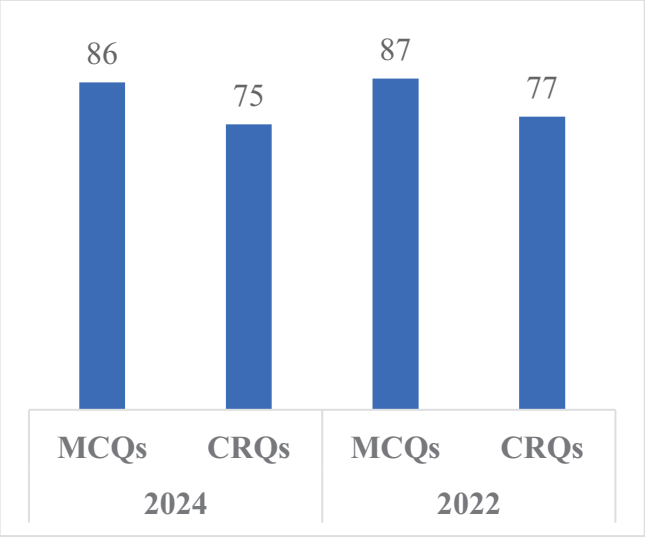
Figure 12: Gender-Based Subject-Wise Performance of Teachers



The provided figure details the gender-based subject-wise performance of teachers for the years 2024 and 2022. In 2024, female teachers slightly outperformed male teachers in English with scores of 83 compared to 82, and also in science with scores of 75 compared to 74. In Math, male teachers scored higher, with 84 compared to the female teachers' 81. In Urdu, both male and female teachers scored equally, at 79. When comparing the performance from 2022 to 2024, it is evident that both male and female teachers had the same scores in English in 2022 (78), and while their scores improved in 2024, the performance in Math and Science declined for both genders. Specifically, male teachers' Math scores dropped from 89 in 2022 to 84 in 2024, and female teachers' scores dropped from 86 to 81. Similarly, Science scores for both genders fell from 84 in 2022 to 74 and 75 in 2024 for males and females, respectively.

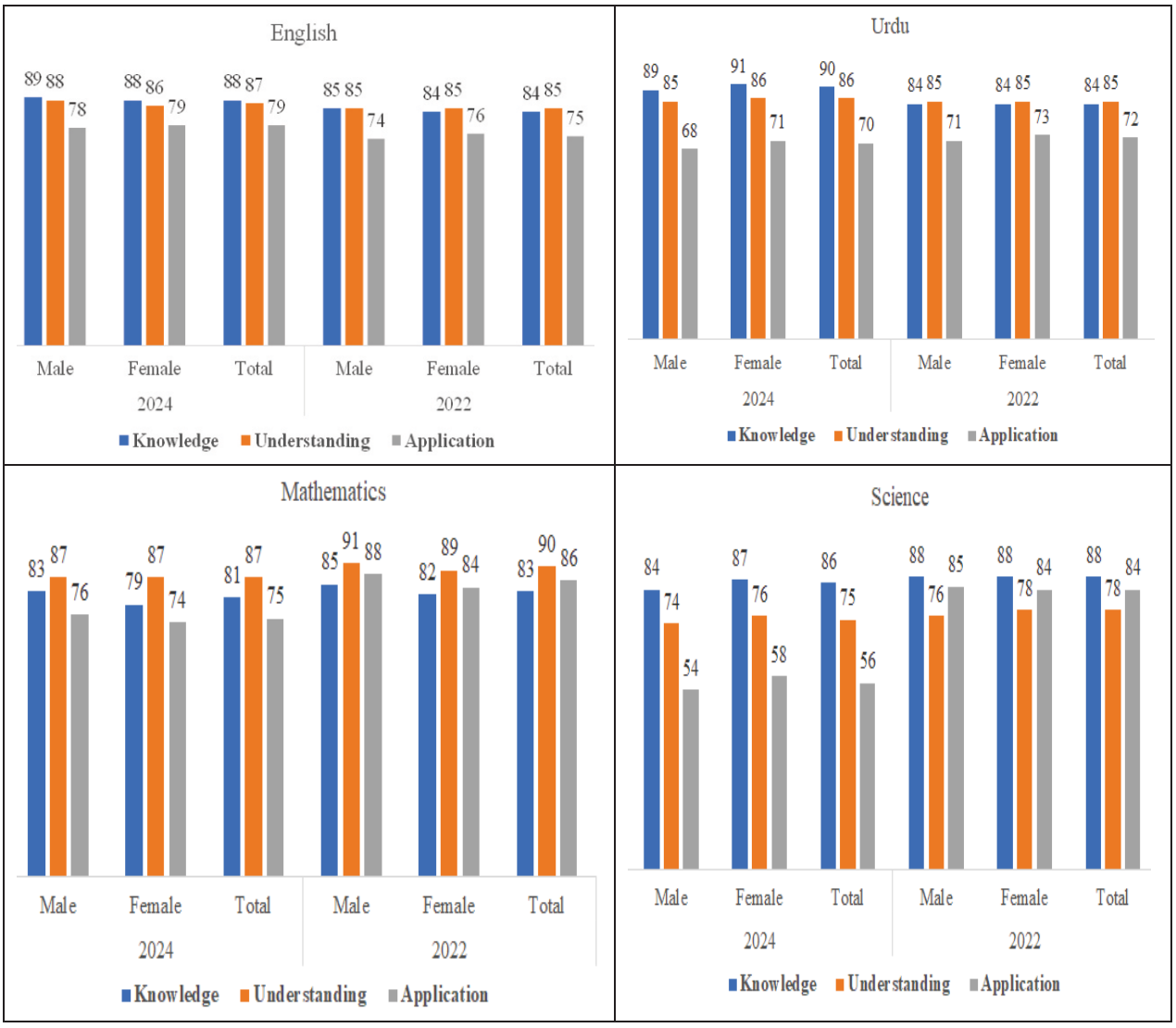
Figure 13: Performance of Teachers by Item Type

Figure 13 displays the item-type-wise performance of teachers for the years 2024 and 2022, focusing on Multiple Choice Questions (MCQs) and Constructed Response Questions (CRQs). In 2024, teachers scored 86 in MCQs and 75 in CRQs. Comparatively, in 2022, teachers scored 87 in MCQs and 77 in CRQs. This data indicates a slight decline in performance for both types of questions over the two years. The score for MCQs decreased from 87 in 2022 to 86 in 2024, while the score for CRQs fell from 77 in 2022 to 75 in 2024.



The figure presents the performance of male and female teachers in different subjects (English, Urdu, Mathematics, and Science) across various cognitive levels (Knowledge, Understanding, and Application) for the years 2024 and 2022. In English, the overall scores for Knowledge and Understanding improved in 2024, with totals of 88 and 87, respectively, compared to 84 and 85 in 2022. However, the score for Application remained stable at 79 in 2024, slightly higher than 75 in 2022. In Urdu, there was an improvement in the Knowledge level from 84 in 2022 to 90 in 2024, while Understanding remained consistent at 86, and Application showed a slight decrease from 72 in 2022 to 70 in 2024. In Mathematics, there was a decrease in Knowledge scores from 83 in 2022 to 81 in 2024, while Understanding remained stable at 87 in 2024 compared to 90 in 2022, and Application scores decreased from 86 in 2022 to 75 in 2024. In Science, Knowledge scores dropped from 88 in 2022 to 86 in 2024, Understanding scores decreased slightly from 78 in 2022 to 75 in 2024, and Application scores significantly declined from 84 in 2022 to 56 in 2024. These trends highlight specific areas, particularly in Mathematics and Science applications, where there is a need for targeted improvements to enhance overall teacher performance.

Figure 14: Gender-Wise Performance of Teachers in Grade 5 by Subject and Cognitive Levels: 2024 vs. 2022



Section 2

Comparative Analysis

3.3 Comparison of Performance of Students and Teachers

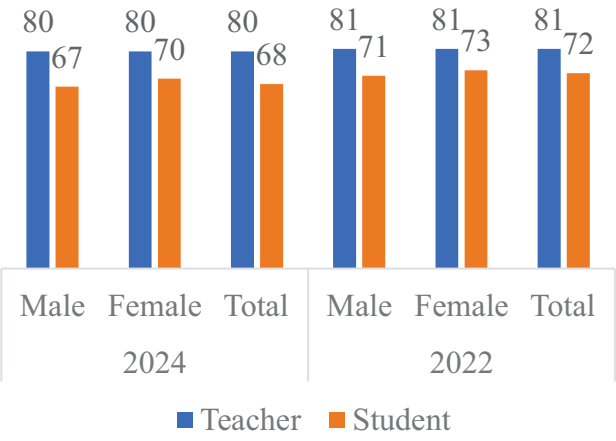
Overall scores of teachers and students in all four subjects were used to compare the performance of students and teachers.

3.3.1 Gender-Wise Performance of Teachers and Students

Figure 15 compares the overall performance of teachers and students for the years 2024 and 2022.

Figure 15: Comparison of Mean Scores Achieved by Teachers and Students

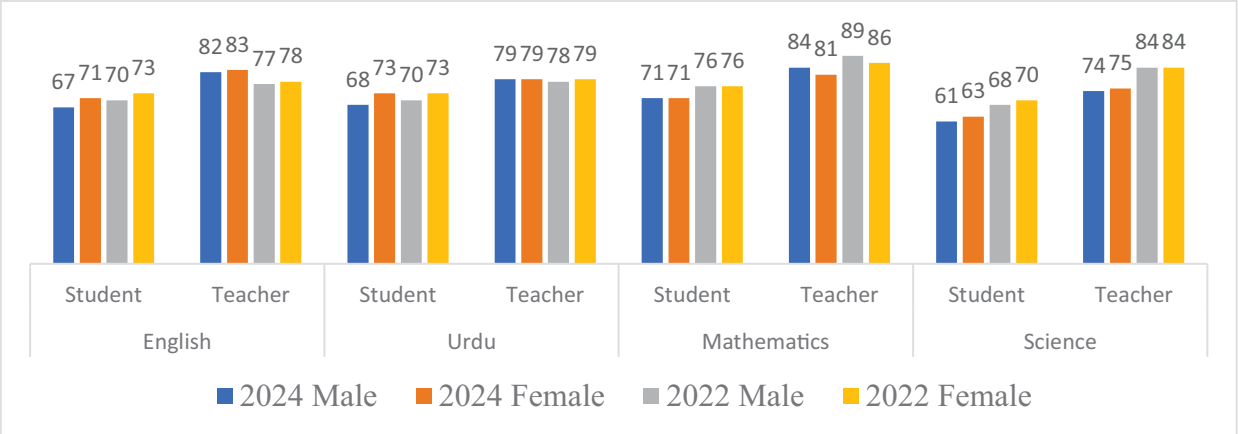
Figure 15 compares the overall performance of teachers and students for the years 2024 and 2022, broken down by gender. In 2024, both male and female teachers achieved an equal performance score of 80, slightly lower than the consistent score of 81 for both genders in 2022. For students, male students scored 67 in 2024, while female students scored 70, leading to a combined total score of 68. This is a decrease from 2022, where male students scored 71, female students scored 73, and the combined total was 72.



3.3.2 Subject-Wise Performance of Teachers and Students

Figure 16 provides a comparative analysis of the performance of students and teachers in English, Urdu, Mathematics, and Science, differentiated by gender for the years 2024 and 2022.

Figure 16 Subject-Wise Performance of Teachers and Students across the subjects



In English, student scores declined slightly from 2022 to 2024, with male students dropping from 70 to 67 and female students from 73 to 71. Conversely, teacher performance in English improved, with male teachers increasing their scores from 77 to 82 and female teachers from 78 to 83. In Urdu, student scores showed a minor decrease for male students (from 70 to 68), while female students' scores remained stable at 73. Teacher scores in Urdu saw a slight improvement, with male teachers rising from 78 to 79 and female teachers maintaining their score of 79.

In Mathematics, both male and female students experienced a notable decline, scoring 71 in 2024 compared to 76 in 2022. Teacher scores in Mathematics also decreased, with male teachers dropping from 89 to 84 and female teachers from 86 to 81. Science performance showed a significant decline for both students and teachers. Male students' scores decreased from 68 to 61, and female students' scores from 70 to 63. Teacher scores in science saw a substantial drop, with both male and female teachers decreasing from 84 in 2022 to 74 and 75, respectively, in 2024.

Overall, while teachers demonstrated improvements in English and maintained steady performance in Urdu, there were declines in Mathematics and Science. Student performance declined across all subjects, particularly in Science and Mathematics. This indicates a need for targeted efforts to enhance both teaching and student learning outcomes, especially in Mathematics and Science, to address the downward trend observed from 2022 to 2024.

3.4 Performance of SED, PEF, and PEIMA Administered Schools

The figure 17 shows the mean score of SED, PEF and PEIMA administered schools.

Figure 17: Students' Performance in SED, PEF, and PEIMA Schools

Figure 17 compares the performance of three educational institutions, PEF, and PEIMA across the years 2024 and 2022. In 2024, SED and PEF both scored 68, while PEIMA scored 63. In comparison, the scores in 2022 were higher across the board, with SED scoring 72, PEF scoring 70, and PEIMA scoring 68

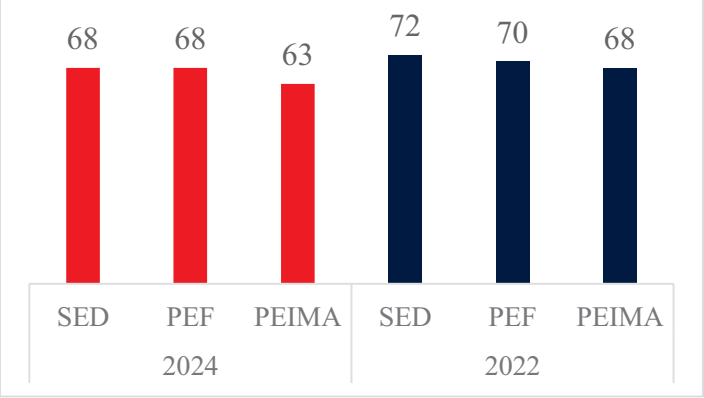


Figure 18: Students' Performance in Different Subjects in SED, PEF, and PEIMA Schools: 2024 vs. 2022

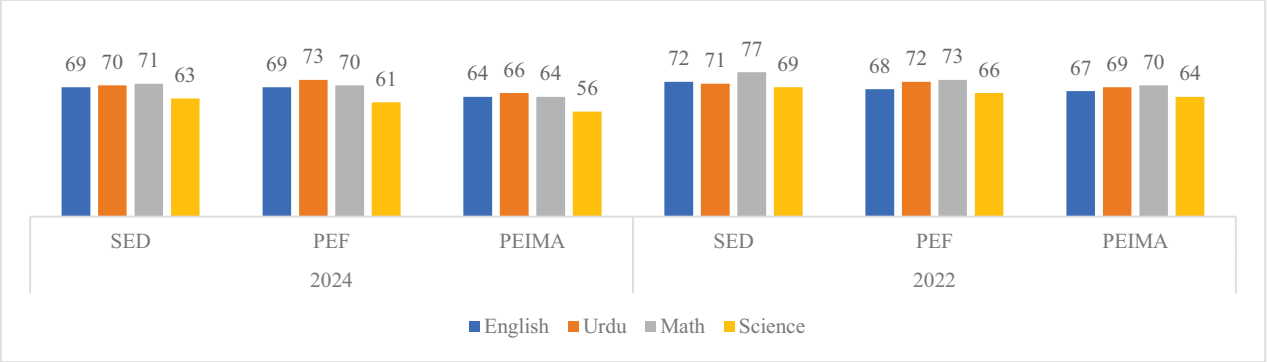


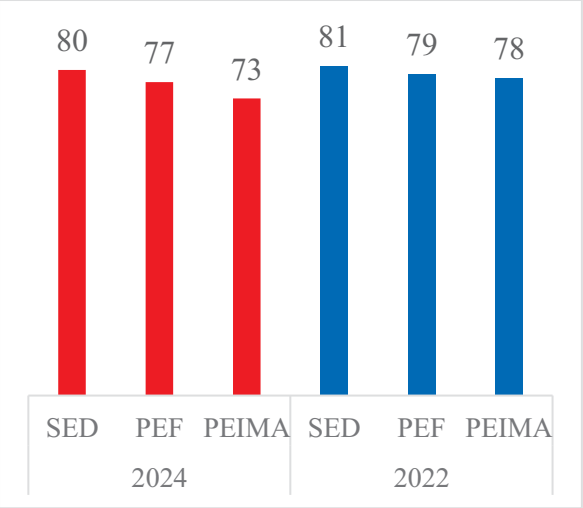
Figure 18 compares the performance of three educational institutions SED, PEF, and PEIMA in English, Urdu, Math, and Science for the years 2024 and 2022. In English, both SED and PEF scored 69 in 2024, while PEIMA scored 64, all showing a decline from 2022 scores where SED had 72, PEF had 68, and PEIMA had 67. In Urdu, SED scored 70, PEF scored 73, and PEIMA scored 66 in 2024, compared to 71, 72, and 69 respectively in 2022. This indicates a slight improvement for PEF but a decline for SED and PEIMA. In Math, SED scored 71, PEF 70, and PEIMA 64 in 2024, a significant decrease from the 2022 scores of 77, 73, and 70 respectively. In Science, all institutions saw a marked drop, with SED scoring 63, PEF 61, and PEIMA 56 in 2024, down from 69, 66, and 64 in 2022. Overall, the data reveals a general decline in performance across all subjects and institutions, with the most significant drops observed in Math and Science. This trend highlights the need for targeted improvements in these areas to reverse the downward trajectory and enhance educational outcomes.

3.4.1 Teachers' Performance in SED, PEF, and PEIMA Schools

Figure 19 compares the overall performance of teachers from three educational institutions SED, PEF, and PEIMA for the years 2024 and 2022.

Figure 19: Teachers' Performance in SED, PEF and PEIMA Administered Schools

Figure 19 compares the overall performance of teachers from three educational institutions or programs—SED, PEF, and PEIMA—for the years 2024 and 2022. In 2024, the performance scores for teachers were 80 for SED, 77 for PEF, and 73 for PEIMA. In comparison, the scores in 2022 were slightly higher, with SED at 81, PEF at 79, and PEIMA at 78. This indicates a decline in teacher performance across all three institutions over the two-year period. SED experienced a small drop from 81 to 80, PEF saw a decrease from 79 to 77, and PEIMA had the most significant decline, dropping from 78 to 73.



3.4.2 Teachers' Performance Across Subjects in SED, PEF, and PEIMA Schools

Figure 20: Teachers' Performance in SED, PEF and PEIMA Schools Across the Subjects

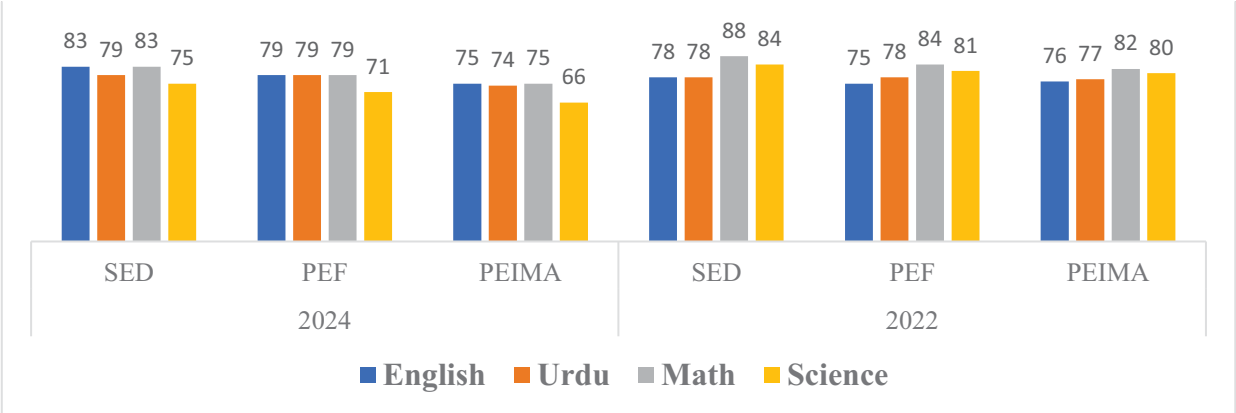


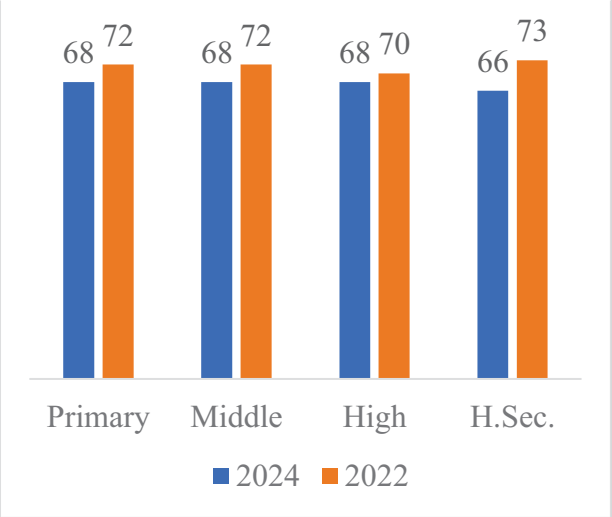
Figure 20 compares the performance of teachers in English, Urdu, Math, and Science across three School administration type SED, PEF, and PEIMA for the years 2024 and 2022. In English, all three showed improvements, with SED teachers increasing their scores from 78 in 2022 to 83 in 2024, PEF teachers from 75 to 79, and PEIMA teachers from 76 to 75. In Urdu, SED and PEF teachers also showed slight improvements, scoring 79 in 2024 compared to 78 in 2022, while PEIMA teachers saw a slight decline from 77 to 74.

In contrast, Math scores showed a significant decline across all institutions. SED teachers' scores dropped from 88 in 2022 to 83 in 2024, PEF teachers from 84 to 79, and PEIMA teachers from 82 to 75. Similarly, Science scores experienced a notable decline. SED teachers' scores fell from 84 in 2022 to 75 in 2024, PEF teachers from 81 to 71, and PEIMA teachers from 80 to 66.

3.4.3 Performance of Students at Different Schools Levels

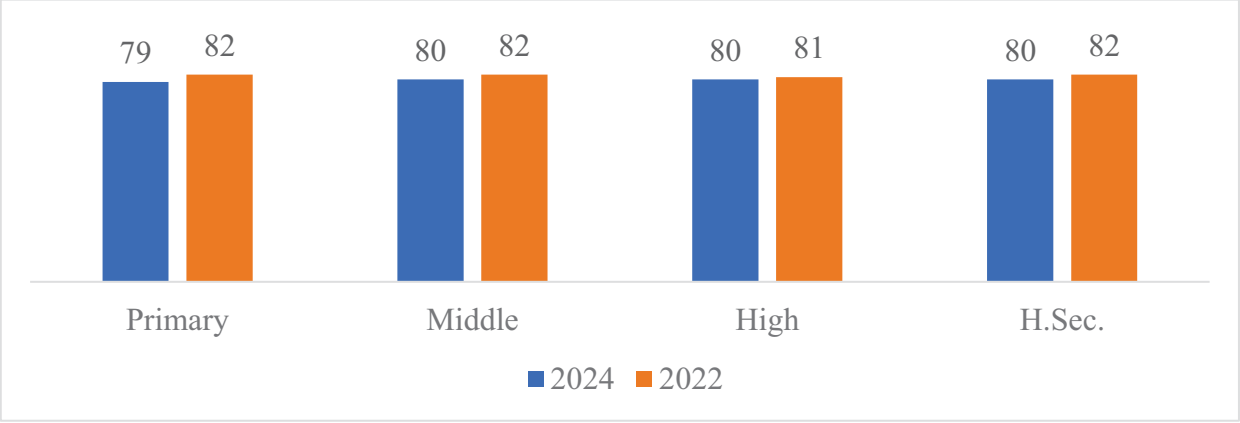
Figure 21: Students' Performance in Primary, Middle, Secondary and Higher Secondary Schools

Figure 21 provides a comparison of performance across different educational levels (Primary, Middle, High, and Higher Secondary) for the years 2024 and 2022. In 2024, the performance scores were 68 for Primary, Middle, and High levels, and 66 for Higher Secondary. This represents a decline from 2022, where the scores were 72 for both Primary and Middle levels, 70 for High level, and 73 for Higher Secondary. This data indicates a consistent drop in performance across all educational levels from 2022 to 2024, with the most significant decrease observed at the Higher Secondary level, which fell from 73 to 66.



3.4.4 Performance of Teachers at Different Schools Levels

Figure 22: Performance Comparison Across Educational Levels—Primary, Middle, High, and Higher Secondary: 2024 vs. 2022



In 2024, teachers at the Primary level scored 79, a decrease from 82 in 2022. Similarly, teachers at the Middle level scored 80 in 2024, down from 82 in 2022. High school teachers scored 80 in 2024, slightly

lower than 81 in 2022. Higher Secondary teachers also declined, scoring 80 in 2024 compared to 82 in 2022.

Overall, teacher performance has a consistent downward trend across all educational levels from 2022 to 2024.

3.5 District-Wise Comparative Analysis of Students and Teachers Based on Overall, English, Urdu, Math, and Science Performance

3.5.1 Ranking of Districts Based on Students' Performance

Table 8: Districts Ranked by Descending Student Scores in English, Urdu, Math, and Science

Rank	Overall		English		Urdu		Math		Science	
	District Name	Score	District Name	Score.	District Name	Score	District Name	Score	District Name	Score
1.	Narowal	76	Narowal	78	Muzaffargarh	78	Muzaffargarh	78	D.G. Khan	71
2.	Muzaffargarh	75	Muzaffargarh	76	Narowal	77	Narowal	78	Narowal	70
3.	D.G. Khan	74	Multan	74	D.G. Khan	76	Jhang	77	Multan	67
4.	Multan	73	D.G. Khan	74	Multan	75	Layyah	75	Gujranwala	67
5.	Jhang	72	Gujranwala	74	Jhang	75	Nankana sahib	75	Bahawalpur	67
6.	Nankana sahib	72	Nankana sahib	73	Nankana sahib	74	Mianwali	75	Muzaffargarh	66
7.	Gujranwala	71	Jhang	73	Bahawalpur	73	Faisalabad	75	Faisalabad	66
8.	Layyah	71	Sialkot	73	Kasur	73	Multan	75	Khanewal	66
9.	Bahawalpur	70	Vehari	73	Bahawalnagar	72	Rajanpur	74	Attock	65
10.	Faisalabad	70	Rajanpur	73	Layyah	72	D.G. Khan	74	Lahore	64
11.	Khanewal	70	Layyah	73	Pakpattan	72	Khanewal	73	Nankana sahib	64
12.	Rajanpur	70	Khanewal	71	Sialkot	72	Gujranwala	72	Bahawalnagar	64
13.	Sialkot	70	Gujrat	71	Rajanpur	72	Kasur	72	Gujrat	64
14.	Kasur	69	Kasur	71	Sheikhupura	71	Bahawalnagar	71	Khushab	64
15.	Bahawalnagar	69	Sargodha	71	Mianwali	71	Mandi Bahauddin	71	Chakwal	64
16.	Mianwali	69	Bahawalpur	70	Sargodha	71	Vehari	71	Jhang	64
17.	Gujrat	69	Faisalabad	70	Gujrat	70	Sialkot	71	Layyah	63
18.	Vehari	68	Mianwali	70	Gujranwala	70	Attock	71	Mandi Bahauddin	63
19.	Pakpattan	68	Pakpattan	69	Faisalabad	70	Pakpattan	70	Sialkot	63
20.	Mandi Bahauddin	68	Khushab	69	Lodhran	70	Bahawalpur	70	Kasur	62
21.	Khushab	67	Jhelum	68	Rawalpindi	69	Rawalpindi	70	Lodhran	61
22.	Attock	67	Mandi Bahauddin	68	Rahimyarkhan	69	Lodhran	70	Chiniot	60
23.	Lahore	67	Bahawalnagar	68	Khushab	69	Chiniot	70	Rajanpur	60
24.	Lodhran	67	Rawalpindi	68	Lahore	69	Gujrat	70	Rawalpindi	60
25.	Rawalpindi	67	Hafizabad	67	Khanewal	69	Sargodha	69	Mianwali	60

Rank	Overall		English		Urdu		Math		Science	
	District Name	Score	District Name	Score.	District Name	Score	District Name	Score	District Name	Score
26.	Sargodha	67	Lahore	66	Attock	69	Rahimyarkhan	69	Hafizabad	60
27.	Chakwal	66	Lodhran	66	Hafizabad	69	Bhakkar	68	Vehari	60
28.	Chiniot	66	Chiniot	65	Chakwal	68	Chakwal	68	Rahimyarkhan	59
29.	Rahimyarkhan	66	Sheikhupura	65	Mandi bahu Din	68	Lahore	68	Pakpattan	59
30.	Hafizabad	66	Attock	65	Vehari	68	Khushab	68	Bhakkar	58
31.	Sheikhupura	65	Rahimyarkhan	65	Chiniot	67	Hafizabad	67	Toba Tek Singh	56
32.	Bhakkar	64	Toba Tek Singh	64	Bhakkar	67	Sheikhupura	67	Sargodha	56
33.	Jhelum	63	Chakwal	64	Okara	67	Okara	66	Sheikhupura	55
34.	Okara	62	Okara	62	Toba Tek Singh	65	Jhelum	64	Okara	54
35.	Toba Tek Singh	62	Bhakkar	61	Jhelum	64	Toba Tek Singh	62	Jhelum	53
36.	Sahiwal	59	Sahiwal	61	Sahiwal	64	Sahiwal	59	Sahiwal	52

The table 8 outlines the performance of districts across Punjab in various subjects. Narowal emerges as the top performer overall, with a score of 76, and also leads in English with a score of 78, as well as in Science, where it scores 78. In contrast, Sahiwal shows the lowest performance across all subjects, scoring 59 overall and just 52 in English, Urdu, and Math. Muzaffargarh and D.G. Khan also demonstrate strong performances, with Muzaffargarh scoring highly in Urdu (78) and D.G. Khan excelling in Math (77). However, Sahiwal's scores are consistently lower, highlighting significant challenges in its educational outcomes. The data reveals distinct strengths and weaknesses across districts, emphasizing varying levels of academic achievement in different subjects within the province.

3.5.2 Ranking of Districts Based on Teachers' Performance

Table 9 List of districts ranked by descending Teachers scores in English, Urdu, Math, and Science

Rank	Overall		English		Urdu		Math		Science	
	District Name	Score	District Name	Score.	District Name	Score	District Name	Score	District Name	Score
1.	Attock	86	Sargodha	87	Attock	84	Attock	91	Attock	83
2.	Gujranwala	83	Jhelum	86	Sahiwal	84	Faisalabad	87	Gujrat	82
3.	Mianwali	83	Gujranwala	86	Jhang	83	Mianwali	87	Gujranwala	82
4.	Faisalabad	83	Bahawalpur	86	Muzaffargarh	83	Gujranwala	86	Faisalabad	81
5.	Bahawalpur	83	Attock	85	Jhelum	82	Chiniot	86	Bahawalpur	80
6.	Gujrat	83	Vehari	85	Sargodha	82	Sargodha	86	Mianwali	80
7.	Hafizabad	82	Hafizabad	85	Layyah	82	Jhang	86	Hafizabad	79
8.	Sargodha	82	Mianwali	85	Mandi Bahauddin	81	Nankana Sahib	85	Khushab	78
9.	Chakwal	82	Jhang	84	Bahawalpur	81	Chakwal	85	Jhelum	78
10.	Jhelum	82	Chakwal	84	Hafizabad	81	Hafizabad	85	Chakwal	78
11.	Muzaffargarh	81	Gujrat	84	Gujrat	81	Bahawalpur	84	D.G. Khan	77

Rank	Overall		English		Urdu		Math		Science	
	District Name	Score	District Name	Score.	District Name	Score	District Name	Score	District Name	Score
12.	Layyah	81	Muzaffargarh	84	Rajanpur	80	Rajanpur	84	Lahore	76
13.	Jhang	81	Layyah	84	Nankana Sahib	80	Gujrat	84	Layyah	76
14.	Vehari	80	Faisalabad	83	Mianwali	80	Muzaffargarh	84	Narowal	76
15.	Narowal	80	Rawalpindi	83	Faisalabad	80	Lodhran	84	Khanewal	75
16.	Sahiwal	80	Narowal	83	Chakwal	80	Layyah	83	Muzaffargarh	75
17.	Nankanasahib	80	Nankana Sahib	83	Bhakkar	80	Khanewal	83	Multan	74
18.	Rawalpindi	79	Lahore	82	Vehari	80	Bhakkar	83	Sahiwal	74
19.	D.G.Khan	79	Khanewal	82	Sheikhupura	80	Rawalpindi	83	Vehari	74
20.	Multan	79	Bahawalnagar	82	Gujranwala	80	Vehari	83	Mandi Bahauddin	74
21.	Mandibahud	79	Multan	82	Narowal	80	Khushab	82	Sargodha	73
22.	Lahore	79	Lodhran	82	Rawalpindi	79	Multan	82	Toba Tek Singh	72
23.	Khushab	79	Okara	81	Rahimyarkhan	79	D.G. Khan	82	Jhang	72
24.	Khanewal	79	Mandi Bahauddin	81	Bahawalnagar	79	Okara	81	Rawalpindi	72
25.	Chiniot	79	Sahiwal	81	Pakpattan	79	Bahawalnagar	81	Bahawalnagar	72
26.	Bhakkar	79	Kasur	81	Multan	78	Narowal	81	Chiniot	72
27.	Lodhran	79	Khushab	81	Lodhran	78	Mandi Bahauddin	80	Rahimyarkhan	72
28.	Bahawalnagar	78	Pakpattan	81	Kasur	78	Lahore	80	Bhakkar	71
29.	Rahimyarkhan	78	Rahimyarkhan	80	D.G. Khan	78	Toba Tek Singh	80	Lodhran	71
30.	Toba Tek Singh	77	D.G. Khan	80	Toba Tek Singh	78	Jhelum	80	Nankana Sahib	70
31.	Kasur	77	Chiniot	80	Lahore	77	Sahiwal	80	Kasur	70
32.	Pakpattan	77	Bhakkar	80	Chiniot	76	Kasur	80	Pakpattan	70
33.	Sheikhupura	76	Sheikhupura	80	Okara	75	Rahimyarkhan	79	Sheikhupura	68
34.	Okara	76	Toba Tek Singh	79	Khushab	75	Pakpattan	78	Sialkot	67
35.	Rajanpur	75	Sialkot	76	Khanewal	74	Sheikhupura	77	Okara	65
36.	Sialkot	73	Rajanpur	71	Sialkot	74	Sialkot	75	Rajanpur	64

The table 9 provides a comprehensive overview of teacher performance across various districts in Punjab, ranked by their scores in Overall, English, Urdu, Math, and Science. Attock stands out with the highest overall score of 86, reflecting its strong teaching quality across subjects. In English, Sargodha leads with a score of 87, while Attock also performs exceptionally well, scoring 84. In Urdu, Attock scores 84, highlighting its robust performance in this subject as well. For Math, Attock excels with a top score of 91, demonstrating superior teaching effectiveness. However, the data reveals lower performance in districts such as Sialkot and Rajanpur, which score 67 and 75 overall. In Science, Attock leads with a score of 83, with other high performers including Gujrat and Bahawalpur. The table underscores significant disparities in teacher performance across districts, with Attock consistently achieving high scores, while other districts, like Sialkot and Rahimyarkhan, show weaker results.

Section 3

Relationship between Students' Performance and Influencing Factors

3.6 Relationship between Students' Performance and Key Influencing Factors

Attributes

The relationship between students' academic performance and various influencing factors, such as students' personal attributes, school characteristics, teacher quality, head teacher leadership, and parental background, was explored through Logistic regression. Binary logistic regression was employed to identify key predictors of student performance based on personal attributes, school characteristics, teacher quality, head teacher leadership, and parental background. Students were categorized into two performance groups: high-performing and low-performing. High-performing students were those with overall scores above 80%, while low-performing students had scores below 50%. This classification enabled a focused analysis of the factors that contribute to higher performance levels, offering insights into targeted interventions that could potentially enhance student performance across these critical educational areas

3.6.1 Factors Impact on Students' Performance Reported by Headteacher

Language Used in School: Schools using English as the medium of instruction have a lower likelihood of students achieving higher academic performance compared to those using both languages (OR=0.32, 95% CI=0.13-0.77, p=0.011).

Competent Teachers: The presence of competent teachers is significantly associated with better student performance (OR=0.575, 95% CI=0.35-0.96, p=0.034).

Expert Teachers (Subject-Specific)

- **English Teacher**: Schools with expert English teachers show significantly better student performance (OR=0.542, 95% CI=0.32-0.93, p=0.026).
- **Science Teacher**: The presence of an expert science teacher is significantly beneficial for student outcomes (OR=0.370, 95% CI=0.17-0.82, p=0.014).
- **Urdu Teacher**: Having an expert Urdu teacher significantly improves student performance (OR=0.348, 95% CI=0.13-0.9, p=0.030).
-

Simultaneous Teaching of Multiple Classes: Schools where two or more classes are taught together have significantly poorer student performance (OR=1.943, 95% CI=1.16-3.24, p=0.011).

Use of Audio-Visual Aids: Frequent use of audio-visual aids in teaching is significantly associated with improved student outcomes (OR=2.319, 95% CI=1.13-4.76, p=0.022).

Playing Grounds: The availability of playing grounds is significantly associated with better student performance (OR=1.988, 95% CI=1.15-3.43, p=0.013).

Community/Parental Communication: Higher levels of parental communication are significantly linked to better student performance (OR=0.406, 95% CI=0.19-0.87, p=0.020)

3.6.2 Factors Impact on Students' Performance Reported by English Teachers

Gender: Male teachers have significantly lower odds of achieving higher academic performance compared to Female teachers (OR=0.356, 95% CI=0.22-0.57, p=0.000).

Area: Rural teachers have significantly lower odds of achieving higher academic performance compared to Urban teachers (OR=0.409, 95% CI=0.22-0.74, p=0.003).

Distance from Home to School: Teachers living 11-20 km from the school have significantly lower odds of achieving higher academic performance compared to those living 1-10 km (OR=0.458, 95% CI=0.28-0.76, p=0.002).

Mode of Transportation: Teachers using Raksha/Bus/Train have significantly higher odds of achieving higher academic performance compared to those commuting Pedestrian or by Bicycle/bike (OR=2.556, 95% CI=1.36-4.8, p=0.004).

Satisfaction with Salary: Teachers who are Not satisfied with their salary have significantly lower odds of achieving higher academic performance compared to those who are Satisfied (OR=0.561, 95% CI=0.32-0.98, p=0.044).

Curriculum Adaptation to Children's Mental Abilities: Teachers who perceive the curriculum as Completely or Mostly aligned with children's mental abilities have significantly higher odds of achieving higher academic performance (OR=6.024, 95% CI=2.39-15.2, p=0.000; OR=7.766, 95% CI=3.04-19.86, p=0.000).

Curriculum Language Simplicity: Teachers who perceive the curriculum as Completely or Mostly in simple language have significantly higher odds of achieving higher academic performance (OR=2.567, 95% CI=1.08-6.12, p=0.033; OR=3.442, 95% CI=1.41-8.4, p=0.007).

EaSTE Module Training: Teachers who have Not undergone EaSTE module training have significantly lower odds of achieving higher academic performance compared to those who have undergone the training (OR=0.596, 95% CI=0.36-0.97, p=0.039)

3.6.3 Factors Impact on Students' Performance Reported by Urdu Teachers

Studied SNC: Teachers who did not study SNC have significantly higher odds of achieving higher academic performance compared to those who did study SNC (OR=0.251, 95% CI=0.08-0.82, p=0.022).

Urdu Book Tailored to Cognitive Abilities: Teachers who believe that the Urdu book is Mostly tailored to match children's cognitive abilities have significantly higher odds of achieving higher academic performance (OR=2.567, 95% CI=1.01-6.49, p=0.046).

3.6.4 Factors Impact on Students' Performance Reported by Math Teachers

Education Provided in School: Schools providing English education have lower odds of achieving higher academic performance compared to those providing both English and Urdu (OR=0.466, 95% CI=0.26-0.84, p=0.011).

Studied SNC: Teachers who did not study SNC have significantly higher odds of achieving higher academic performance compared to those who did study SNC (OR=0.225, 95% CI=0.06-0.92, p=0.037).

Students Have Free Math Books: Teachers whose students do not have free math books have significantly higher odds of achieving higher academic performance compared to those whose students do have free math books (OR=14.111, 95% CI=3.11-64.12, p=0.001).

Free Textbooks Provided in May: Free textbooks provided in 'May' are associated with significantly higher odds of achieving higher academic performance (OR=7.667, 95% CI=1.36-43.13, p=0.021).

Training Course: Teachers who attended Teaching training courses have significantly higher odds of achieving higher academic performance (OR=2.977, 95% CI=1.27-7, p=0.012).

Feedback from AEO: Teachers receiving mostly feedback from AEO after class visits have higher odds of achieving higher academic performance compared to those receiving feedback rarely (OR=0.434, 95% CI=0.2-0.96, p=0.039).

Lesson Planning Time: Teachers who plan lessons in 10 minutes have significantly higher odds of achieving higher academic performance compared to those planning lessons in >30 minutes (OR=5.539, 95% CI=1.26-24.38, p=0.024).
Group Work: Teachers whose students work in groups daily have significantly higher odds of achieving higher academic performance compared to those whose students work in groups weekly (OR=9.355, 95% CI=1.89-46.41, p=0.006).

Checking Classroom Work: Teachers who check classroom work every 10 minutes have significantly higher odds of achieving higher academic performance compared to those checking work every 30 minutes (OR=0.332, 95% CI=0.15-0.73, p=0.006).

Availability of Classrooms: Teachers with classrooms available according to students' needs have higher odds of achieving higher academic performance compared to those without (OR=0.533, 95% CI=0.32-0.89, p=0.016).

Additional Books: Teachers who use additional books have lower odds of achieving higher academic performance compared to those relying on Head/AEO for resources (OR=0.397, 95% CI=0.19-0.82, p=0.012).

Home Environment Impact: Teachers who believe that home environment impacts students' academic performance have higher odds of achieving higher academic performance (OR=5.217, 95% CI=0.97-28.01, p=0.016).

3.6.5 Factors Impact on Students' Performance Reported by Science Teachers

Gender: Male teachers have lower odds of achieving higher academic performance compared to female teachers (OR=0.528, 95% CI=0.31-0.89, p=0.017).

Area: Teachers in rural areas have higher odds of achieving higher academic performance compared to those in urban areas (OR=1.781, 95% CI=1.01-3.15, p=0.047).

Training Courses: Teachers attending Teaching training courses have higher odds of achieving higher academic performance compared to those attending Leadership training courses (OR=1.781, 95% CI=1.01-3.15, p=0.047).

Behavior of AEO: Teachers who perceive AEOs as professional have higher odds of achieving higher academic performance compared to those who view them as non-professional (OR=2.674, 95% CI=1.15-6.23, p=0.023).

Use of Additional Books: Teachers using additional books have lower odds of achieving higher academic performance compared to those relying on Head/AEO (OR=0.304, 95% CI=0.14-0.67, p=0.003).

Lesson Planning Time: Teachers who plan lessons in 20 minutes have higher odds of achieving higher academic performance compared to those planning in 10 minutes (OR=2.204, 95% CI=1.29-3.78, p=0.004).

Classroom Availability: Teachers who do not have a classroom have lower odds of achieving higher academic performance compared to those who do (OR=0.347, 95% CI=0.14-0.85, p=0.021).

Need for More Classrooms: Teachers who feel the need for more classrooms have higher odds of achieving higher academic performance compared to those who do not (OR=1.791, 95% CI=1.04-3.08, p=0.035).

Assessment Methods: Teachers who assess students mostly through oral assessments have lower odds of achieving higher academic performance compared to those assessing always (OR=0.408, 95% CI=0.25-0.68, p=0.000). Teachers who assess students mostly through homework have lower odds of achieving higher academic performance compared to those assessing always (OR=0.397, 95% CI=0.23-0.68, p=0.001).

Competence in Science Subject: Teachers who feel incompetent in science have lower odds of achieving higher academic performance compared to those who feel competent (OR=0.396, 95% CI=0.17-0.92, p=0.032).

Use of Science in Daily Life: Teachers who use science every time have higher odds of achieving higher academic performance compared to those who use it at appropriate times (OR=2.239, 95% CI=1.3-3.85, p=0.003).

Perception of Topics: Teachers finding the topic of light and sound to be easy have higher odds of achieving higher academic performance compared to those finding it difficult (OR=4.683, 95% CI=1.94-11.32, p=0.001). Teachers finding the topic of technology in daily life to be easy have higher odds of achieving higher academic performance compared to those finding it difficult (OR=3.753, 95% CI=1.88-7.48, p=0.000).

Knowledge of Matter: Teachers who know about matter have higher odds of achieving higher academic performance compared to those who do not (OR=0.368, 95% CI=0.18-0.76, p=0.007).

3.6.6 Factors Impact on Students' Performance Reported by Parents

Father's Education Level: Higher education levels of fathers were associated with better outcomes for students. Specifically, students whose fathers had completed primary (OR = 1.339, p = 0.028), middle (OR = 1.450, p = 0.006), matriculation (OR = 1.513, p = 0.002), or intermediate education (OR = 1.527, p = 0.022) showed improved results. Notably, students whose fathers had MA/M.Sc. degrees also performed better (OR = 2.434, p = 0.001).

Father's Occupation: The occupation of the father significantly impacted student outcomes. Students whose fathers were shopkeepers (OR = 1.410, p = 0.032) showed better outcomes compared to those whose fathers were farmers (OR = 0.701, p = 0.014).

Father's Monthly Income: Although most income brackets did not show significant differences, a marginal trend was observed in the 20000-40000 income bracket (OR = 0.710, p = 0.059), indicating that higher income might be associated with better outcomes.

Language Used by Father: The language used by the father to communicate with the child also affected outcomes. Speaking Urdu (OR = 2.265, p = 0.008) and English (OR = 0.356, p = 0.010) showed significant effects, with Urdu associated with better outcomes, while English had a more mixed impact. Additionally, children whose fathers spoke Saraiki also showed better results (OR = 2.411, p = 0.006).

Mother's Occupation: The mother's occupation had a significant effect on student performance. Children of mothers working in private sectors showed better outcomes (OR = 0.181, p < 0.001). Conversely, those whose mothers were shopkeepers (OR = 0.513, p = 0.007) or farmers (OR = 0.547, p = 0.001) experienced worse outcomes.
Mother's Income: Income levels of the mother were significantly associated with student performance. Specifically, children whose mothers earned between 5000-10000 (OR = 0.414, p < 0.001) and 10000-20000 (OR = 0.703, p = 0.023) performed better.

Child's Interests: Children's preferences also impacted their performance. Those who enjoyed gaming (OR = 1.591, p = 0.017) demonstrated better outcomes compared to those who preferred other activities.

Satisfaction with School: Parental satisfaction with the school was a crucial factor. High satisfaction levels were associated with better student outcomes, particularly among those who were mostly (OR = 0.406, p = 0.023) or rarely (OR = 0.245, p = 0.002) satisfied.

Reasons for Not Being Satisfied: Dissatisfaction due to always-present issues was significantly linked to poorer student performance (OR = 1.455, p = 0.031).

Child's School Attendance: Reasons for school absenteeism were also significant. Absences related to agriculture and laboring were notably higher (OR = 1.617, p < 0.001; OR = 1.529, p = 0.000).
Study Habits: Adherence to a study timetable (OR = 0.605, p < 0.001) and studying beyond the textbook (OR = 1.861, p < 0.001; OR = 1.557, p < 0.001) positively impacted performance.

School Improvement Measures: Effective school improvements were associated with increased parental participation (OR = 0.244, p < 0.001) and safe school environments (OR = 1.690, p = 0.033).

Safety in School: Perceived safety at school significantly affected student outcomes, with a higher sense of safety leading to better performance (OR = 3.867, p < 0.001; OR = 2.450, p = 0.002).

Parental Conviction to Recommend School: The willingness of parents to recommend the school to others was a significant indicator of student performance (OR = 0.620, p = 0.006).

3.6.7 Factors impact on Students' Performance Reported by Students

Siblings: Students with no siblings are more likely to be in the low-performance group compared to those with siblings. Specifically, those with 1-3 siblings are 1.98 times more likely, those with 4-6 siblings are 1.82

times more likely, and those with more than 6 siblings are 2.25 times more likely to be in the low-performance group compared to those with no siblings (p-values < 0.05).

Previous School Type: Students who previously attended private schools are significantly more likely to be in the high-performance group (p < 0.05), while the type of previous school attended does not show significant differences in the low-performance group.

A翻 tude Towards School: Students who feel good about coming to school are significantly more likely to be in the high-performance group. Conversely, those who do not feel good are more likely to be in the low-performance group (p < 0.05).

Mode of Transport to School: Students who come to school by bike are more likely to be in the low-performance group compared to those who walk, while those using a car are more likely to be in the high-performance (p < 0.05).

Activities After School: Students who go to a job or play after school are more likely to be in the low-performance, whereas those going home or attending tuition show less variation (p < 0.05).
Personal Hygiene: Regular brushing of teeth and consistent hand washing after using the toilet are associated with being in the high-performance group. The low-performance group shows lower adherence to these hygiene practices (p < 0.05).

Parental Care and Safety: Students whose parents always take care of their health and those who consider themselves safe at school are more likely to be in the high-performance group (p < 0.05).

Language Spoken at Home: The language spoken by siblings, family members, neighborhood friends, and school friends does not show significant differences in achievement levels, except for students who speak Sindhi with their siblings, who are more likely to be in the low-performance group (p < 0.05).

Use of Study Materials: Frequent use of computers, mobiles, tablets, and textbooks for studying at home is associated with being in the high-performance group, while rare use is linked to the low-performance group (p < 0.05).
Classroom Resources and Teaching Methods: The presence of basic classroom resources like electricity, fans, and blackboards, as well as teachers' use of activities and questioning techniques, significantly impacts student achievement. Students in the high-performance group are more likely to experience effective teaching methods and better classroom resources (p < 0.05).

3.6.8 Factors Impact on Students' Performance Reported by Members of SMC

Higher Authority Invitation in SMC Meetings: Members favoring the inclusion of higher authorities in SMC meetings are significantly more likely to be in the high activity group, with an odds ratio of 2.16 (95% CI: 1.21-3.86) and a p-value of 0.009.

Member Activity: Active members are predominantly in the high activity group.
Non-active members have an odds ratio of 0.39 (95% CI: 0.15-0.99) and a p-value of 0.047.

Help for School Welfare: Members who always help with school welfare are more commonly in the low activity group, with an odds ratio of 0.34 (95% CI: 0.15-0.77) and a p-value of 0.010.
Those who never help are more likely to be in the high activity group.

Participation in Annual Functions: Members not participating in annual functions are significantly more likely to be in the low activity group, with an odds ratio of 4.88 (95% CI: 1.35-17.61) and a p-value of 0.015.

Section 4

Feedback Data

3.7 Infrastructure and Resources Available

An effort was made in the LSA to gauge the level of infrastructure, study-aids, and other resources available in different schools. It was found that majority of the school lack libraries, science kits, math kits, language kits, science rooms, and playgrounds. The number of classrooms is also inadequate in about 60% of the schools. There is also a serious shortage of teachers and grade 4 employees. Many schools lack subject specialist teachers.

Table 10: Availability of Infrastructure and Resources in Schools: 2024 vs. 2022

Infrastructure	Availability in %age		Infrastructure	Availability in %age	
	2024	2022		2024	2022
Adequate Number of Classrooms	37	42	Science Kit	36	29
Adequate Number of Grade 4 Employees	45	44	Security Arrangements	87	86
Adequate Number of Teachers	48	48	SNC Copies	97	90
Clean Drinking Water	94	88	Subject Specialist - English	79	74
Electricity	91	97	Subject Specialist - Science	84	76
First Aid Box	92	85	Subject Specialist - Urdu	86	66
Furniture	89	93	Subject Specialist – Math	80	71
Language Kit	25	17	Teacher's Guide	91	91
Library	66	37	Washroom	91	96
Math Kit	47	40	White Board	98	98
Playground	67	74			

The comparison of infrastructure and resource availability in schools between 2024 and 2022 reveals a mixed trend. There was a slight decline in the availability of adequate classrooms, dropping from 42% in 2022 to 37% in 2024, while the presence of Grade 4 employees remained stable. Although the availability of clean drinking water and first aid boxes improved significantly, there was a noticeable decrease in electricity and furniture availability. Educational resources saw marked improvements, with increases in the availability of science kits, math kits, language kits, and libraries. The distribution of SNC copies also showed a positive trend, with almost all schools having these by 2024. Subject specialists across English, science, Urdu, and math all saw improvements, reflecting a stronger emphasis on specialized education. However, certain areas like playground facilities and washrooms experienced a decline. Despite the high and slightly improving security arrangements, there were areas such as playgrounds and classrooms where availability fell, indicating the need for focused efforts to address these gaps in school infrastructure.

3.8 Co-Curricular Activities

Although most of the schools are organizing some form of extra-curricular activities, it has been found that many schools have ignored some of the crucial extra-curricular activities which are necessary for the academic and personal development of a student.

Table 11: Co-Curricular Activities Organized in Schools

Category	Availability in %age	
	2024	2022
Scouting/Girl Guide	41	31
Educational/Entertainment Tours	44	42
Science Exhibition	42	44
Poetry Competitions	45	45
Drama/Meena Bazar	44	47
Art Competitions	48	56
Science Quiz	56	65
Math Quiz	56	67
Essay Writing Competitions	61	69
Plantation Drives	61	76
Recitation Competitions	65	79
Debates Competitions	69	80
Sports Competitions	67	80
Hamd o Naat Competitions	72	88

Table 11 presents the availability of co-curricular activities organized in schools, comparing the years 2024 and 2022. The data shows a mix of improvements and declines in the organization of these activities. Some activities have seen increased availability in 2024. For instance, the availability of scouting/girl guide activities increased from 31% in 2022 to 41% in 2024. Educational and entertainment tours also saw a slight improvement, rising from 42% to 44%. Similarly, poetry competitions remained consistent at 45% in both years, while other activities like science exhibitions and drama/Meena Bazar saw small decreases, with science exhibitions dropping from 44% to 42% and drama/Meena Bazar from 47% to 44%.

However, several co-curricular activities experienced a decline in availability. Art competitions decreased from 56% in 2022 to 48% in 2024. Science and math quizzes saw a significant drop, from 65% and 67% in 2022 to 56% in 2024, respectively. The availability of essay writing competitions also declined from 69% to 61%, and plantation drives saw a notable reduction from 76% in 2022 to 61% in 2024. Recitation competitions, debate competitions, and sports competitions all experienced substantial decreases, with recitation competitions dropping from 79% to 65%, debates from 80% to 69%, and sports competitions from 80% to 67%. The most significant decline was observed in Hamd o Naat competitions, which fell from 88% in 2022 to 72% in 2024.

Overall, the data reflects a general decline in the availability of many co-curricular activities in 2024 compared to 2022, suggesting a potential need for renewed focus on promoting these activities in schools.

3.9 Parents' Feedback and Demographics

3.9.1 Satisfaction with School

Parents were asked a series of questions to assess their level of satisfaction with the school and gather their feedback on ways to improve school performance

- ➢ A large majority of parents was satisfied with the school's performance. The major reasons for parent dissatisfaction were the shortage or absence of teachers and lack of basic facilities at school.
- ➢ It was also known that almost half of the students avail private tuition, which raises serious questions about the quality and effectiveness of the learning being delivered at the schools.

Table 13: Parents' Satisfaction with School and Child's Private Tuition

Questions	%age of parents	
	2024	2022
Complete Satisfaction with School	80	61
Child Avails Private Tuition	42	47

Table 13 compares parents' satisfaction with their child's school and the prevalence of private tuition between the years 2024 and 2022. The data shows a significant increase in parental satisfaction, with 80% of parents reporting complete satisfaction with their child's school in 2024, up from 61% in 2022. This suggests substantial improvements in school quality or parental perception of school effectiveness.
On the other hand, the percentage of children availing private tuition decreased from 47% in 2022 to 42% in 2024. This decline may indicate that with improved school satisfaction, parents might feel less need to supplement their child's education with private tutoring, possibly reflecting increased confidence in the school's ability to meet their child's academic needs. Overall, these trends point to a positive shift in the educational environment, with higher parental satisfaction and reduced reliance on private tuition.

Table 14: Major Reasons for Parents' Dissatisfaction with Schools

	% age of parents	
Major Reasons for Dissatisfaction with School	**2024**	**2022**
Shortage of Teachers	20	50
Teachers' Absence from School	5	29
Non-Satisfied with Teaching Methods Used	3	3
Lack of Study Aids	5	9
Lack of Basic Facilities	20	21
Any other	47	0

Table 14 outlines the major reasons for parents' dissatisfaction with their child's school, comparing data from 2024 and 2022. The findings reveal notable shifts in parental concerns over this period.
One of the most significant changes is the decrease in dissatisfaction due to a shortage of teachers, which dropped sharply from 50% in 2022 to 20% in 2024. This suggests that schools may have made efforts to address teacher shortages, leading to a marked improvement in this area. Similarly, the issue of teachers' absence from school has become much less of a concern, with only 5% of parents citing it in 2024 compared to 29% in 2022.

However, some concerns have remained consistent or seen minor changes. For instance, dissatisfaction with the teaching methods used remained unchanged at 3% in both years. Lack of study aids was cited by 5% of parents in 2024, down from 9% in 2022, indicating some improvement in the availability of

educational resources. Lack of basic facilities has remained a persistent issue, with 20% of parents reporting this concern in 2024, only slightly down from 21% in 2022.

Interestingly, the "Any other" category, which encompasses other unspecified reasons for dissatisfaction, saw a significant increase in 2024, with 47% of parents citing reasons not covered by the listed categories. This suggests that while traditional concerns like teacher shortages and absenteeism have decreased, other issues, potentially more diverse or context-specific, have emerged as significant factors in parental dissatisfaction.

3.9.2 Suggestions for Improvement

Parents were asked to provide suggestions for improvement in schools. Majority of them wanted schools to have a hard-working Head Teacher and to engage parents in school's activities.

Table 15: Parents' Suggestions for School Improvement

Suggestions	% age of Parents	
	2024	2022
a. Need to have a hard-working head teacher and decision-maker.	26	19
b. Need for timely distribution of textbooks to the students	6	8
c. Need for regular visits to be made by the education department.	5	3
d. Need of engaging parents in school activities.	21	12
e. School should be safe	4	59
f. Conducive environment of the school	6	0
g. Basic facilities should be available	18	0
h. Teachers should be hard working	14	0

Table 15 summarizes parents' suggestions for improving schools, comparing responses from 2024 and 2022. The data reveals changing priorities among parents over time, reflecting evolving concerns and expectations.

In 2024, the most frequently mentioned suggestion was the need for a hard-working head teacher and decision-maker, cited by 26% of parents, up from 19% in 2022. This increase indicates a growing emphasis on strong leadership and effective school management as crucial for school improvement.
Another significant change is the rise in the suggestion to engage parents in school activities, which increased from 12% in 2022 to 21% in 2024. This suggests that parents are increasingly recognizing the importance of their involvement in the educational process and believe that closer collaboration with the school can lead to better outcomes for their children.

The importance of basic facilities also emerged in 2024, with 18% of parents highlighting this need, a category that wasn't mentioned in 2022. Similarly, the suggestion that teachers should be hard-working appeared for the first time in 2024, cited by 14% of parents. These new concerns reflect a shift in focus towards ensuring that schools are well-equipped and that teachers are dedicated to their roles.

Interestingly, the suggestion that the school should be safe saw a dramatic decrease in emphasis, dropping from 59% in 2022 to just 4% in 2024. This significant reduction suggests that safety concerns may have been largely addressed, leading parents to focus on other areas for improvement.

Other suggestions remained relatively stable or saw slight changes. The need for timely distribution of textbooks saw a small decrease from 8% in 2022 to 6% in 2024, and the call for regular visits by the education department increased slightly from 3% to 5%. The idea of creating a conducive environment in the school appeared as a new concern in 2024, with 6% of parents highlighting its importance.

3.9.3 School Absenteeism

Table 16: Major Reasons for Student Absenteeism in 2024 vs. 2022

Suggestions	% age of parents	
	2024	**2022**
Siblings Care	37	38
Crop Harvesting Season	21	37
Labor	18	16
Illness	87	93
Fighting at Home	15	14

Table 16 outlines the major reasons for student absenteeism as reported by parents, comparing the data between 2024 and 2022. The findings highlight some consistent factors contributing to absenteeism, as well as notable changes over time. The most significant reason for absenteeism remains illness, with 87% of parents citing it in 2024, a slight decrease from 93% in 2022. This high percentage suggests that health-related issues continue to be the predominant factor keeping students away from school. Siblings care was the second most common reason, cited by 37% of parents in 2024, a minor decrease from 38% in 2022. This indicates that many students are still required to stay home to care for younger siblings, reflecting ongoing familial responsibilities that interfere with school attendance.

Crop harvesting season saw a substantial decrease as a reason for absenteeism, dropping from 37% in 2022 to 21% in 2024. This significant reduction might indicate changes in agricultural practices, the timing of the school year, or improved attendance policies during peak farming periods. Labor-related absenteeism slightly increased from 16% in 2022 to 18% in 2024, suggesting a small but growing number of students are missing school due to work responsibilities. This increase could reflect economic pressures that force children to contribute to household income.

Finally, absenteeism due to fighting at home remained relatively stable, with 15% of parents citing it in 2024 compared to 14% in 2022. This consistency suggests that domestic conflicts continue to be a persistent, though less common, reason for students missing school.

3.9.4 Education Level

Table 17: Father's Education Level of Students in 2024 vs. 2022

	Father Education in %age	
Education Level	2024	2022
Illiterate	17	17
Primary	29	28
Middle	17	18

Matric	22	20
Intermediate	7	5
BA or Higher	8	12

The data on fathers' education levels from 2024 compared to 2022 shows stability in illiteracy rates, with 17% remaining illiterate in both years. There was a slight increase in the percentage of fathers with primary and matriculation education, while middle school education saw a minor decline. The number of fathers with intermediate education also rose slightly. However, a notable decrease occurred among fathers with a Bachelor's degree or higher, dropping from 12% in 2022 to 8% in 2024, indicating a decline in higher education attainment. Overall, basic education levels showed minor improvements, but higher education saw a decrease.

Table 18: Mother's Education Level of Students in 2024 vs. 2022

	Mother Education in %age	
Education Level	**2024**	**2022**
Illiterate	29	33
Primary	32	29
Middle	14	13
Matric	16	12
Intermediate	9	12

The data on mothers' education levels for 2024 compared to 2022 shows some shifts in educational attainment. The percentage of illiterate mothers decreased from 33% in 2022 to 29% in 2024, indicating a reduction in illiteracy. Primary education saw an increase, with 32% of mothers having completed it in 2024, up from 29% in 2022. Middle school education remained relatively stable, with a slight increase from 13% to 14%. The percentage of mothers with matriculation education increased from 12% in 2022 to 16% in 2024, showing a positive trend in this area. However, the percentage of mothers with intermediate education decreased from 12% to 9% over the same period. Overall, while basic education levels among mothers have generally improved, there has been a slight decline in higher education attainment.

Table 19: Parents/Guardians of Students in 2024 vs. 2022

	Parent /Guardian Occupation in %age	
Parent /Guardian Occupation	**2024**	**2022**
Farmer	29	32
Shopkeeper/Trader	20	15
Private Job	13	14
Government Job	8	7
Any other	21	25
Unemployed	9	**7**

The data on the occupations of parents or guardians in 2024 compared to 2022 reveals some notable shifts. The percentage of those working as farmers decreased from 32% in 2022 to 29% in 2024, indicating a slight decline in agricultural occupations. Conversely, the proportion of shopkeepers/traders increased from 15% to 20%, suggesting a rise in small.

Table 20: Father's Income in 2024 vs. 2022

	Father income in %age

Income (RS.)	2024	2022
< 5000	10	12
5,000-10,000	24	32
10,001-20,000	29	27
20,001-40,000	20	12
>40,000	10	5
No Income	7	12

The data on fathers' income levels in 2024 compared to 2022 shows a shift towards higher income brackets. The percentage of fathers earning less than 5,000 Rs. decreased slightly from 12% in 2022 to 10% in 2024. Those in the 5,000-10,000 Rs. income range saw a notable decline from 32% in 2022 to 24% in 2024. In contrast, there was an increase in the percentage of fathers earning 10,001-20,000 Rs., rising from 27% in 2022 to 29% in 2024. The 20,001-40,000 Rs. income bracket saw a significant jump from 12% to 20%, and those earning more than 40,000 Rs. also increased from 5% to 10%, indicating an upward shift in income levels.

Meanwhile, the percentage of fathers reporting no income decreased from 12% in 2022 to 7% in 2024, suggesting an overall improvement in economic conditions. This data reflects a trend of increasing incomes among fathers, with fewer in the lowest income brackets and more moving into higher income categories.

3.9.5 Language Used with Child

Table 21: Language Used at Home in 2024 vs. 2022

	%age of parents	
Language used at Home	**2024**	**2022**
Punjabi	48%	53%
Local	20%	27%
Urdu	28%	20%
English	4%	0%

The data on the languages used at home in 2024 compared to 2022 shows a shift in linguistic preferences. The use of Punjabi at home decreased from 53% in 2022 to 48% in 2024, indicating a slight decline in the prevalence of this language. The use of local languages also saw a decrease, from 27% in 2022 to 20% in 2024.

Conversely, the use of Urdu at home increased from 20% in 2022 to 28% in 2024, suggesting a growing preference for this national language. Additionally, English began to be used at home by 4% of households in 2024, a language that was not reported in use in 2022. This data reflects a shift towards Urdu and the introduction of English in some households, with a corresponding decline in the use of Punjabi and local languages.

3.9.6 Teachers' Feedback

Table 22: Teachers' Satisfaction with Salary and the Teaching Profession

	%age of Teachers	
Teachers' Satisfaction with Salary and the Teaching Profession	**2024**	**2022**
Satisfaction with Salary	64%	60%

Willingly Chose Teaching as Profession	97%	95%

The data highlights positive trends in teacher satisfaction and career choice preferences over a two-year period. In 2024, 64% of teachers reported being satisfied with their salary, a noticeable increase from 60% in 2022. This uptick suggests an improvement in how teachers perceive their compensation. Additionally, there has been a rise in the percentage of teachers who willingly chose teaching as their profession, from 95% in 2022 to 97% in 2024. This increase reflects a growing sense of commitment and satisfaction with the teaching career. Overall, these results indicate a more favorable view of both salary satisfaction and career choice among teachers.

Table 23: Comparison of Teachers' Academic Qualifications: 2024 vs. 2022

	%age of Teachers							
Academic Qualification	English		Urdu		Math		Science	
	2024	2022	2024	2022	2024	2022	2024	2022
Matric	3	2	5	6	4	4	2	2
Intermediate	8	5	6	7	4	5	6	5
Bachelor	13	12	11	15	18	15	10	12
Master	65	58	69	52	62	55	47	58
MS/MPhil	11	10	7	7	11	9	35	11
PhD	1	1	2	0	1	0	1	1

The data on teachers' academic qualifications for 2024 compared to 2022 reveals several notable trends across four subjects: English, Urdu, Math, and Science. For Matric qualifications, the percentage of teachers remains relatively stable, with minor increases in English and slight decreases in Urdu, while Math and Science show no change. Intermediate qualifications show a slight increase in English and Science, but a small decrease in Urdu and Math. The proportion of teachers with Bachelor degrees has increased in English and Math but decreased in Urdu and Science. There is a significant rise in teachers with Masters degrees, particularly in English, Urdu, and Math, although there is a decrease in Science. The percentage of teachers holding MS/MPhil degrees has increased overall, with a remarkable jump in Science. Finally, the proportion of PhD holders remains stable in English and Science, with slight increases in Urdu and Math. This data indicates a general trend towards higher academic qualifications among teachers, particularly in higher degrees like Master and MS/MPhil, with varying changes across different subjects.

Table 24: Comparison of Teachers' Professional Qualification: 2024 vs. 2022

	%age of Teachers							
Professional Qualification	English		Urdu		Math		Science	
	2024	2022	2024	2022	2024	2022	2024	2022
PTC	4	5	8	11	5	7	3	5
CT	5	3	3	4	2	3	2	3
Diploma (Education)	2	1	2	2	11	2	2	2
B.Ed./ B.S.Ed.	53	46	55	41	25	46	34	47
M.Ed.	22	21	20	17	48	18	26	19
MA(Education)	5	3	4	3	3	3	26	3
other	9	8	8	1	6	1	9	1

The comparison of teachers' professional qualifications between 2022 and 2024 reveals several key trends. The percentage of teachers with a PTC has generally decreased, with notable reductions in Science and

Math but slight increases in Urdu. The CT qualification has seen modest increases in English. The Diploma (Education) has gained prominence in Math, with a rise from 2% to 11%, while remaining stable in other subjects. B.Ed./B.S.Ed. qualifications have increased in English and Urdu but decreased in Math and Science. The proportion of teachers with an M.Ed. has risen, particularly in Math and Science. MA (Education) qualifications have surged in Science, with other subjects showing stability. Lastly, the 'other' category has seen increases in English and Science. Overall, these changes indicate a shift towards more advanced and specialized qualifications among teachers, with varying impacts across different subjects.

3.9.7 Experience and Training

Table 25: Comparison of Teaching Experience Levels: 2024 vs. 2022

	%age of Teachers							
	Grade 5 Subjects							
	English		Urdu		Math		Science	
Teaching Experience (years)	**2024**	**2022**	**2024**	**2022**	**2024**	**2022**	**2024**	**2022**
1-5	32	29	13	26	12	32	12	37
6-10	36	22	12	17	14	22	16	24
11-15	14	11	17	11	23	9	48	9
16-20	7	10	36	10	35	8	10	7
20+	10	19	7	26	5	19	7	14

The comparison of teaching experience between 2022 and 2024 shows notable changes across four subjects: English, Urdu, Math, and Science. For the 1-5 years' experience category, there is an increase in English from 29% to 32%, while decreases are observed in Urdu, Math, and Science. In the 6-10 years' experience range, the percentage of teachers has increased in English from 22% to 36% and in Science from 24% to 16%, while it has decreased in Urdu and Math. The 11-15 years' experience group has seen a significant rise in Science, from 9% to 48%, and increases in Urdu and Math, with relatively stable figures for English. For 16-20 years of experience, there has been an increase in Urdu and Math, with Science showing a decrease. Finally, the 20+ years' experience category has decreased in English and Math and increased in Science. These trends suggest shifts in experience distribution among teachers, with varying impacts across different subjects.

Table 26: Comparison of Training Situation: 2024 vs. 2022

Training Situation	**2024**	**2022**
Number of Subject-Related Training Course Completed	More than 69% have completed two or more.	More than 70% have completed two or more.
Year of Last Professional Training	For more than 68 % 2022-2023 was their previous year of training.	For more than 70% 2019-2020 was their previous year of training.

The comparison of the training situation between 2022 and 2024 indicates that a high percentage of teachers have completed two or more subject-related training courses. In 2024, over 69% of teachers have completed at least two such courses, slightly decreasing from more than 70% in 2022. This suggests a stable trend in professional development, with a majority of teachers participating in multiple training courses to enhance their subject-related skills.

Table 27: Comparison of Teachers' Feedback on Textbooks: 2024 vs. 2022

	%age of Teachers							
Teaching Experience	English		Urdu		Math		Science	
The content in the books is given	2024	2022	2024	2022	2024	2022	2024	2022
According to the students' age and class	70	72	71	80	74	80	77	76
In simple language	74	63	76	80	76	75	76	70
With interesting activities	82	74	77	82	80	75	85	79
With appropriate exercises	8	84	83	88	85	87	91	84
With Appropriate font size	89	83	82	83	86	85	88	84
With interesting examples	87	81	73	83	77	76	84	84

The teacher feedback on textbooks for 2024 compared to 2022 reveals several trends across four subjects: English, Urdu, Math, and Science. For content suitability according to students' age and class, there has been a slight decrease in English, Urdu, and Math, with more teachers rating it positively in Science. In terms of language simplicity, the percentage of teachers noting that textbooks use simple language has increased for English and Urdu but remained stable or slightly improved for Math and Science. Regarding interesting activities, there is a noticeable increase across all subjects, especially in Science, suggesting improved engagement. For appropriate exercises, the percentage of teachers who found textbooks adequate has decreased significantly in English and Urdu, but there are improvements in other subjects. The percentage of teachers who find textbooks to have an appropriate font size has increased across all subjects. Lastly, the feedback on interesting examples shows an increase in English and Science, with stable or slightly improved perceptions in Urdu and Math. Overall, these changes indicate varying improvements and declines in textbook quality across different aspects and subjects.

Table 28: Comparison of AEO Inspection Frequency: 2024 vs. 2022

	%age of Teachers	
Frequency of AEO Inspections	**2024**	**2022**
Once in a month	32	20
Twice in a month	44	59
Once in two months	8	3
Do not visit the classroom	11	9

The comparison of the frequency of AEO (Area Education Officer) inspections between 2022 and 2024 shows notable changes. In 2024, 32% of teachers reported that AEO inspections occur once a month, a significant increase from 20% in 2022. Conversely, the percentage of teachers who experience inspections twice a month has decreased from 59% in 2022 to 44% in 2024. There is also an increase in the percentage of teachers who experience inspections once every two months, rising from 3% to 8%. The proportion of teachers who report that AEOs do not visit their classrooms has increased slightly from 9% in 2022 to 11% in 2024. Overall, these changes indicate a shift towards more frequent, but less intensive, inspection schedules.

Table 29: Comparison of AEO Behavior: 2024 vs. 2022

	%age of Teachers	
Behavior of AEO	**2024**	**2022**
Professionally/Friendly	85	78

Non-Professionally/Very Strict	15	16

The comparison of AEO (Area Education Officer) behavior between 2022 and 2024 reveals a positive shift. In 2024, 85% of teachers perceive AEOs as behaving professionally or friendly, an increase from 78% in 2022. Conversely, the percentage of teachers who view AEOs as non-professional or very strict has slightly decreased from 16% in 2022 to 15% in 2024. This suggests an overall improvement in the perceived professionalism and approachability of AEOs.

Table 30: Comparison of Feedback on AEO Visits: 2024 vs. 2022

	%age of Teachers	
Feedback on AEO Visit	**2024**	**2022**
AEOs provide feedback after observation	84	81
The feedback given by AEOs helps improve teaching	84	81
AEOs conduct monthly forum meeting	-	75

The comparison of feedback on AEO (Assistant Education Officer) visits between 2022 and 2024 highlights some key changes. In 2024, 84% of teachers reported that AEOs provide feedback after observations, an increase from 81% in 2022. Similarly, 84% of teachers in 2024 believe that the feedback from AEOs helps improve teaching, up from 81% in 2022. However, the data for AEOs conducting monthly forum meetings is not available for 2024 but was reported by 75% of teachers in 2022. This indicates a general positive trend in the perceived effectiveness and helpfulness of AEO feedback.

3.9.8 Lesson Planning

Table 31: Teacher Lesson Planning: 2024 vs. 2022

	%age of Teachers			
Lesson Planning	**2024**		**2022**	
Subjects	Weekly	Monthly	Weekly	Monthly
English	86	11	83	9
Urdu	54	41	88	9
Math	64	31	87	10
Science	83	15	86	10

The comparison of teacher lesson planning between 2022 and 2024 reveals shifts in how frequently lessons are planned across different subjects. In 2024, 86% of English teachers plan their lessons weekly, a slight increase from 83% in 2022, with monthly planning also rising from 9% to 11%. For Urdu, there is a significant decline in weekly planning, dropping from 88% in 2022 to 54% in 2024, while monthly planning has increased from 9% to 41%. Math teachers also show a decrease in weekly planning from 87% to 64%, with an increase in monthly planning from 10% to 31%. In Science, weekly lesson planning remains high at 83%, slightly lower than the 86% in 2022, with a small rise in monthly planning from 10% to 15%. Overall, these changes suggest a shift towards more frequent monthly planning in some subjects, particularly Urdu and Math, while weekly planning remains prevalent in English and Science.

Table 32: Comparison of Teacher Support in Lesson Planning: 2024 vs. 2022

	%age of Teachers							
Support from in lesson planning	**2024**				**2022**			
	English	Urdu	Math	Science	English	Urdu	Math	Science
AEO/teacher	3	5	4	3	3	2	2	1

Head Teacher	24	16	18	18	18	18	18	18
Peer Teacher	25	30	23	22	21	22	23	22
Teacher's Guide	40	45	50	52	53	51	51	51

The comparison of teacher support in lesson planning between 2022 and 2024 reveals shifts in how teachers across different subjects seek assistance. In 2024, the percentage of teachers receiving support from AEOs (Assistant Education Officers) or other teachers increased slightly for Urdu (5%), Math (4%), and Science (3%), while remaining steady for English (3%). Support from Head Teachers saw a slight increase for English teachers (24%) but remained consistent across other subjects compared to 2022. Peer teacher support increased notably in Urdu (30%) and English (25%) in 2024, with Math and Science maintaining similar levels to 2022. However, reliance on the Teacher's Guide decreased across all subjects in 2024, with English dropping from 53% to 40%, Urdu from 51% to 45%, Math from 51% to 50%, and Science from 51% to 52%. These trends suggest a shift towards increased peer and AEO support, with a slight decline in the use of the Teacher's Guide.

3.9.9 Teaching Practices Used in Classroom

Teachers were asked a series of questions on their current teaching practices. The results show that majority of the teachers employ practices like using study aids in the classrooms, assigning group work to students, allowing questions during lecture, giving homework based on the taught lecture, and behaving in a friendly manner in the classroom.

Table 33: Comparison of Classroom Teaching Practices: 2024 vs. 2022

Teaching Practices in Classroom	**%age of Teachers**							
	English		Urdu		Math		Science	
	2024	2022	2024	2022	2024	2022	2024	2022
Use of Urdu Language in Instruction	86	91	68	96	83	95	76	94
Use of English Language in Instruction	10	20	25	-	9	18	19	9
Use of Local Languages in Instruction	4	12	8	7	9	7	5	8
Use of Teaching Aids/Resources	98	96	91	96	94	96	97	96
Assign Group Work	96	94	88	95	93	96	94	95
Ask Questions While Teaching	99	98	92	98	96	98	98	97
Provide Opportunities to Students to Ask Questions While Teaching	99	98	93	98	94	98	98	98
Give Homework Related to the Lesson	99	96	93	96	95	97	98	96
Engage Students in Managing the Classroom Discipline	82	75	78	78	85	80	84	79
Discuss Weekly Students' Progress with Head Teacher	87	69	80	68	83	70	86	70
Friendly Behavior with Students	99	90	92	91	92	90	98	89

The comparison of teaching practices between 2022 and 2024 shows a decrease in the use of Urdu and local languages in instruction, while the use of English has increased slightly across most subjects. The

utilization of teaching aids, group work, and interactive teaching practices remains consistently high. There is also a notable improvement in teacher-student interactions, with more teachers discussing student progress with head teachers and exhibiting friendly behavior towards students. Overall, these findings suggest a shift towards more diverse language use and enhanced classroom engagement in 2024 compared to 2022

3.9.10 Methods Used by Teachers to Assess Classroom Learning

Table 34: Comparison of Methods Used by Teachers to Assess Classroom Learning 2024 vs. 2022

Methods Used by	**%age of Teachers**							
Teachers to Assess	English		Urdu		Math		Science	
Classroom Learning	2024	2022	2024	2022	2024	2022	2024	2022
Oral (Question/Answers)	98	87	88	94	91	94	98	95
Written	97	87	88	94	91	95	97	94
Homework	94	86	88	93	89	94	96	92
Involvement in Classroom Activities	94	92	86	94	91	93	95	93

The comparison of methods used by teachers to assess classroom learning between 2022 and 2024 reveals an overall increase in the use of various assessment techniques across all subjects. The use of oral questioning and written assessments has seen a significant rise in English, with 98% of teachers using oral assessments and 97% using written assessments in 2024, up from 87% in 2022. Similar increases are observed across other subjects, though the rise is more pronounced in English.

Homework remains a commonly used assessment method, with slight improvements across all subjects in 2024 compared to 2022. Involvement in classroom activities as an assessment method has also increased, especially in English and Science. These trends suggest a stronger emphasis on diverse and active assessment methods in 2024, reflecting an enhanced focus on evaluating student learning through multiple approaches.

3.9.11 Engagement with Parents

To understand engagement with parents, teachers were asked questions over their involvement in school matters.

Table 35: Comparison of Areas Discussed by Teachers with Parents 2024 vs. 2022

Areas Discussed by Teachers with Parents	**%age of Teachers**	
	2024	**2022**
Students' Performance in Studies	82	85
Student's Absenteeism	77	77
School Discipline	71	74
Co-curricular Activities	72	71

The comparison of areas discussed by teachers with parents in 2024 versus 2022 shows relatively stable communication patterns, with slight variations in certain areas. Discussions about students' performance in studies saw a slight decrease, with 82% of teachers engaging in this conversation in 2024 compared to 85% in 2022. Conversations regarding student absenteeism remained consistent, with 77% of teachers addressing this issue in both years.

Discussions on school discipline decreased slightly, from 74% in 2022 to 71% in 2024. Meanwhile, conversations about co-curricular activities showed a minor increase, with 72% of teachers discussing these activities in 2024, up from 71% in 2022. Overall, the areas of communication between teachers and parents have remained largely consistent, with a continued focus on academic performance and student behavior.

3.9.12 Involvement in School Administration

To understand engagement with parents, teachers were asked questions over their involvement in school matters. Responses are given below:

Table 36: Comparison of Teachers' Engagement in School Administration: 2024 vs. 2022

Engagement of Teachers in School Administration	%age of Teachers	
	2024	2022
Handle School Administration	78	87
Discussion with Fellow Teachers to Improve Students' Learning	94	96
Meeting with Parents to Discuss Students' Issues	91	93
Involvement in Solving Students' Problems	97	98

The comparison of teachers' engagement in school administration between 2024 and 2022 shows a slight decline in direct involvement in handling school administration, with 78% of teachers participating in 2024, down from 87% in 2022. However, other areas of teacher engagement, such as discussing student learning with fellow teachers, meeting with parents, and solving student problems, have remained relatively stable. Discussions with fellow teachers to improve student learning saw a minor decrease from 96% in 2022 to 94% in 2024. Similarly, meetings with parents to discuss students' issues slightly declined, from 93% in 2022 to 91% in 2024. Involvement in solving students' problems remains high, with a marginal drop from 98% in 2022 to 97% in 2024. Overall, while there is a minor reduction in certain areas, teachers continue to be actively engaged in various aspects of school administration and student support

3.9.13 Feeback by Teachers on Head Teacher's Performance

Teachers were asked questions about the performance of the Head Teachers of their schools. The findings highlighted that many head teachers did not invite guest speakers to talk about different topic and occasions.

Table 37: Comparison of Teacher Feedback on Head Teacher's Performance: 2024 vs. 2022

	%age of Teachers	
Feedback of Teachers on Head Teacher's Performance	**2024**	**2022**
Head teacher always follows the rules and regulations of the school	97	97
Head teacher always tries to bring improvement in the school.	97	97
Head teacher always guides teachers in their teaching.	94	95
Head teacher always invites guest speakers to talk on different topics/concepts.	78	74
Head teacher always remains in contact with parents to discuss school affairs.	92	90

The comparison of teacher feedback on head teachers' performance in 2024 versus 2022 reveals consistency in several key areas. Teachers overwhelmingly agree that head teachers always follow school

rules and regulations and consistently strive to improve the school, with both statements receiving 97% approval in both years.

Slightly fewer teachers in 2024 (94%) felt that head teachers consistently guide them in their teaching, compared to 95% in 2022. However, there was a positive increase in head teachers inviting guest speakers to discuss various topics, rising from 74% in 2022 to 78% in 2024. Additionally, the percentage of head teachers who remain in contact with parents to discuss school affairs slightly increased from 90% in 2022 to 92% in 2024. Overall, the feedback indicates a stable and strong performance by head teachers, with slight improvements in parent engagement and external speaker involvement.

Table 38: Comparison of Topic-Wise Difficulty Levels in Science: 2024 vs. 2022

Science Teacher found:	2024			2022	
How do you feel about teaching the following topics:	Easy (%)	Difficult (%)	Topics	Easy (%)	Difficult (%)
Space and Satellite	66	34		74	26
Electricity and Magnetism	75	25		78	22
Matter and its Physical and Chemical Changes	78	22		85	15
Structure of Earth	75	25		87	13
Microorganisms	80	20		89	11
Technology in every day	74	26		89	11
Light and Sound	83	17		90	10
Flower and Seed	83	17		93	7
Classification of Living Organisms	84	16		95	5
Environmental Pollution	86	14		95	5

The comparison of the diifficulty levels in teaching various science topics between 2022 and 2024 shows noticeable changes in teachers' perceptions.

In 2024, topics such as "Space and Satellite" and "Electricity and Magnetism" are considered slightly more difficult compared to 2022, with 34% and 25% of teachers finding them challenging in 2024, respectively, compared to 26% and 22% in 2022. Conversely, "Matter and its Physical and Chemical Changes" and "Structure of Earth" have become less difficult, with the percentage of teachers finding these topics challenging decreasing from 15% to 22% and from 13% to 25%, respectively.

Topics like "Microorganisms," "Technology in Everyday Life," and "Light and Sound" are perceived as easier in 2024 compared to 2022, with a higher percentage of teachers finding them less difficult. Specifically, "Microorganisms" and "Technology in Everyday Life" saw decreases in difficulty from 89% and 89% to 80% and 74%, respectively. "Classification of Living Organisms" and "Environmental Pollution," however, remain challenging for a smaller percentage of teachers, though there is a slight decrease in difficulty from 95% to 84% for "Classification of Living Organisms" and from 95% to 86% for "Environmental Pollution."

3.10 Main Teaching Practices Used by Teachers

Teachers were asked about their knowledge and experiences in teaching of the four subjects tested under the assessment i.e. English, Mathematics, Urdu and Science. Responses are given below:

3.10.1 Teaching of Science

Majority of the teachers (about 88%) use the following technique for teaching Science as reported in both the LSA 2022 and LSA 2024

- Asking questions related to the lesson taught.
- Encouraging students to conduct their own experiments.
- Motivating students to think about different factors.
- Encouraging observation.
- Teaching in groups.
- Boosting students' morale to ask questions about the topic.

More than 75% of the teachers give the following as homework for science subject as reported in both the LSA 2022 and LSA 2024

- Solve Exercise
- Conduct an experiment.
- Create a chart or model.
- Recommend additional reading beyond the textbook.
- Gather materials related to the subject.

3.10.2 Teaching of Numeracy (Mathematics)

Majority of the teachers (more than 85%) use the following technique for teaching Mathematics as reported in both the LSA 2022 and LSA 2024.

- Using mathematics in everyday life
- Providing mental exercises and question-answer opportunities
- Asking questions beyond the textbook
- Encouraging students to ask questions about the topic
- Forming small groups and solving practice questions

3.10.3 Homework Practices in Mathematics

More than 80% of the teachers give the following as homework for Mathematics subject as reported in both the LSA 2022 and LSA 2024

- Solving practice questions
- Finding examples from practical life related to the topics studied
- Creating charts
- Encouraging additional reading beyond the textbook
- Gathering materials related to the subject

3.10.4 Teaching of Literacy (English)

Over 90% of teachers consistently employed the following English teaching techniques as reported in both the LSA 2022 and LSA 2024.

- Translation method
- Direct method

3.10.5 Competencies Focused by English Teachers

Major Competencies Focused by Teachers as reported in both the LSA 2022 and LSA 2024

- Listening
- Speaking
- Reading
- Writing
- Lexical

3.10.6 Homework for English

More than 85% of the teachers give the following as homework for English subject as reported in both the LSA 2022 and LSA 2024

- Solve textbook exercises.
- Provide translation exercises.
- Engage in creative writing activities.
- Encourage reading supplementary material beyond the course books.

3.10.7 Teaching of Literacy (Urdu)

Over 85% of teachers consistently employed the following Urdu teaching techniques as reported in both the LSA 2022 and LSA 2024

- Translation method
- Direct method

3.10.8 Competencies Focused by Urdu Teachers

Major Competencies Focused by Teachers as reported in both the LSA 2022 and LSA 2024

- Listening
- Speaking
- Reading
- Writing

3.10.9 Home work for Urdu

Over 80% of teachers give following home work as reported in both the LSA 2022 and LSA 2024

- Solving exercises
- Translation
- Creative writing
- Encouraging additional reading beyond the textbook
- Enhancing vocabulary

Table 39: Topic-Wise Difficulty Levels in English: 2024 vs. 2022

	2024		2022	
List of topics	**Teacher found:**		**Teacher found:**	
How do you feel about teaching the following topics	Easy (%)	Difficult (%)	Easy (%)	Difficult (%)

Creative writing	78	22	74	26
Oral Communication	87	13	81	19
Listening and Speaking Skill	89	11	84	16
Poems	90	10	85	15
Grammar	88	12	85	15
Essay writing	88	12	86	14
Comprehension	92	8	86	14
Sentence making	91	9	87	13
Dictation	93	7	92	8
Passages/topics	96	6	92	5
Letter or application	95	5	92	8

The comparison of the difficulty levels in teaching English topics between 2022 and 2024 reveals several shifts in teachers' perceptions.

In 2024, teachers generally find English topics easier compared to 2022. For example, "Creative Writing" has seen an increase in ease from 74% to 78%, and "Oral Communication" has improved from 81% to 87%. Similarly, "Listening and Speaking Skills" and "Poems" are now perceived as easier, with 89% and 90% of teachers finding them easy in 2024, up from 84% and 85% in 2022, respectively.

"Grammar" and "Essay Writing" have also become somewhat easier, with 88% of teachers finding them easy in 2024 compared to 85% in 2022 for both topics. "Comprehension" and "Sentence Making" follow this trend, with ease increasing from 86% to 92% and 87% to 91%, respectively.

"Dictation" and "Passages/Topics" are perceived as easier, with 93% and 96% of teachers finding them easy in 2024, up from 92% and 92% in 2022. Finally, "Letter or Application" has improved from 92% to 95% in terms of ease.
Overall, the data suggests a general trend towards greater ease in teaching English topics, indicating possible improvements in teaching strategies or curricular adjustments over the past two years

Table 40: Comparison of Topic-Wise Difficulty Levels in Urdu: 2024 vs. 2022

	2024		**2022**	
	Teacher found:		Teacher found:	
How do you feel about teaching the following topics	Easy (%)	Difficult (%)	Easy (%)	Difficult (%)
(a) Teaching – Prose	90	10	95	5
(b) Teaching – Poetry	91	9	94	6
(c) Comprehension	85	15	86	14
(d) Explanation	90	10	90	10
(e) Grammar	83	17	95	5
(f) Sentence Formation	87	13	95	5
(g) Composition Writing	86	14	85	15
(h) Creative Writing	84	16	84	16
(i) Handwriting or Letter Writing	90	10	95	5
(j) Speaking and Reading Ability	85	15	94	6
(k) Spelling	86	14	94	6

The comparison of the difficulty levels in teaching Urdu topics between 2022 and 2024 shows some notable shifts in teachers' perceptions.

In 2024, several topics have become more challenging compared to 2022. For instance, "Teaching – Prose" and "Teaching – Poetry" have seen a slight increase in difficulty, with the percentage of teachers finding them easy decreasing from 95% to 90% and 94% to 91%, respectively. "Comprehension" and "Explanation" have remained consistent in difficulty, with 85% and 90% of teachers finding them easy, respectively. Notably, "Grammar" and "Sentence Formation" have become more challenging, with ease decreasing from 95% to 83% and 95% to 87%, respectively. "Composition Writing" and "Creative Writing" have remained stable, with 86% and 84% of teachers finding them easy, respectively. Topics such as "Handwriting or Letter Writing," "Speaking and Reading Ability," and "Spelling" have also experienced a shift towards greater difficulty, with ease decreasing from 95% to 90%, 94% to 85%, and 94% to 86%, respectively.

Overall, while some topics in Urdu have maintained or slightly decreased in difficulty, others have seen a noticeable increase, suggesting changes in teaching challenges or curriculum adjustments over the two years.

Table 41: Comparison of Topic-Wise Difficulty Levels in Numeracy: 2024 vs. 2022

	%age of Teachers			
	2024		2022	
List of Topics	Easy (%)	Difficult (%)	Easy (%)	Difficult (%)
Geometry	85	15	84	16
Data Handling	88	12	86	14
Perimeter and Area - Conceptually straightforward but requires practice.	91	9	90	10
Unitary Method -	92	8	92	8
HCF and LCM	96	4	93	7
Fractions	93	7	93	7
Decimal and Percentages	94	6	93	7
Distance and Time	95	5	94	6
Whole Numbers and Operations - Interesting and foundational.	94	6	95	5

The comparison of the difficulty levels in teaching numeracy topics between 2022 and 2024 indicates a generally consistent perception among teachers, with some slight changes in difficulty. In 2024, "Geometry" and "Data Handling" remain nearly as manageable as in 2022, with 85% and 88% of teachers finding them easy, respectively, compared to 84% and 86% in 2022. The topic "Perimeter and Area," which is considered conceptually straightforward but requiring practice, has seen a small increase in perceived ease, with 91% of teachers finding it easy in 2024 versus 90% in 2022. The "Unitary Method" remains consistent in difficulty, with 92% of teachers finding it easy in both years.

Topics such as "HCF and LCM," "Fractions," and "Decimal and Percentages" have also maintained a high level of ease, with slight increases in the percentage of teachers finding these topics easy in 2024 compared to 2022. Specifically, "HCF and LCM" saw an increase from 93% to 96%, and "Decimal and Percentages" rose from 93% to 94%.

"Distance and Time" and "Whole Numbers and Operations" are perceived as slightly easier in 2024, with 95% and 94% of teachers finding them easy, compared to 94% and 95% in 2022.
Overall, there is a slight trend towards increased ease in teaching numeracy topics, reflecting potential improvements in teaching methods or curriculum changes over the two years.

Table 42: Comparison of Topic-Wise Difficulty Levels in Science: 2024 vs. 2022

	%age of Teachers			
	2024		2022	
List of Topics	Easy (%)	Difficult (%)	Easy (%)	Difficult (%)
Space and Satellite	61	31	74	26
Electricity and Magnetism	69	24	78	22
Matter and its Physical and Chemical Changes	78	22	85	15
Structure of Earth	69	23	87	13
Microorganisms	80	20	89	11
Technology in Everyday	68	24	89	11
Light and Sound	77	16	90	10
Flower and Seed	83	17	93	7
Classification of Living Organisms	84	16	95	5
Environmental Pollution	86	14	95	5

The comparison of topic-wise difficulty levels in Science between 2024 and 2022 reveals notable shifts in teacher perceptions. In 2024, fewer teachers found topics such as Space and Satellite, Electricity and Magnetism, Matter and its Physical and Chemical Changes, and Structure of Earth easy compared to 2022. For instance, the percentage of teachers who found Space and Satellite easy decreased from 74% in 2022 to 61% in 2024, while those who found it difficult increased from 26% to 31%. Similar trends were observed across other topics, with Microorganisms and Technology in Everyday Life seeing an increase in perceived difficulty from 11% in 2022 to 20% and 24%, respectively, in 2024. Despite these changes, topics like Flower and Seed, Classification of Living Organisms, and Environmental Pollution remained largely easy for the majority of teachers in both years, though the percentage of teachers finding them easy slightly decreased in 2024. Overall, the data suggest that while certain Science topics have become more challenging for teachers over time, a significant proportion still finds them easy to teach.

3.11 School Council's Feedback

Table 43: Comparison of Satisfaction with Teacher Performance: 2024 vs. 2022

	%age of SMC Members	
Satisfaction with Performance of:	**2024**	**2022**
Head Teacher	98%	98%
Teachers	97%	98%

The comparison of satisfaction with the performance of the head teacher and teachers, as reported by SMC (School Management Committee) members for 2024 and 2022, shows a high level of contentment with minimal changes over the two years.
In both years, 98% of SMC members expressed satisfaction with the head teacher's performance, indicating consistent approval of their leadership. However, satisfaction with teachers has experienced a slight decline, from 98% in 2022 to 97% in 2024. Despite this minor decrease, the overall satisfaction levels

remain very high, reflecting generally positive perceptions of both the head teacher and the teachers among SMC members.

3.11.1 School Council Functionality

Council members were asked questions to judge whether the councils were working or not. Following table reflect the assessment of School Council Functionality: 2024 vs. 2022

Table 44: Assessment of School Council Functionality: 2024 vs. 2022

	%age of SMC Members	
Council Functionality	2024	2022
Fully Functional	67	56
Mostly Functional	28	37
To some extent	4	3
Council is Dysfunctional	1	1

The assessment of School Council functionality shows improvements from 2022 to 2024. In 2024, 67% of SMC members view the council as fully functional, a notable increase from 56% in 2022. Meanwhile, the percentage of members who consider the council "mostly functional" has decreased from 37% to 28%. The proportion of members rating the council as functional "to some extent" has remained relatively stable, at 4% in 2024 compared to 3% in 2022. Overall, these results indicate enhanced perceptions of the School Council's effectiveness over the past two years.

Table 45: Comparison of Frequency of School Council Meetings: 2024 vs. 2022

	%age of SMC Members	
No. of Meetings	2024	2022
1-2	40	54
3-5	26	32
6-8	23	5
9-12	11	5

The comparison of School Council meeting frequency between 2024 and 2022 reveals a shift towards more frequent meetings. In 2024, 40% of SMC members reported that the council held 1-2 meetings, a decrease from 54% in 2022. Conversely, the percentage of members observing 3-5 meetings increased to 26% in 2024, up from 32% in 2022. The most significant change is in the higher frequency categories: 23% of members noted 6-8 meetings in 2024 compared to just 5% in 2022, and 11% reported 9-12 meetings in 2024, up from 5% in 2022. This indicates a trend towards more frequent and possibly more engaged School Council activities.

3.11.2 Areas of Discussion in Council Meetings

Table 46: Comparison of Frequency of School Council Meetings: 2024 vs. 2022

	%age of SMC Members			
	2024		2022	
Council Functional	Always	Mostly	Always	Mostly
School infrastructure (building, furniture, etc.	39	42	49	40
Students' academic performance	33	40	70	25
Students' educational needs	30	39	NA	NA
Organizing extracurricular activities	47	32	28	36
School discipline	38	42	69	25
Community involvement in school activities	30	33	32	41

Increase in student enrollment	39	42	73	21
Students' health maintenance	33	40	NA	NA

The comparison of the frequency with which the School Council addresses various issues shows notable changes from 2022 to 2024. In 2024, the percentage of SMC members who report the council is "always" functional in addressing school infrastructure issues is 39%, slightly down from 49% in 2022, while those finding the council "mostly" functional has increased to 42%. For students' academic performance, there is a significant decrease in those saying the council is "always" functional, dropping from 70% in 2022 to 33% in 2024, with the "mostly" functional rating at 40% in 2024. The frequency with which the council addresses students' educational needs, students' health maintenance, and community involvement remains less clear due to missing data in 2022. For organizing extracurricular activities, the percentage of members reporting "always" functional has increased to 47% in 2024, up from 28% in 2022. The council's role in managing school discipline shows a decrease in "always" functional responses from 69% in 2022 to 38% in 2024, though "mostly" functional responses remain at 42%. Lastly, the council's involvement in increasing student enrollment has decreased from 73% "always" functional in 2022 to 39% in 2024, with a rise in "mostly" functional responses to 42%. These changes reflect shifts in the council's focus and effectiveness in various areas over the two years.

3.11.3 School Council Participatory Activities

The different activities in which the school council participates are given in the table below.

Table 47: Comparison Council's Participatory Activities: 2024 vs. 2022

	%age of SMC Members	
Participatory Activities	**2024**	**2022**
Improving discipline and control.	39%	38%
Matters related to teaching and learning.	37%	27%
Carrying out constructions.	34%	29%
Planning the utilization of funds.	52%	53%
Resolving students' issues.	42%	37%
The appointment of temporary teachers.	33%	14%

The comparison of the School Council's participatory activities between 2024 and 2022 highlights some shifts in focus and involvement. In 2024, 39% of SMC members report that the council is involved in improving discipline and control, slightly up from 38% in 2022. Engagement in matters related to teaching and learning has increased to 37% in 2024, compared to 27% in 2022. The council's role in carrying out construction activities has also risen to 34%, up from 29% in the previous year. The planning of fund utilization remains fairly consistent at 52% in 2024, just slightly down from 53% in 2022. There is an increase in the council's involvement in resolving students' issues, with 42% of members reporting this in 2024, up from 37% in 2022. Notably, the appointment of temporary teachers has seen a significant rise, with 33% of members indicating the council's involvement in this area in 2024, compared to just 14% in 2022. These changes suggest an evolving focus of the council's activities, with increased engagement in specific areas like teaching and learning, and a greater role in managing staffing issues.

3.11.4 Suggestions by School Council for Strengthening Council Functioning

The suggestions given by different council members for further strengthening of the functioning of the school council are as follows:

Table 48: Comparison of Suggestions to Strengthen the Role of Councils: 2024 vs. 2022

	%age of SMC Members

Suggestions to Strengthen the Role of Councils	2024	2022
Increasing the number of members	9	7
Providing training to each member,	22	29
Assigning separate responsibilities to each member,	32	44
Fundraising for the school (collecting donations), .	12	17

The comparison of suggestions to strengthen the role of School Councils between 2024 and 2022 reveals notable shifts in priorities. In 2024, 9% of SMC members suggest increasing the number of members, a slight rise from 7% in 2022. The recommendation to provide training to each member has decreased to 22% in 2024, down from 29% previously. The idea of assigning separate responsibilities to each member has also seen a decrease, with 32% supporting this in 2024 compared to 44% in 2022. Additionally, suggestions for fundraising activities, such as collecting donations for the school, have decreased to 12% in 2024 from 17% in the earlier year. These changes indicate a shift in focus, with less emphasis on training and distinct roles, and a reduced interest in fundraising activities.

3.11.5 Suggestions by School Council for Utilization of NSB Funds

The suggestions given by different council members for usage of the NSB funds are as follows:

Table 49: Comparison of Suggestions for Using NSB Funds: 2024 vs. 2022

	%age of SMC Members	
Suggestions for Usage of NSB Funds	**2024**	**2022**
For the improvement of teaching and learning	30	64
To provide basic facilities	33	67
To fulfill students' educational needs	21	-
For giving rewards:	4	-
For the appointment of temporary teachers	6	-
For conducting curriculum activities	6	-

The comparison of suggestions for the usage of NSB funds between 2024 and 2022 highlights significant changes in priorities. In 2024, 30% of SMC members advocate for using the funds to improve teaching and learning, a notable decrease from 64% in 2022. Similarly, the suggestion to provide basic facilities, which was supported by 67% of members in 2022, has dropped to 33% in 2024. New suggestions in 2024 include allocating 21% of the funds to meet students' educational needs, and smaller proportions recommending funds for rewards (4%), the appointment of temporary teachers (6%), and conducting curriculum activities (6%). These shifts reflect a change in focus, with less emphasis on teaching and basic facilities, and new priorities emerging for addressing educational needs and other specific areas

3.12 Global Minimum Performance

Benchmarks for English, Urdu, and Mathematics for Grade 5 were developed during a workshop held from June 5-8, 2023, as part of PEC's capacity-building policy linking initiative. Based on these benchmarks, the percentage of students falling into different performance levels across the subjects is outlined below.

Table 50: Comparison of Global Minimum Performance Levels Across English, Urdu, and Math: 2024 vs. 2022

Levels	English		Urdu		Math	
	2024	2022	2024	2022	2024	2022
Below partially meet	0	0%	3.0%	7.6%	0%	0.7%

Partially meet GMP	36.5	34.6%	16.6%	17.1%	10.5%	11.8%
Meets GMP	61.5	62.2%	58.3%	48.7%	58.6%	46.9%
Exceeds GMP	2	3.1%	22.1%	26.6%	30%	40.6%

The data reveals a mixed performance in English, Urdu, and Mathematics for Grade 5 students between 2022 and 2024. In English, no students fell into the "below partially meet" category in either year, and the percentage of students partially meeting the GMP increased slightly from 34.6% in 2022 to 36.5% in 2024. The proportion of students meeting the GMP remained stable, with 61.5% in 2024 compared to 62.2% in 2022, while those exceeding the GMP declined from 3.1% to 2%. In Urdu, the percentage of students "below partially meet" decreased from 7.6% in 2022 to 3% in 2024, reflecting an improvement. The number of students partially meeting the GMP also slightly decreased from 17.1% in 2022 to 16.6% in 2024. However, there was a significant increase in students meeting the GMP, rising from 48.7% in 2022 to 58.3% in 2024, though those exceeding the GMP dropped from 26.6% to 22.1%. In Mathematics, no students fell below partially meeting the GMP in 2024, an improvement from 0.7% in 2022, and the percentage of students partially meeting the GMP dropped slightly from 11.8% to 10.5%. Those meeting the GMP showed a significant improvement, increasing from 46.9% in 2022 to 58.6% in 2024. However, students exceeding the GMP dropped from 40.6% in 2022 to 30% in 2024, indicating a decline in higher-level achievement in mathematics. Overall, while improvements are evident in the percentage of students meeting the benchmarks, there has been a noticeable drop in those exceeding the GMP, especially in mathematics.

Section 5: Discussion

3.13 Discussion of Findings

The overall student scores in LSA 2024 show a decline over LSA 2022. Both male and female students performed higher in LSA 2022, with scores of 71% and 73%, respectively, compared to LSA 2024 scores of 67% and 70%. Similarly, the subject-wise scores of students have also decreased in all subjects compared to last year. The decrease was especially notable in Mathematics, in which student scores decreased by nearly 5% compared to those reported in LSA 2022. Another notable feature of LSA is the higher scores of female students compared to male students. Female students' overall and subject-wise scores have remained slightly higher in LSA 2022 than in LSA 2024. However, both male and female students have achieved similar scores in Mathematics.

The scores across the three domains—Knowledge, Understanding, and Application—for 2022 and 2024 reveal distinct trends. English showed consistent improvement in all domains, with increases in Knowledge, Understanding, and Application. Urdu displayed an improvement in Knowledge, stability in Understanding, but a slight decline in Application. Mathematics had mixed results, with a decrease in Knowledge and Understanding, and a significant drop in Application. Science experienced declines across all domains. These trends indicate the need for targeted educational interventions, especially in science, to enhance student outcomes. Students scored much higher in MCQ-type questions (75%) than CRQs (62%). A similar gap in scores was observed in scores for all subjects.

Students' performance in English reading fluency tests improved from LSA 2022 to LSA 2024, with an increase from 86 words per minute to 92 words per minute. However, in Urdu reading fluency, there was a slight decline, with students reading 115 words per minute in LSA 2022, compared to 113 words per minute in LSA 2024.

Students' performance in English reading fluency improved for both boys and girls from 2022 to 2024. Boys' scores increased from 83 words per minute in 2022 to 88 in 2024, while girls' scores rose from 90 to 97 during the same period. This trend reflects overall progress in English proficiency, with girls consistently outperforming boys in both years.

In contrast, Urdu reading fluency saw a slight decline for both genders. Boys' scores dropped from 110 words per minute in 2022 to 108 in 2024, and girls' scores decreased from 120 to 118. Despite this decline, girls continued to score higher than boys in Urdu across both years.

In 2024, female teachers slightly outperformed male teachers in English with scores of 83 compared to 82, and also in science with scores of 75 compared to 74. In Math, male teachers scored higher, with 84 compared to the female teachers' 81. In Urdu, both male and female teachers scored equally, at 79. When comparing the performance from 2022 to 2024, it is evident that both male and female teachers had the same scores in English in 2022 (78), and while their scores improved in 2024, the performance in Math and Science declined for both genders. Specifically, male teachers' Math scores dropped from 89 in 2022 to 84 in 2024, and female teachers' scores dropped from 86 to 81. Similarly, Science scores for both genders fell from 84 in 2022 to 74 and 75 in 2024 for males and females, respectively.

The performance of three educational institutions SED, PEF, and PEIMA across the years 2024 and 2022. In 2024, SED and PEF both scored 68, while PEIMA scored 63. In comparison, the scores in 2022 were higher across the board, with SED scoring 72, PEF scoring 70, and PEIMA scoring 68.

In English, both SED and PEF scored 69 in 2024, while PEIMA scored 64, all showing a decline from 2022 scores where SED had 72, PEF had 68, and PEIMA had 67. In Urdu, SED scored 70, PEF scored 73, and PEIMA scored 66 in 2024, compared to 71, 72, and 69 respectively in 2022. This indicates a slight improvement for PEF but a decline for SED and PEIMA. In Math, SED scored 71, PEF 70, and PEIMA 64 in 2024, a significant decrease from the 2022 scores of 77, 73, and 70 respectively. In Science, all institutions saw a marked drop, with SED scoring 63, PEF 61, and PEIMA 56 in 2024, down from 69, 66, and 64 in 2022. Overall, the data reveals a general decline in performance across all subjects and institutions, with the most significant drops observed in Math and Science. This trend highlights the need for targeted improvements in these areas to reverse the downward trajectory and enhance educational outcomes.

A comparison of performance across different educational levels (Primary, Middle, High, and Higher Secondary) for the years 2024 and 2022. In 2024, the performance scores were 68 for Primary, Middle, and High levels, and 66 for Higher Secondary. This represents a decline from 2022, where the scores were 72 for both Primary and Middle levels, 70 for High level, and 73 for Higher Secondary. This data indicates a consistent drop in performance across all educational levels from 2022 to 2024, with the most significant decrease observed at the Higher Secondary level, which fell from 73 to 66.

In LSA 2024, Students performance across Punjab in various subjects highlighted Narowal as the top overall performer with a score of 76, and also leads in English with a score of 78, as well as in Science, where it scores 78. In contrast, Sahiwal shows the lowest performance across all subjects, scoring 59 overall and just 52 in English, Urdu, and Math. Muzaffargarh and D.G. Khan also demonstrate strong performances, with Muzaffargarh scoring highly in Urdu (78) and D.G. Khan excelling in Math (77). However, Sahiwal's scores are consistently lower, highlighting significant challenges in its educational outcomes. The data reveals distinct strengths and weaknesses across districts, emphasizing varying levels of academic achievement in different subjects within the province.

In LSA 2024, teachers' performance across various districts in Punjab, ranked by their scores in Overall, English, Urdu, Math, and Science. Attock stands out with the highest overall score of 86, reflecting its strong teaching quality across subjects. In English, Sargodha leads with a score of 87, while Attock also performs exceptionally well, scoring 84. In Urdu, Attock scores 84, highlighting its robust performance in this subject as well. For Math, Attock excels with a top score of 91, demonstrating superior teaching effectiveness. However, the data reveals lower performance in districts such as Sialkot and Rajanpur, which score 67 and 75 overall. In Science, Attock leads with a score of 83, with other high performers including Gujrat and Bahawalpur. The table underscores significant disparities in teacher performance across districts, with Attock consistently achieving high scores, while other districts, like Sialkot and Rahimyarkhan, show weaker results.

The findings from LSA 2024 reveal a notable decline in student performance across various subjects and educational levels compared to LSA 2022. Overall scores for students have decreased, with both male and female students showing lower performance in LSA 2024. Specifically, the decline in Mathematics is significant, with scores dropping by nearly 5%, and Science also saw marked reductions across all domains. Although female students consistently outperformed their male counterparts in most areas, this trend did not hold in Mathematics, where scores were similar for both genders.

The performance trends in different subjects reflect a mixed landscape: while English saw improvement in Knowledge, Understanding, and Application, Urdu showed stability in Understanding but a decline in Application. Mathematics experienced decreases in Knowledge and Understanding, with a substantial drop in Application, and Science scores fell across all domains. The general trend suggests a need for targeted educational interventions to address these areas, particularly Science and Mathematics, to enhance overall student outcomes.

In terms of reading fluency, English reading improved significantly from 2022 to 2024, whereas Urdu reading fluency saw a slight decline. The performance of teachers also varied, with female teachers performing slightly better in English and Science, while male teachers excelled in Mathematics. Both genders, however, experienced declines in their Math and Science scores.

The performance of educational institutions and programs showed a downward trend from 2022 to 2024. SED and PEF scored similarly in 2024, but both experienced declines from their 2022 scores, particularly in Mathematics and Science. At the district level, Narowal emerged as the top performer, while Sahiwal struggled with lower scores across subjects, underscoring significant disparities in educational outcomes.

These findings underscore the need for focused reforms and improvements in teaching methods, curriculum, and resource allocation to address performance gaps and enhance educational quality across Punjab.

RECOMMENDATIONS

4

CHAPTER 4 RECOMMENDATIONS

Based on the report's findings, several recommendations have been formulated to guide policy and improvement efforts. To enhance the educational system, a collaborative approach involving all stakeholders at the provincial, district, and school levels is essential.

4.1 School Education Department (SED)

4.1.1 Promote Bilingual Instruction

Encourage the use of both English and Urdu in schools to enhance student achievement, as evidence suggests that bilingual instruction supports higher performance compared to schools using only English.

4.1.2 Enhance Teacher Competency

Invest in targeted professional development programs to improve teacher competency, especially in English, science, and Urdu. Ensure teachers have access to specialized training, including the EaSTE module, and ongoing support for their professional growth.

4.1.3 Improve Resource Allocation

Equip all schools with essential resources such as playgrounds, library books, and audio-visual aids. Regularly assess and address resource gaps to support effective teaching and learning.

4.1.4 Ensure Curriculum Relevance

Adopt and promote the Single National Curriculum (SNC) across schools to ensure consistency and relevance. Tailor textbooks and curriculum content to align with students' cognitive levels and educational needs.

4.1.5 Strengthen Community and Parental Engagement

Foster active community and parental involvement in schools through consistent communication and participation in school activities. Develop strategies to enhance parental engagement, as this has been shown to positively impact student performance.

4.1.6 Optimize Teaching and Learning Environments

Support the development of dedicated classrooms and the provision of additional learning materials. Ensure that classrooms are conducive to learning and that lesson planning and teaching are well-resourced and effective.

4.1.7 Implement Regular Feedback and Assessment

Establish regular feedback mechanisms from Assistant Education Officers (AEOs) and other stakeholders. Emphasize the importance of frequent assessments, both oral and written, to monitor student progress and identify areas for improvement.

4.1.8 Address Gender and Regional Disparities

Develop targeted interventions to address performance disparities based on gender and geographic location. Provide additional support to rural schools and enhance resources and training for female students and teachers.

4.1.9 Integrate Engaging Educational Activities

Incorporate interesting and engaging activities into the curriculum to boost student motivation and performance. Encourage participation in co-curricular activities and ensure that educational experiences align with students' abilities and interests.

4.1.10 Support Teachers' Professional Development

Facilitate access to advanced training programs and professional development for teachers. Ensure that teachers are well-supported and satisfied in their roles to positively impact student performance.

4.2 Quaid-e-Azam Academy for Educational Development (QAED)

4.2.1 Leadership Training for Headteachers

Implement specialized leadership training programs for headteachers focusing on managerial and interpersonal skills. These programs should aim to enhance their ability to engage effectively with parents, school council members, and the wider community.

4.2.2 Ongoing Professional Development for Experienced Teachers

Design and offer special programs to keep senior and experienced teachers updated with modern teaching practices. Ensure these programs incorporate the latest educational research and teaching methodologies.

4.2.3 Standardized Lesson Planning

Develop a standardized lesson plan template based on the Single National Curriculum (SNC). Provide these plans to all schools in both print and digital formats. Incorporate the use of these lesson plans into the school-based Continuous Professional Development (CPD) programs, such as the Innovative Teacher Support Package (ITSP).

4.2.4 Real-Time, Feedback-Based Training

Introduce practical, real-time training programs that provide teachers with feedback on their teaching practices. Ensure that these programs are conducted in actual teaching environments to facilitate immediate application and improvement.

4.2.5 Gender-Based Training Programs

Create training programs that address gender-based differences in teachers' performance across various subjects. These programs should be tailored to help teachers effectively manage and support both male and female students.

4.2.6 Targeted Subject-Specific Training

Develop and implement targeted, subject-specific training for teachers in each district. Use Local School Assessment (LSA) findings to identify and address topic-specific challenges in core subjects such as Science, Mathematics, English, and Urdu.

4.3 Punjab Curriculum & Textbook Board (PCTB)

4.3.1 Collaborative Data Sharing

Encourage a collaborative approach to data sharing, especially concerning weak Student Learning Outcomes (SLOs). PCTB should share insights from data on these weak SLOs with textbook developers. Their input is crucial in creating content that is simple, understandable, and enriched with sufficient examples to enhance student comprehension.

4.3.2 Supplementary Materials

Ensure that textbooks are promptly accompanied by supplementary materials. These materials should be designed to reinforce textbook content and facilitate its practical application in classrooms. Early availability of these resources will aid in better utilization during the academic year.

4.3.3 Data-Driven Content Development

Utilize LSA data that highlights difficult topics as identified by teachers and students. This data should inform strategies for curriculum improvement, with a focus on developing content that addresses these challenges. For instance, areas in numeracy like Geometry and Fractions, where difficulty persists, should receive targeted content enhancements.

Topic-Specific Improvements: Based on the topic-wise difficulty comparisons from 2024 and 2022:

English: Although there is an improvement, areas like Creative Writing and Oral Communication still pose challenges. Incorporating more interactive and engaging activities could help alleviate these difficulties.
Urdu: There is a noticeable increase in difficulty in areas like Grammar and Sentence Formation compared to 2022. Revising these sections to include more practical exercises and examples could help mitigate this trend.

Numeracy: While most topics have seen slight improvements, continued focus is needed on Geometry and Fractions, where difficulty remains. Further simplification and practice-oriented approaches could be beneficial.

Science: Review and possibly simplify the content of topics such as Space and Satellite, Electricity and Magnetism, Matter and its Physical and Chemical Changes, and Structure of Earth. The increasing difficulty perceived by teachers indicates a need for more accessible explanations, examples, and activities that align with the current capabilities of both teachers and students.

Continuous Review and Feedback Loop: Establish a continuous review system that integrates feedback from teachers on the difficulty of various topics. This system should regularly inform curriculum revisions, ensuring that content evolves to meet the needs of both teachers and students effectively.

4.4 Program Monitoring and Implementation Unit (PMIU)

4.4.1 Enhanced Monitoring Mechanisms

Strengthen monitoring mechanisms to ensure timely and accurate data collection from schools. This includes tracking the distribution and use of textbooks, the availability of supplementary materials, and the implementation of training programs. The data should be used to identify gaps and areas needing improvement.

4.4.2 Data-Driven Decision Making

Utilize data from various assessments (like LSA) to make informed decisions about resource allocation and program implementation. For instance, focus on schools or regions where specific subjects (e.g., Geometry in Numeracy or Creative Writing in English) are consistently reported as challenging.

4.4.3 Targeted Interventions
Develop targeted interventions based on data showing persistent difficulties in certain subjects or topics. For example, PMIU can coordinate with QAED to provide additional support and resources in areas where teachers and students face challenges, as identified in the comparison of difficulty levels across years.

4.4.4 Feedback Integration
Implement a structured feedback loop where insights from headteachers, teachers, and SMC members are systematically gathered and integrated into program adjustments. This will help in refining educational strategies to better address on-ground challenges.

4.4.5 Regular Performance Reviews
Conduct regular performance reviews to assess the impact of implemented programs and policies. These reviews should analyze changes in student performance across different subjects and regions, guiding future planning and resource distribution.

4.4.6 Community Engagement Initiatives
Promote initiatives that increase community and parental engagement in schools, as this has been shown to positively impact student performance. PMIU should facilitate programs that encourage parental involvement in school activities and decision-making processes.

4.4.7 Resource Optimization
Ensure that resources are being optimally used by monitoring their distribution and impact on student performance. This includes ensuring that textbooks, supplementary materials, and other educational resources are not only distributed on time but are also being effectively utilized by both teachers and students.

4.4.8 Professional Development Support
Collaborate with QAED to monitor the effectiveness of teacher training programs. The focus should be on ensuring that training translates into improved teaching practices, particularly in areas identified as difficult in recent assessments.

4.4.9 Infrastructure and Facility Monitoring
Regularly assess the condition of school infrastructure, including classrooms, libraries, and play areas. Ensure that schools have the necessary facilities to support a conducive learning environment, as these factors are directly linked to student performance.

4.4.10 Technology Integration
Monitor and support the integration of technology in teaching and learning processes. Ensure that schools are equipped with the necessary digital tools and that teachers are trained to use them effectively, particularly in subjects where technological aids can enhance learning outcomes.

4.5 District Education Authorities (DEAs)

4.5.1 Localized Teacher Training Initiatives
Collaborate with QAED to implement localized, district-specific teacher training programs. Focus on the subjects and topics that teachers in the district find most challenging, as identified in recent assessments (e.g., Creative Writing in English or Geometry in Numeracy).

4.5.2 Regular Teacher Performance Monitoring

Establish a robust system for regular monitoring and evaluation of teacher performance. DEAs should ensure that teachers are applying the skills acquired from training programs, particularly in the areas where students are struggling.

4.5.3 Strengthening School Infrastructure

Prioritize the improvement of school infrastructure in districts where facilities such as playgrounds, libraries, and adequate classrooms are lacking. This will help address disparities in student performance linked to school environment factors.

4.5.4 Community and Parental Engagement

Develop initiatives that encourage stronger collaboration between schools, parents, and the wider community. DEAs should facilitate regular meetings and activities that engage parents in their children's education, particularly in schools where community involvement is currently low.

4.5.6 Curriculum Adaptation and Support

Work with schools to ensure that the curriculum is adapted to meet the specific needs of students in the district. This includes providing additional support for topics identified as difficult by both teachers and students, and ensuring that teaching materials are relevant and accessible.

4.5.7 Data-Driven Resource Allocation

Use data from assessments to guide the allocation of resources within the district. DEAs should prioritize schools with lower performance, ensuring they receive the necessary support in terms of teaching materials, supplementary resources, and targeted interventions.

4.5.8 Incentives for Teacher Retention and Motivation

Develop programs that incentivize teachers to remain in the district, particularly in rural or underperforming areas. This could include financial incentives, professional development opportunities, or recognition programs that reward teachers for improving student outcomes.

4.5.9 Student Performance Monitoring

Implement district-wide systems for monitoring student performance regularly. DEAs should analyze this data to identify trends and areas needing intervention, ensuring that students receive the support they need to succeed.

4.5.10 Collaborative Efforts with SMCs

Strengthen the relationship between DEAs and School Management Committees (SMCs). Encourage active participation of SMCs in school governance and decision-making, particularly in areas affecting student performance, such as the allocation of resources and the organization of extracurricular activities.

4.5.11 Promote Extracurricular and Co-Curricular Activities

Support schools in organizing extracurricular and co-curricular activities that enhance student engagement and learning. DEAs should ensure that schools have the necessary resources and facilities to conduct these activities, which have been shown to positively impact student performance.

4.6 Schools

4.6.1 Tailored Professional Development

Focus on providing teachers with professional development opportunities specifically in areas where the data indicates students struggle the most. For instance, training should be emphasized in Urdu grammar and comprehension, English creative writing, and complex numeracy topics such as fractions and geometry.

4.6.2 Enhanced Differentiated Instruction

Implement targeted differentiated instruction strategies for topics identified as difficult. Teachers should adapt their teaching methods based on the specific challenges students face in subjects like Mathematics and English, as evidenced by the reported difficulties in topics such as perimeter and area, creative writing, and comprehension.

4.6.3 Strengthened Parental Engagement

Increase efforts to engage parents in their children's education, especially in areas where student performance is impacted by home factors. Schools should create more frequent and structured opportunities for parents to be involved, particularly in monitoring and supporting students' progress in subjects identified as challenging.

4.6.5 Optimal Resource Utilization

Ensure that teaching resources are aligned with the topics students find difficult. For example, schools should make sure that supplementary materials and visual aids are readily available for teaching complex mathematical concepts and language skills. Teachers should be trained on how to effectively integrate these resources into their lessons.

4.6.6 Student-Centered Learning Initiatives

Develop and implement more student-centered learning strategies that are specifically tailored to the subjects and topics where students face the most difficulties. Activities like collaborative projects, hands-on learning, and practical applications should be prioritized in areas such as science experiments, creative writing, and numeracy practice.

4.6.7 Focused Support Programs

Establish or enhance support programs specifically targeting students struggling in the most difficult topics identified, such as Urdu grammar and English creative writing. These programs could include additional tutoring sessions, peer-assisted learning groups, and personalized learning plans.

4.6.8 Regular, Targeted Assessment and Feedback

Improve the frequency and specificity of assessments in subjects and topics where students show the most difficulty. For instance, more frequent formative assessments should be implemented in topics like Urdu spelling and Mathematics operations, with immediate feedback provided to help students improve.

4.6.9 Extracurricular Activities Linked to Academics

Design extracurricular activities that directly support academic learning, particularly in challenging subjects. For example, schools could offer writing clubs, math leagues, or science fairs that focus on the difficult topics highlighted in the data, such as essay writing, data handling, or environmental science.

4.6.10 Positive and Inclusive Learning Environment

Foster a school culture that specifically encourages improvement in the subjects where students are struggling. This could involve celebrating achievements in difficult areas, creating support networks among students, and promoting a growth mindset in subjects like mathematics and language arts.

4.6.11 Data-Driven Decision-Making

Continuously analyze the data on student performance in difficult topics and use it to guide instructional strategies, resource allocation, and support services. For example, if data shows consistent struggles in English grammar, schools should consider revising the approach to teaching this subject and providing additional resources.

4.7 Parents

4.7.1 Foster a Positive Learning Environment at Home

Engage in regular conversations with your children in languages that positively impact learning, such as English and Saraiki. This helps reinforce language skills that are crucial for academic success.

4.7.2 Active Involvement in Education

Maintain consistent communication with your child's school and teachers. Regularly attend parent-teacher meetings and stay informed about your child's progress and challenges.

4.7.3 Encourage a Positive Attitude Towards School

Cultivate your child's interest in school by showing enthusiasm for their educational activities. Encourage them to participate in school activities and praise their efforts and achievements to boost their confidence.

4.7.4 Support Homework and Study Habits

Encourage a strong liking for homework by helping your child establish a study routine. Ensure they have a quiet, well-lit space to complete their work and assist them when needed.

4.7.8 Promote Education Beyond Textbooks

Encourage your child to explore learning materials beyond the standard textbooks. Providing access to supplementary resources such as books, educational websites, and interactive learning tools can enhance their understanding of various subjects.

4.7.9 Create a Safe and Conducive Learning Environment

Ensure that your home is a safe and supportive environment for your child's education. Address any distractions or challenges that might hinder their learning process.

4.7.10 Leverage Father's Educational Influence

If possible, fathers should engage more in their child's education, especially if they have a higher educational background. Discussing school topics and sharing educational experiences can positively influence your child's academic performance.

4.7.11 Tailor Support Based on Occupation and Income Levels

Recognize that while income does not always correlate with better outcomes, the type of parental occupation can influence educational success. Use your professional experience to offer practical insights and problem-solving skills that relate to your child's studies.

4.7.12 Encourage School and Curriculum Improvements

Actively participate in school improvement initiatives by providing feedback and suggestions to enhance the school's environment, safety, and educational resources. Your involvement can lead to better facilities and support systems for your child and others.

PUNJAB EXAMINATION COMMISSION

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Link Wahdat Road, Near Pilot Boys High School Lahore.