



# National Assessment Report 2016

AaBbCc



The formal education system consists of 2 years of pre-primary, 5 years of primary, 3 years of middle/ elementary, 2 years of secondary and 2 years of higher secondary schooling. Pre-primary or early childhood education (ECE) is available for children in facilities provided by the state. Enrolment decreases from primary to higher degree education, and the female dropout rate is greater than that of male students. Education is a provincial subject under the 1973 Constitution and in 2010 the Federal Government devolved the control and management of the education sector to the provinces under the 18th Constitutional Amendment.

Large-scale assessments, such as the national achievement test (NAT) 2016, conducted across Pakistan, provided information relevant to policy makers and implementers on overall performance of education system and factors that contribute to performance. Such assessments can play a critical role in determining effectiveness and impact of investments in education and in understanding how efficiently education system is delivering resources that contribute to student learning.

National Education Assessment System (NEAS) has the mandate to conduct Large-scale Assessments across Pakistan to provide its feedback on effectiveness of prevailing education

system by measuring the learning achievement level of students. NEAS conducted five cycles of assessments in the years 2005, 2006, 2007, 2008 during project period and then in 2014 after closing of the project.

The National Achievement Test (NAT) 2016 the 6<sup>th</sup> trend was different from previous ones in many ways. It was for the first time conducted in phases - separately for winter and summer zone schools before the school annual examination in fourth-grade and eighth-grade. This step definitely added value to the validity of its results. For the first time, policy questions were developed and shared with the stakeholders including some national and international partners in provinces and areas for their feedback. These policy questions covered the way for including additional but much required questions in the background questionnaires. These questions were from education, physical facilities, socioeconomic status (SES) of students' family, add main actual areas from policy questions and from health point of view.

Another important change was increase in sample size that raised from 11800 from NAT 2014 to 30,000 in NAT 2016 for both fourth and eighth-grade. This has also helped in making the results, findings and recommendations more reliable and valid.

## Assessment Instruments

**Fourth-Grade Instruments**

- Mathematics
- Urdu Reading
- Urdu Writing

**Eighth-Grade Instruments**

- Science
- English Reading
- English Writing

**Background Data Tools**

- Head Teacher Questionnaire
- Teacher Questionnaire
- Student-Parent Background Questionnaire

## Data Collection

### Winter Zone

#### Balochistan and Gilgit-Baltistan

Test Administrators Training 4-5 November 2016  
 Assessment in sample schools 8 to 11 November 2016

#### AJK, FATA and KP

Test Administrators Training 2-3 December 2016  
 Assessment in sample schools 6 to 9 December 2016

### Summer Zone

#### AJK, FATA, K.P and Sind

Test Administrators Training 3-4 February 2017  
 Assessment in sample schools 7 to 10 February 2017

#### Punjab

Test Administrators Training 22-23 February 2017  
 Assessment in sample schools 27 Feb to 2 Mar 2017

#### Balochistan

Test Administrators Training 1-2 April 2017  
 Assessment in sample schools 5 to 8 April 2017

Lead Master Trainers' (LMTs) Workshops

First Phase: FATA and Khyber Pakhtunkhwa

Second Phase: AJK, Balochistan and Sindh

Third Phase: Gilgit-Baltistan, ICT and Punjab

Steps of Data Collection

## Conduct of the Study

National Achievement Test 2016 was conducted in winter zone schools in two phases as per the following schedule:

### Assessment in Winter Zone

Province/ Area	Tas Training & NAT	Date of Training
Balochistan and Gilgit-Baltistan	Test Administrators Training National Achievement Test	i. 4th - 5th Nov. 2016 ii. 8th - 11th Nov. 2016
KP, AJK and FATA	Test Administrators Training National Achievement Test	i. 2nd - 3rd Dec. 2016 ii. 6th - 9th Dec. 2016

### Assessment in Summer Zone

Province/ Area	Tas Training & NAT	Date of Training
AJK, FATA, KP & Sindh	Test Administrators Training National Achievement Test	i. 2nd - 3rd Feb. 2017 ii. 7th - 10th Feb. 2017
Punjab	Test Administrators Training National Achievement Test	i. 27th - 28th Feb. 2017 ii. 1st - 4th Mar. 2017
Quetta	Test Administrators Training National Achievement Test	i. 30th - 31st Mar. 2017 ii. 5th - 8th Apr. 2017

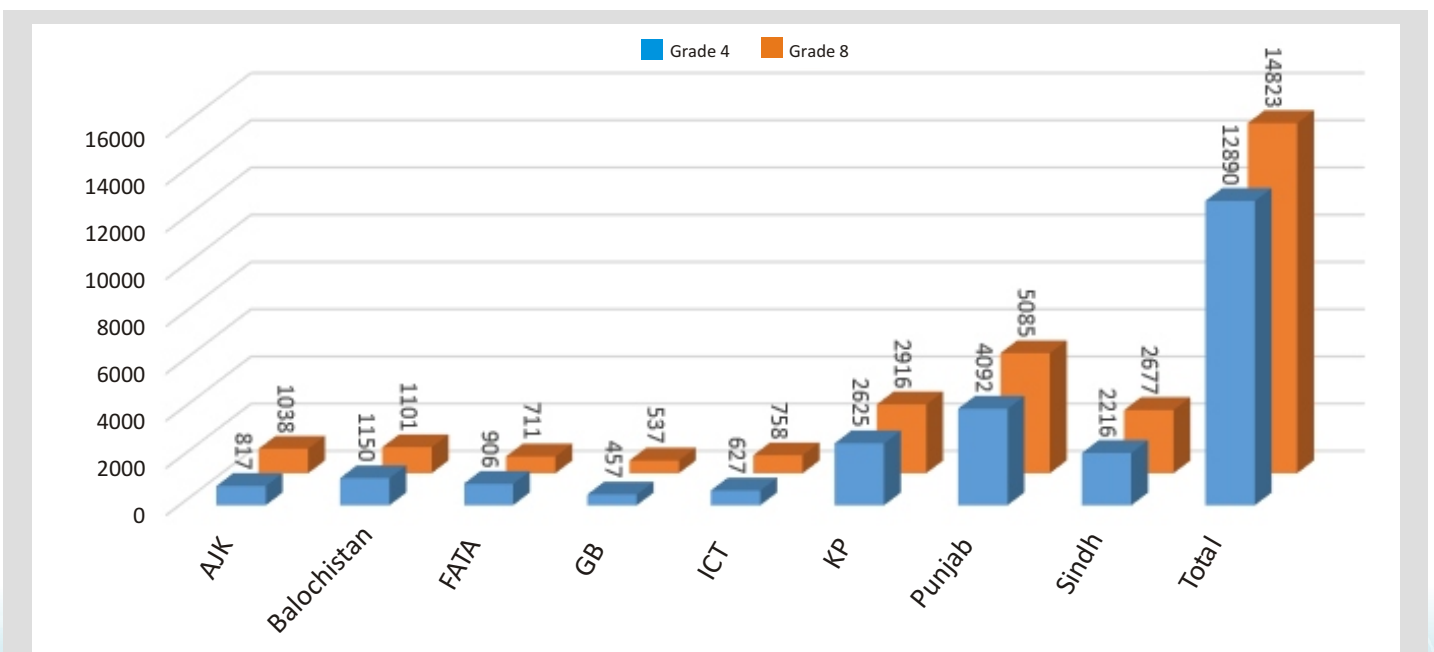
## Data Entry and Data Analysis

In addition to SPSS, following software were also used for detailed analysis:

- ConQuest (Generalised Item Response Modelling-IRT analysis)
- AM (AM is a statistical software package for analysing data from complex)
- HLM (Hierarchical linear modelling at student and school-

## Marked and Coded

### Fourth-grade Urdu and Eighth-grade English Booklet



levels)

- Iteman (provide detailed item and test analysis reports using classical test theory (CTT))

The data gathered from around 1499 sample schools was then assessed in NEAS experts who analyzed it in detail to determine the achievement and background variables that were influencing policy making, curriculum development, text-book authoring and teaching-learning process in the education system. The report focused on three explicit strata i.e. gender, location (urban or rural) and provinces/ areas. All three strata are of great importance and have an attraction for the stakeholders to understand the contextual factors influencing student-learning achievement in fourth and eighth-grades.

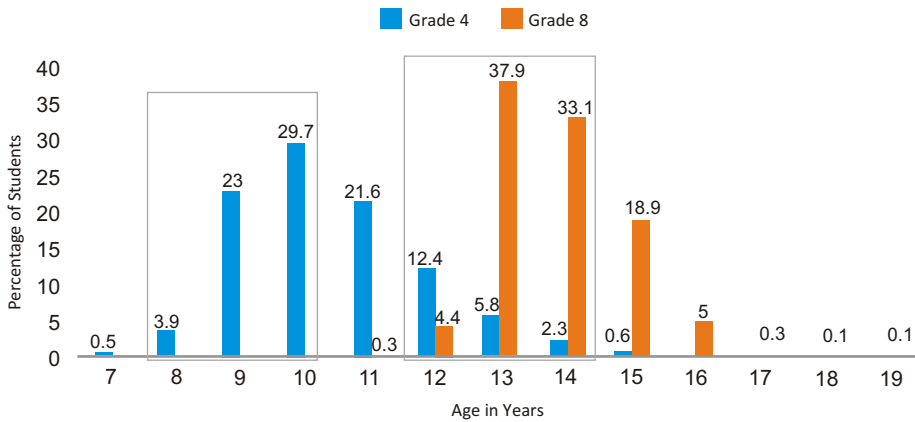
The analysis of NAT-2016 data opened many new avenues for the stakeholders to deliberate further. Some alarming results will definitely get the attention of policy and practice.

## Marking and Coding

Following is the detail of province & area wise total Urdu writing booklets marked for fourth-grade and English writing booklets marked for eighth-grade in NAT 2016.

# Characteristics of Students and their Parents

## Age-Grade Compatibility

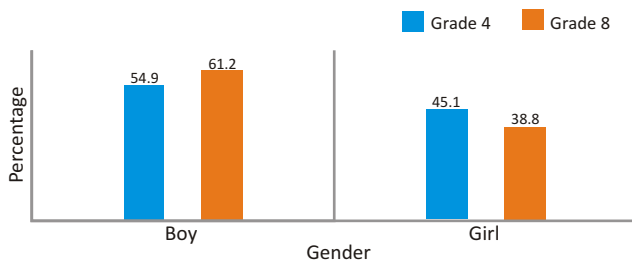


42.7% of the students in fourth grade were average which dropped to 24.4% in eighth grade reinforcing the assumption that average students are at greater risk of dropout.

### Policy Suggestion

Parents, community and school education department should be involved to ensure student enrollments in school at right age in appropriate grade

## Gender Disparity

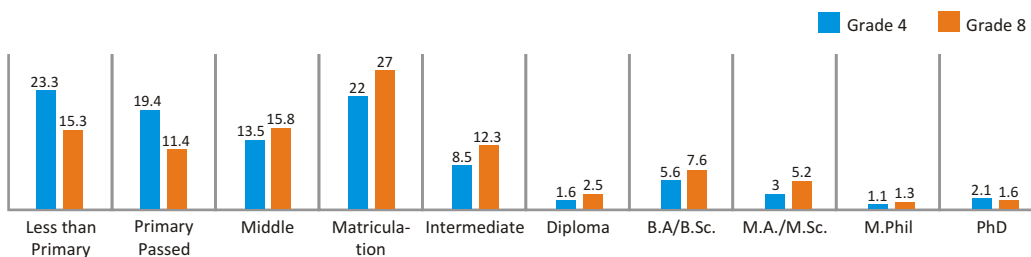


Girls are at greater risk of non-enrollment or dropout

### Policy Suggestion

Federal and provincial education ministry/departments take measures to bring girls to school and once in school, incentivize to retain in schools by involving parents, community leaders and school environment.

## Parental Education



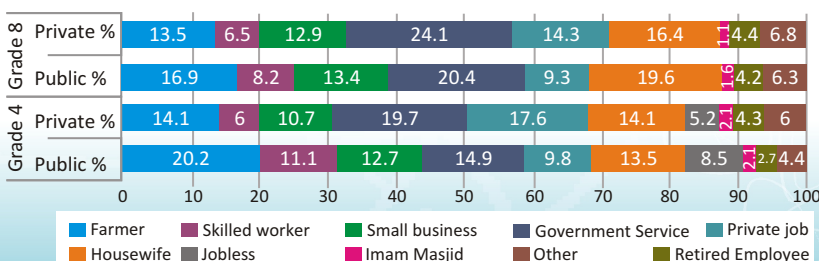
In situation where majority of the parents of fourth grader are not even primary school graduate, there is desperate need to promote awareness of value of education among parents

Parental education is directly associated to students' chances of education

### Policy Suggestion

Departments of School Education through head teachers and teachers should increase contact with parents and make them realize the value of education in improving the lives of their children. Less Educated parents should be convinced about worth of education and its role in improving lives

## Parental Education

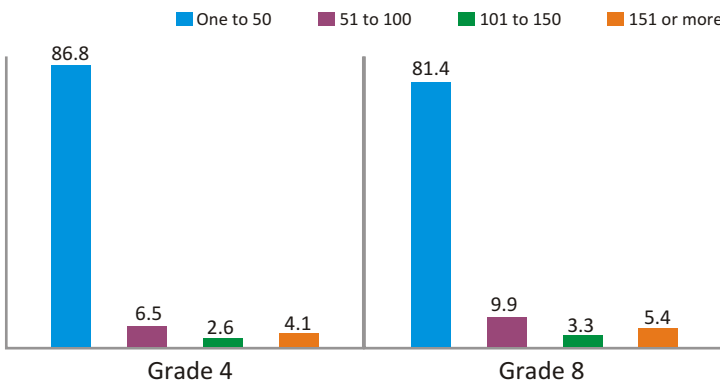


Children of jobless parents are more likely to dropout as compared to children of employed parents

### Policy Suggestion

Parents sending their children to public schools are from low income professions. School Education Department may arrange financial support program to improve student retention, especially girls' retention in schools.

### Reading beyond Textbooks

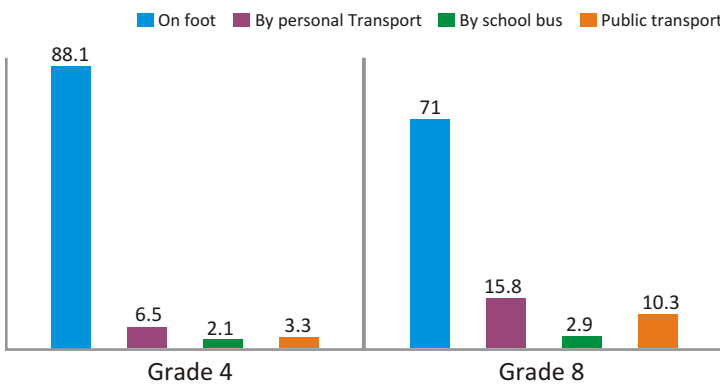


Schools need to embed reading activities as part of school curriculum for promoting reading culture

**Policy Suggestion**

Federal and Provincial School Education Departments strengthen school libraries and manage dedicated time for reading books other than course material in school timetable to develop reading habits in students.

### Means of Traveling to School

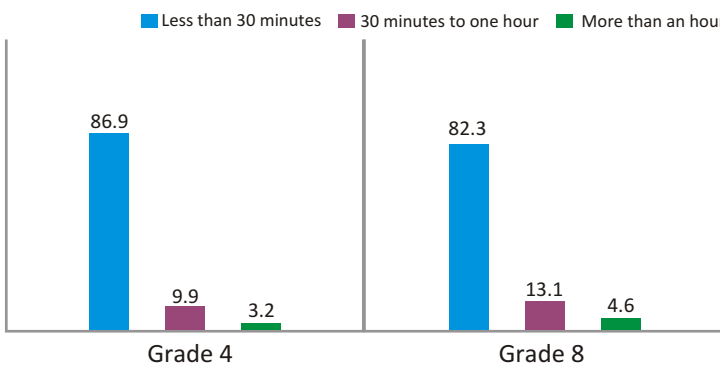


The schools are at walking distance for overwhelming majority of students in fourth and eighth grade.

**Policy Suggestion**

Federal and Provincial school authorities Upgrading existing primary schools to elementary schools can further improve school access for students and help in overcoming challenge of bringing children to school.

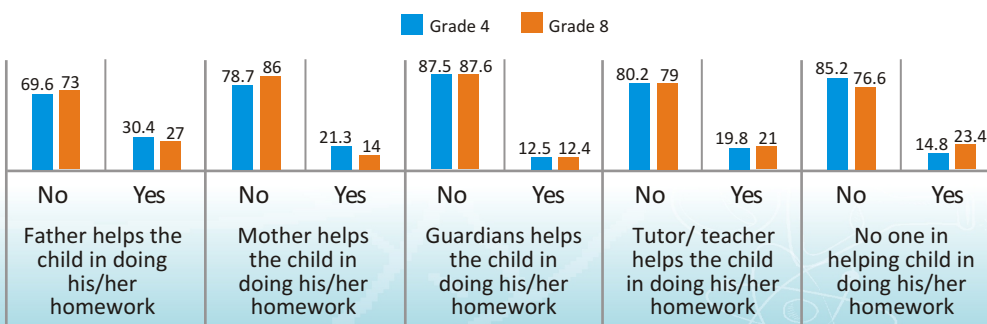
### Travel Time to School



Majority students need less than 30 minutes to reach schools

Parents and tutor help students in doing their home work  
Majority of parents are uneducated or have less than 10 years of education, which makes it difficult for them to help their children in homework.

### Homework

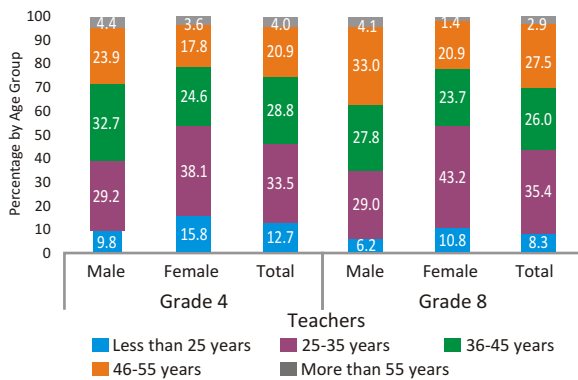


**Policy Suggestion**

Schools days can be extended and teachers may be asked to ensure completion of work in schools to reduce the disadvantage for students having less educated parents or unaffordability to hire services of private tutors at home.

## Characteristics of Teachers

### Age Distribution of Teacher Workforce



More than half of the teaching workforce in Pakistan is less than 35 years in age.

Offering career development opportunities for young teachers is an investment worth offering to equip schools with professionally competent teachers

#### Policy Suggestion

Federal and Provincial Ministries of Education should work in closer liaisons with pre-service teacher education institutions to raise the level of teacher training. Moreover, induction training should be geared towards acquainting young male and female teachers to school vision, mission and needs in early career.

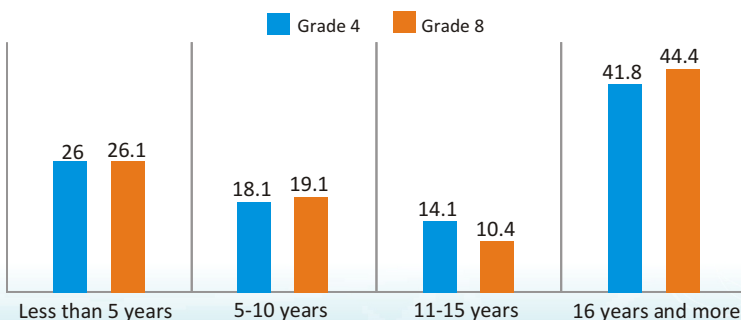
### Teacher Qualification

Professional Qualification	Academic Qualification													
	Fourth-Grade							Eighth-Grade						
	Matriculation	Intermediate	BA	M.A	M.Phil	Ph.D	Total	Matriculation	Intermediate	BA	M.A	M.Phil	Ph.D	Total
PTC	83	72	109	37	0	0	301	0	2	2	3	0	0	7
CT	0	33	41	16	0	0	90	0	7	29	10	2	0	48
Diploma in Education	0	4	7	2	0	0	13	0	4	6	4	2	0	16
B.Ed/BS.Ed	0	2	141	254	13	0	410	0	1	142	300	28	1	473
MEd/MSEd/MA(Edu)	0	0	23	149	6	2	180	0	0	22	299	14	0	335
M.Phil	0	0	0	4	6	0	10	0	0	0	6	7	0	13
Ph.D	0	0	0	2	0	0	2	0	0	0	0	0	0	0
<b>Total</b>	<b>83</b>	<b>111</b>	<b>321</b>	<b>464</b>	<b>25</b>	<b>2</b>	<b>1010</b>	<b>0</b>	<b>14</b>	<b>201</b>	<b>622</b>	<b>53</b>	<b>1</b>	<b>893</b>

#### Policy Suggestion

The majority of the teachers in fourth and eighth grade have B.A./M.A with B.Ed/M.Ed which is higher qualification than what is required for recruitment in primary or elementary schools. These teachers join teaching profession because of high un-employability in the country but they rarely take it as their destination and keep seeking for better jobs. Ministries of Education at Federal and Provincial level should work on grades, pay scales and career paths for teachers to retain these highly qualified teachers in schools.

### Teacher Experience



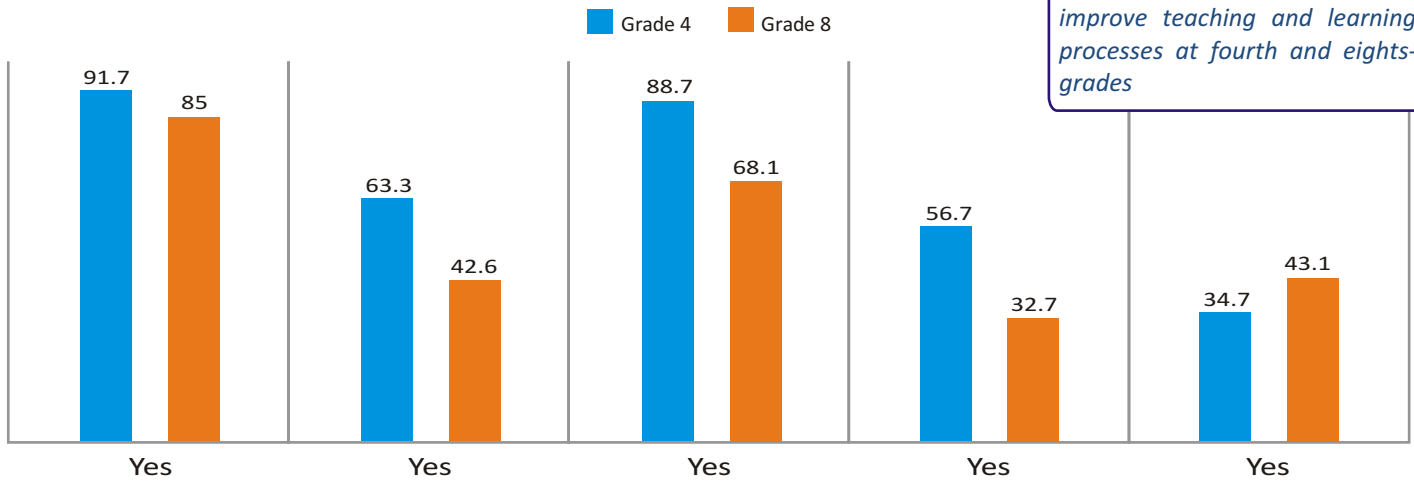
More than 40% of the teaching workforce have more than 16 years of teaching experience.

#### Policy Suggestion

Teaching workforce in the country is quite young and experienced which is likely to serve for many years. Federal and provincial ministries of education should engage them in diverse professional development programs to empower them with skills needed for teaching students in 21<sup>st</sup> century. Hands-on and on-job models of professional training should be introduced at federal and provincial institutes of teacher training.



### Provision of Textbooks/ Teacher Guides/ Teaching Kits

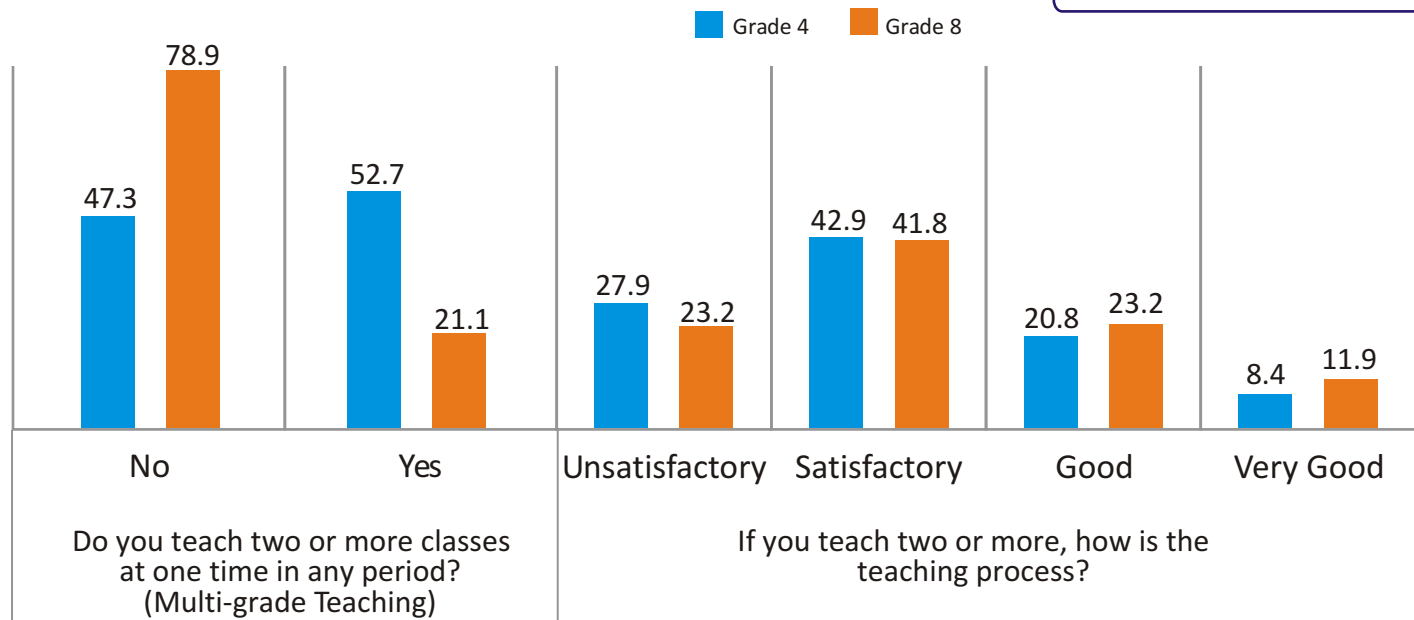


Provision of teacher guides and teaching kits to all schools can improve teaching and learning processes at fourth and eighth-grades

**Policy Suggestion**

Federal and Provincial Ministries of Education in collaboration with Directorate of Trainings should make teacher guides and other open educational resources available on-line for teachers through a portal like [elearn.punjab](http://elearn.punjab)

### Provision of Textbooks/ Teacher Guides/ Teaching Kits



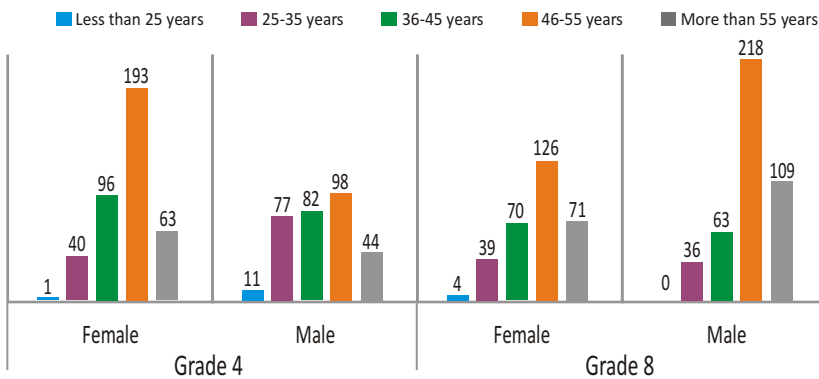
More than half of the teachers have either taught in multi-grade teaching situation or still practicing it in fourth grade

**Policy Suggestion**

Multi grade teaching is a reality, especially in rural area schools. There is hardly any arrangement for training of teachers in this mode. Directorate of Teacher Education in Federal, Provincial and Areas should develop modules on multi-grade teaching for teachers involved in multi-grade teaching.

## Characteristics of Head Teacher and School Conditions

### Age Distribution of Head Teachers by Gender



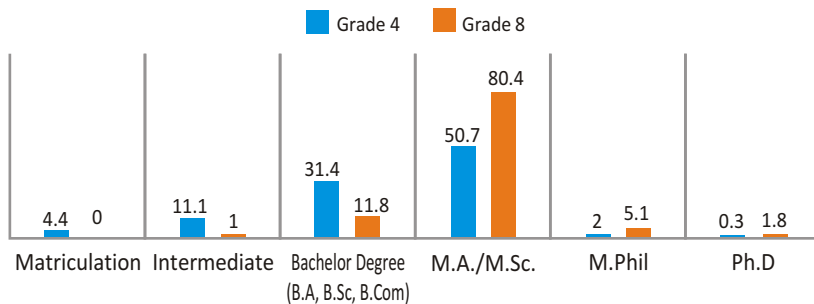
The head teachers are well experienced teachers, mostly in their mid-career with 5-15 years' service left

Performance based or direct induction of head teachers can be a change agent in school improvement

#### Policy Suggestion

Head teachers can be important tool of change in the quality of school education. A special cadre of highly qualified, professional competent leaders can be introduced to work as head teachers. The ministries of Education at Federal and Provincial level can introduce direct hiring of head teachers (in larger proportion as compared to current provisions).

### Academic Qualification of Head Teachers



Many highly qualified teachers are available in primary schools, who be raised to the position of head teachers for better academic leadership

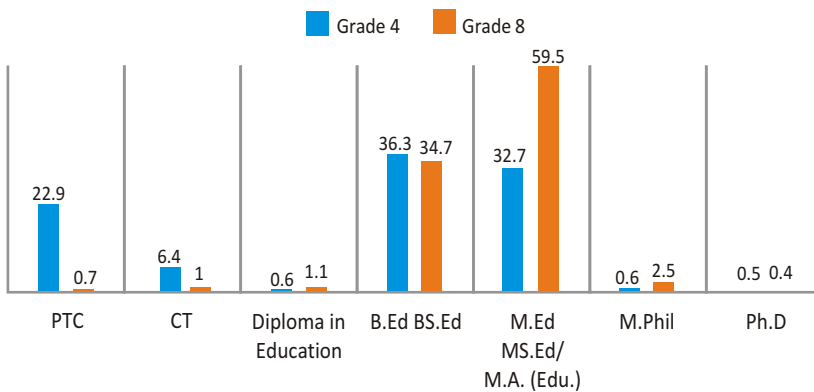
The number of highly qualified head teachers is on rise in schools

#### Policy Suggestion

School Education Departments in provinces and areas can introduce a separate cadre of head teachers with separate recruitment criteria, service structure and career path to provide visionary leadership for school improvement

In primary schools, Permanent designation of head teachers in can improve leadership in primary schools

### Professional Qualification of Head Teachers



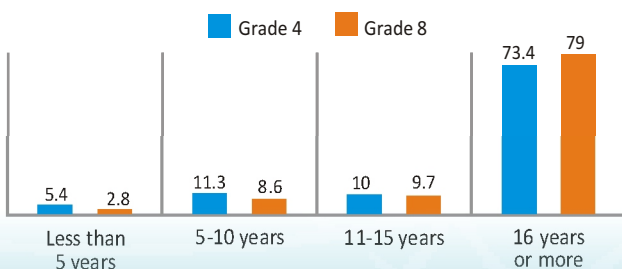
B.Ed and M.Ed is the professional qualification of head teachers

The entry qualification for recruitment of teachers and head teachers has been elevated

#### Policy Suggestion

Ministries of Federal and Provincial Education should device teacher/head teacher recruitment policy in-line with teacher education policy to strengthen teacher education and attract professionally competent teachers in school education. A realistic policy towards content and professional qualification as pre-requisite for entry in teacher education can bring committed teacher/ head teachers in the field of education.

### Teaching Experience of Head Teachers



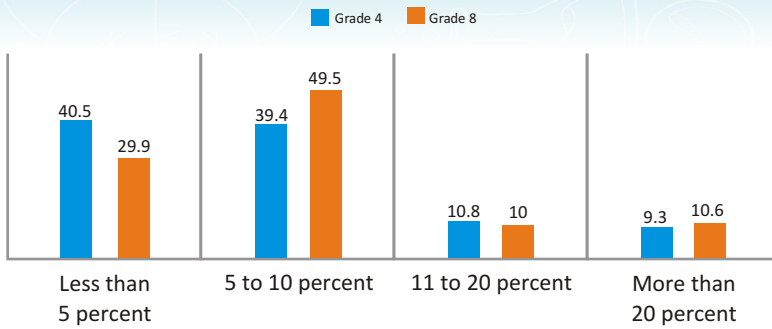
The ratio of head teachers coming through promotion is substantially more than head teachers recruited through direct selection

#### Policy Suggestion

The educational leadership consonant with demands of the 21<sup>st</sup> century is needed to reorient schools ready for preparing graduates for working in knowledge economy or continue their study in competitive environment. Ministries of Federal and Provincial Education needs to lay down emphasis on recruiting or promoting innovative minds for leadership places to realize

the change envisioned and capitalize opportunities exposed by CPEC in near future. The opportunities for recruiting less experienced but more qualified head teachers should be increased to "change" in schools

## Student Absenteeism

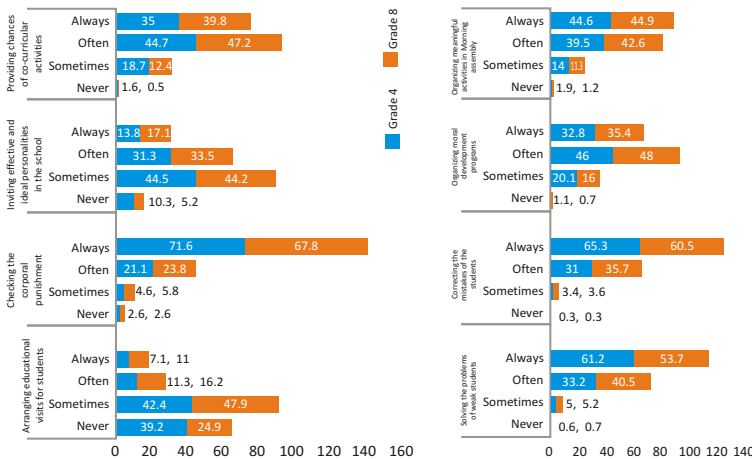


Engaging parents has reduced the absenteeism

### Policy Suggestion

School Education Department should engage community and parents through school councils in school activities to ensure student presence in schools throughout the year

## Moral and Social Development of Students



Frequent educational visits to various places can add to direct experience of students needed for higher order learning

Corporal punishment is banned by law but still it exists in some area

Local notables from the community are rarely invited to address students

Co-curricular activities are regular feature of academic calendar of schools

Professional counselors are rarely appointed in schools and head teachers has assumed this role informally

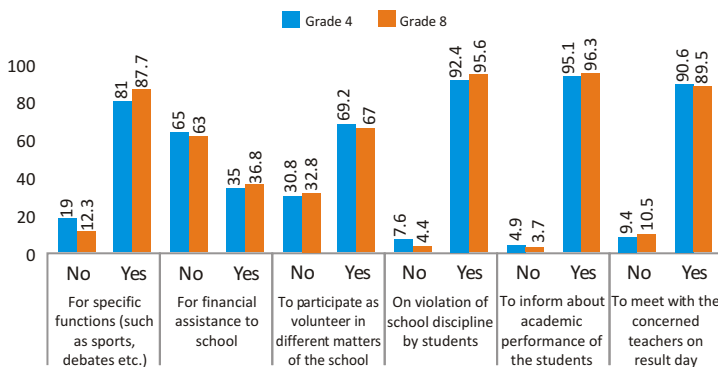
Morning school assembly is the platform to induce moral, social and cultural values among students

### Policy Suggestion

To make the school climate conducive for learning, teachers and head teachers should promote:

- Co-curricular activities, Positive parent-teacher relationship, Child friendly environment
- Student centered, interesting methods of instruction
- Schools should be made attractive for children, not only through adequate physical facilities (toilets, drinking water, boundary walls, furniture etc.) but also by a caring and nurturing attitude of staff and SMC/PTA.

## Parents' Involvement in School Activities



Parents involvement in school activities/ functions is overwhelming

### Policy Suggestion

Schools should initiate campaigns to familiarize parents regarding:  
 children's learning needs and parents' role in supporting them  
 nutritional and hygiene needs of their children  
 giving attention to their children at home to complete their class assignment and visiting regularly their school.

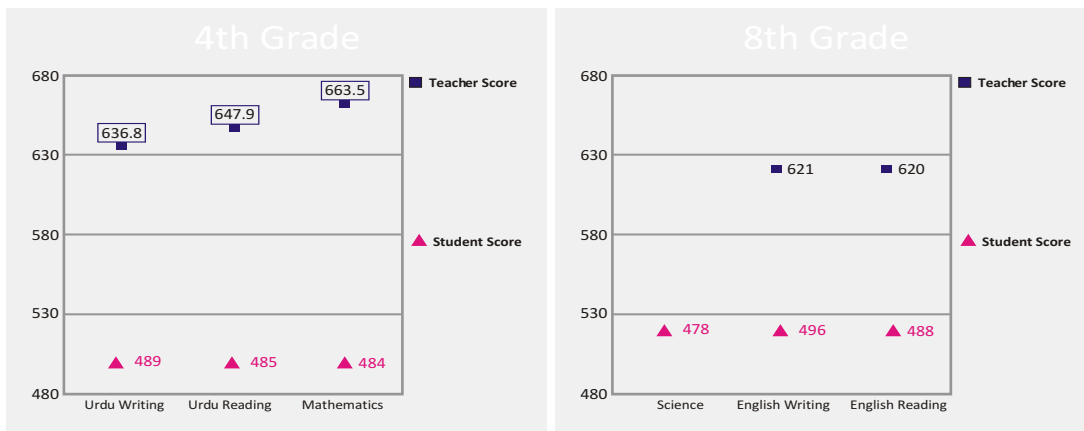
## Challenges Faced by Head Teachers

- Support from higher authorities for action suggested by head teachers is essential
- Lack of teachers is the biggest challenge to manage classes
- Teacher absenteeism has been resolved to large extent due to government policies
- Continuous professional development of teachers has been strengthened by governments
- The transfer of teachers during academic years creates problem for head teachers
- Specific content based trainings for teachers at school level is needed
- The recruitment of content qualified but professionally untrained teachers is a challenge for head teachers
- Lack of AV aids in schools is a hurdle in quality teaching



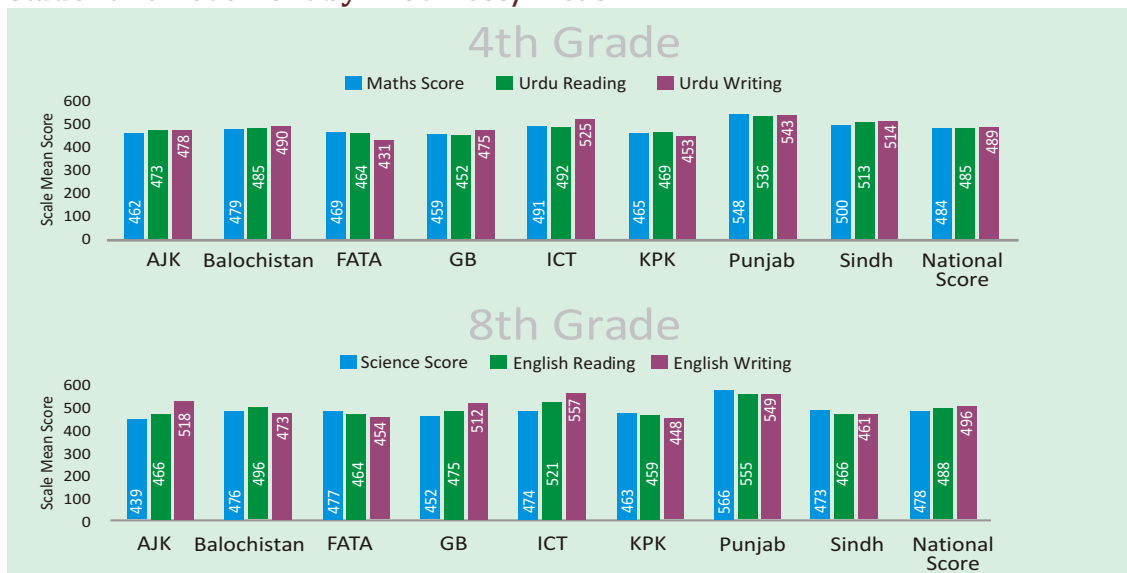
# Student Characteristics and Learning Achievement

## Section 1: Background Factors of Learning Achievements



The student performance corresponds directly with teacher performance. There is correspondence between teacher and student performance.

## Student Achievement by Provinces/Areas

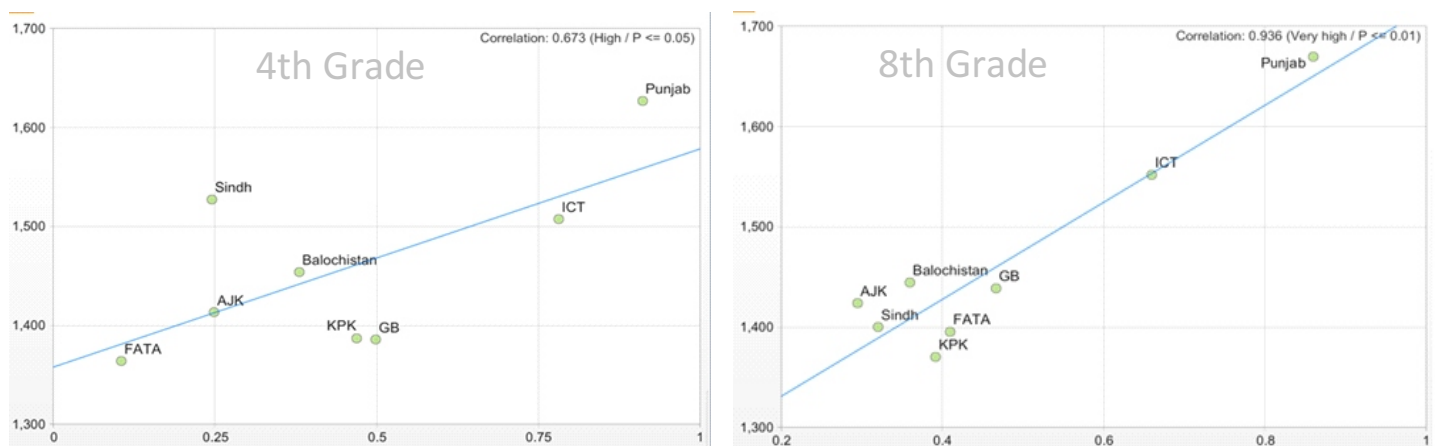


Slight improvement has been noticed in student performance.

Habit of independent reading and writing needs to be encouraged.

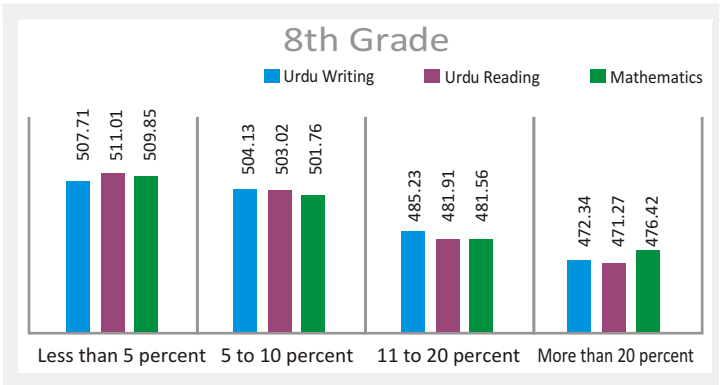
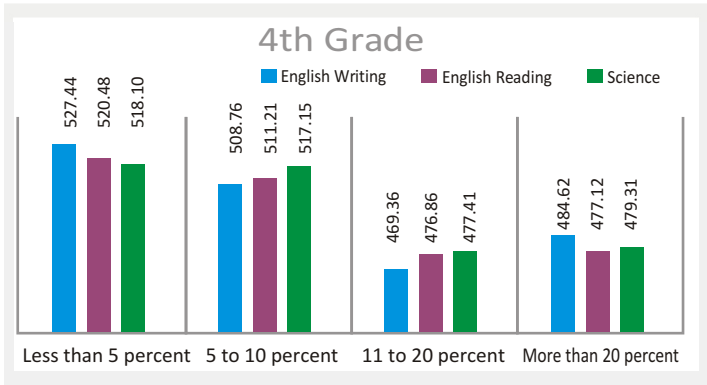
## Section 2: Facilities in Schools by Provinces/Areas

### Combined Score vs. School Facilities

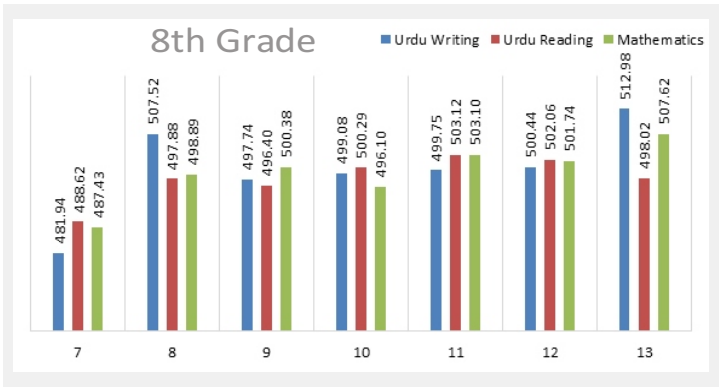
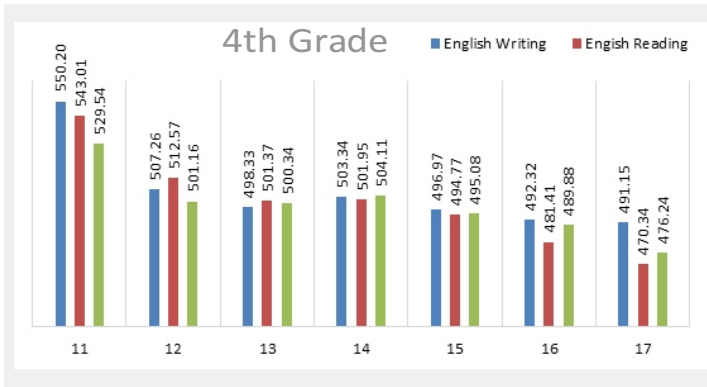


Lack of facilities affect the performance, hence quality education suffers. Facilities at primary level are worse than elementary level. Students' performance relates directly to school facilities.

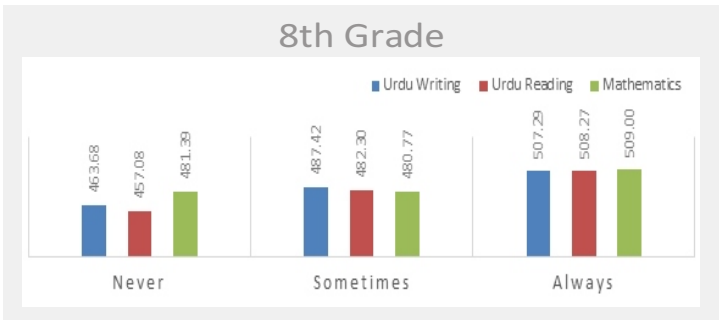
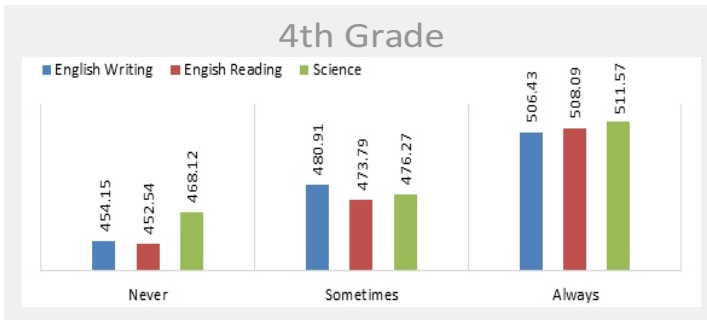
### Absenteeism and Achievement



### Right age of Admission in School



### Checking homework by Teachers



### Feedback on homework by Teachers

