



Assessment of Learning Outcomes of Students of Community and Government Schools of PPR Supported Districts

Final Report

December, 2020



GAT Consulting Pvt Ltd

3 Shahrah-e-Aiwan-e-Tijarat, Near China Chowk, Lahore Pakistan

Tel: +92 42 37500724 Mobile: +92 308 4617910

E-mail: contact@gatconsulting.org Website: www.gatconsulting.org

Table of Contents

LIST OF TABLES	4
LIST OF FIGURES.....	4
ANNEXURES.....	6
ACRONYMS.....	7
ACKNOWLEDGEMENTS.....	8
EXECUTIVE SUMMARY	9
CHAPTER 1. INTRODUCTION.....	12
1.1 PROJECT BACKGROUND	12
1.2 OBJECTIVES OF THE STUDY.....	13
1.3 SCOPE OF WORK	13
CHAPTER 2. TECHNICAL APPROACH AND METHODOLOGY	15
2.1 OVERALL APPROACH.....	15
2.2 RATIONALE FOR ASSESSING GRADE 5 STUDENTS ON GRADE 4 SLOS	16
2.3 NATIONAL CURRICULUM A GUIDING DOCUMENT.....	17
2.4 BLOOM’S TAXONOMY; A TOOL FOR DESIGNING ASSESSMENT PAPERS	17
2.5 SELECTION OF STUDENT LEARNING OUTCOMES	19
2.6 TABLE OF SPECIFICATION (TOS)	19
2.7 ASSESSMENT PAPERS.....	20
2.7.1 <i>Language of Assessment Papers</i>	20
2.7.2 <i>Pilot Testing of Papers</i>	20
2.7.3 <i>Summary Sheets of Selected SLOs and No. of Questions</i>	21
2.7.4 <i>Final Test Papers</i>	21
2.8 CONDUCT OF ASSESSMENT IN SCHOOLS	21
2.9 DETERMINATION OF PPR INVESTMENT LINK WITH SLOS.....	22
2.10 SAMPLING METHODOLOGY.....	22
2.10.1 <i>Target Population</i>	22
2.10.2 <i>Control Group</i>	26
2.11 DATA COLLECTION INSTRUMENTS.....	26
2.11.1 <i>Semi Structured Interview for Other Resources (IT Labs/Science Labs and Library Facilities)</i>	27
2.11.2 <i>Focus Group Discussions</i>	27
2.12 FIELD WORK.....	28
2.12.1 <i>Assessing the Children’s Learning Outcomes</i>	28
2.12.2 <i>Focus Group Discussion</i>	29
2.13 ANALYSIS OF DATA	30
CHAPTER 3. LIMITATIONS AND OVERALL FINDINGS AND ANALYSIS.....	31
3.1 LIMITATIONS OF THE STUDY	31
3.2 OVERALL RESULTS OF THE ASSESSMENT IN KHYBER PAKHTUNKHWA AND BALOCHISTAN	31
3.2.1 <i>Overall Performance</i>	32
3.2.2 <i>Further Comparisons</i>	34
3.3 COMPARISON WITH OTHER NATIONAL STUDIES.....	37
3.3.1 <i>Comparison with ASER</i>	37
3.3.2 <i>Comparison with NEAS</i>	39
3.3.3 <i>Comparison with Provincial Data</i>	40
MATHEMATICS	40
URDU READING.....	41

URDU WRITING	42
CHAPTER 4. FINDINGS AND ANALYSIS – KHYBER PAKHTUNKHWA.....	43
4.1 HEADLINE RESULTS OF THE ASSESSMENT IN KHYBER PAKHTUNKHWA	43
4.1.1 Overall Performance	43
4.1.2 Overall Performance Distribution	44
4.1.3 Performance Distribution by Subject.....	45
4.1.4 Overall Performance According to Cognitive Level.....	47
4.1.5 Subject-wise Performance	50
4.1.6 A Closer Look at School Performance by School Type	58
4.1.7 Gender Wise Performance Analysis	61
CHAPTER 5. FINDINGS AND ANALYSIS FOR BALOCHISTAN	63
5.1 HEADLINE RESULTS OF THE ASSESSMENT IN BALOCHISTAN	63
5.1.1 Overall Performance	63
5.1.2 Overall Performance Distribution	64
5.2 PERFORMANCE DISTRIBUTION BY SUBJECT	65
5.3 OVERALL PERFORMANCE ACCORDING TO COGNITIVE LEVEL	68
5.4 SUBJECT-WISE PERFORMANCE.....	70
5.4.1 Mathematics: Detailed Analysis of Performance	71
5.5 A CLOSER LOOK AT SCHOOL PERFORMANCE BY SCHOOL TYPE	79
5.5 Gender Wise Performance Analysis	81
CHAPTER 6. PPR INTERVENTIONS	83
6.1 FOCUS GROUP DISCUSSION OUTCOMES.....	83
6.2 IMPACT OF PPR INTERVENTIONS	86
6.3 ATTENDANCE MONITORING MECHANISM AND TRACKING.....	89
6.3.1 Current Mechanism	89
6.3.2 Issues	89
6.4.3 Proposed Mechanism.....	90
CHAPTER 7: FINDINGS & RECOMMENDATIONS.....	92
7.1 MAIN FINDINGS AND RECOMMENDATIONS AS PER SCOPE OF WORK.....	92
7.2 ASSESSMENT OF LEARNING LEVELS	98
7.2.1 Teaching Methodologies.....	98
7.2.2 Language of Instruction.....	98
7.2.3 Gender Disparity	98
7.3 SUBJECT/SLO WISE RECOMMENDATIONS	99
7.3.1 Mathematics.....	99
7.3.2 English.....	99
7.3.3 Urdu.....	99
7.3.4 Science.....	100
7.4 RECOMMENDATIONS FROM SMC / COMMUNITY FOCUS GROUP DISCUSSIONS	100
7.5 RECOMMENDATIONS FROM SCHOOL FOCUS GROUP DISCUSSIONS ON IT RESOURCES, LIBRARY AND SCIENCE LABS.....	101
7.6 PROPOSED VIABLE MODEL FOR IMPROVEMENT IN PPR SUPPORTED SCHOOLS	102

LIST OF TABLES

Table 1: Selection of Districts and UCs.....	15
Table 2: Taxonomy with Sample Verbs	18
Table 3: Target Population	23
Table 4: Sub-Population (Grade 5).....	23
Table 5: Number of schools and target population after removing less than 10 enrollments	24
Table 6: Sampled Schools and Students	25
Table 7: Assessment Tools	26
Table 8: Sampled High Schools	27
Table 9: Sampled Focus Group Councils	28
Table 10: Sample for Grade 5 SLO assessments	28
Table 19: Comparisons with ASER 2019.....	38
Table 20: SUBJECT Wise - Comparisons with NEAS-NAT-2016.....	39
Table 11: SLO-wise Student Performance in MATHEMATICS - Khyber Pakhtunkhwa	51
Table 12: SLO-wise Student Performance in ENGLISH - Khyber Pakhtunkhwa	54
Table 13: SLO-wise Student Performance in URDU - Khyber Pakhtunkhwa	55
Table 14: SLO-wise Student Performance in SCIENCE - Khyber Pakhtunkhwa	57
Table 15: SLO-wise Student Performance in MATHEMATICS - Balochistan	71
Table 16: SLO-wise Student Performance in ENGLISH - Balochistan	74
Table 17: SLO-wise Student Performance in URDU - Balochistan.....	76
Table 18: SLO-wise Student Performance in SCIENCE - Balochistan.....	77

LIST OF FIGURES

Figure 1: OVERALL MEAN SCORES IN ENGLISH, MATHEMATICS, SCIENCE AND URDU IN 2020... 32	32
Figure 2: Overall mean scores of teachers & students in Mathematics	33
Figure 3: overall mean scores of teachers and students in English.....	33
Figure 4: Overall Mean Scores of Teachers & Students in Urdu	34
Figure 5: Overall mean scores of teachers and students in science	34
Figure 6: Comparison of scores in all subjects in KP and Balochistan.....	35
Figure 7: Comparison of scores in Mathematics in KP and Balochistan.....	35
Figure 8: Comparison of score in English In KP And Balochistan	36
Figure 9: Comparison of results in Urdu in KP and Balochistan.....	36
Figure 10: Comparison of scores in Science in KP And Balochistan.....	37
Figure 11: Subject-Wise - Comparison with NEAS-NAT-2016 - Balochistan	40
Figure 12: MATHEMATICS –District Wise Comparison with NEAS-NAT-2016.....	41
Figure 13: URDU Reading –District Wise Comparison with NEAS-NAT-2016.....	41
Figure 14: URDU Writing –District Wise Comparison with NEAS-NAT-2016	42
Figure 15: Mean scores in English, Mathematics, Science and Urdu in 2020 - Khyber Pakhtunkhwa.....	44
Figure 16: Overall Performance Distribution Categories - Khyber Pakhtunkhwa	45
Figure 17: Subject wise Performance Distribution – MATHEMATICS – Categories - Khyber Pakhtunkhwa ...	46
Figure 18: Subject wise Performance Distribution – ENGLISH – Categories - Khyber Pakhtunkhwa	46
Figure 19: Subject wise Performance Distribution – URDU – Categories - Khyber Pakhtunkhwa.....	47
Figure 20: Subject wise Performance Distribution – SCIENCE – Categories - Khyber Pakhtunkhwa.....	47
Figure 21: Performance by Cognitive Levels – MATHEMATICS - Khyber Pakhtunkhwa	48
Figure 22: Performance by Cognitive Levels – ENGLISH - Khyber Pakhtunkhwa	49
Figure 23: Performance by Cognitive Levels – URDU - Khyber Pakhtunkhwa	49
Figure 24: Performance by Cognitive Levels – SCIENCE - Khyber Pakhtunkhwa.....	50

Figure 25: Performance Distribution in MATHEMATICS - Khyber Pakhtunkhwa	51
Figure 26: Performance Distribution in ENGLISH - Khyber Pakhtunkhwa	53
Figure 27: Performance Distribution in URDU - Khyber Pakhtunkhwa	55
Figure 28: Performance Distribution in SCIENCE - Khyber Pakhtunkhwa.....	57
Figure 29: <i>Overall and Subject-wise Mean Score of Performance by SCHOOL TYPE</i> - Khyber Pakhtunkhwa .	59
Figure 30: <i>Overall and Subject-wise Mean Score of Performance by School Type- MATHEMATICS</i> - Khyber Pakhtunkhwa	60
Figure 31: <i>Overall and Subject-wise Mean Score of Performance by School Type- ENGLISH</i> - Khyber Pakhtunkhwa	60
Figure 32: <i>Overall and Subject-wise Mean Score of Performance by School Type- URDU</i> - Khyber Pakhtunkhwa	61
Figure 33: <i>Overall and Subject-wise Mean Score of Performance by School Type- SCIENCE</i> - Khyber Pakhtunkhwa	61
Figure 34: Overall &Subject Wise Performance Segregated into GENDER - Khyber Pakhtunkhwa.....	62
Figure 35: Overall & Subject Wise Performance Segregated into Gender - Khyber Pakhtunkhwa	62
Figure 36: Mean scores in English, Mathematics, Science and Urdu in 2020, Balochistan	64
Figure 37: Overall Performance Distribution Categories IN BALOCHISTAN	65
Figure 38: Subject wise Performance Distribution – MATHEMATICS – Categories - Balochistan.....	66
Figure 39: Subject wise Performance Distribution – ENGLISH – Categories - Balochistan.....	67
Figure 40: Subject wise Performance Distribution – URDU – Categories - Balochistan.....	67
Figure 41: Subject wise Performance Distribution – SCIENCE – Categories - Balochistan	68
Figure 42: Performance by Cognitive Levels – MATHEMATICS - Balochistan	69
Figure 43: Performance by Cognitive Levels – ENGLISH	69
Figure 44: Performance by Cognitive Levels – URDU - Balochistan.....	70
Figure 45: Performance by Cognitive Levels – SCIENCE - Balochistan.....	70
Figure 46: Performance Distribution in MATHEMATICS - Balochistan.....	71
Figure 47: Performance Distribution in ENGLISH - Balochistan	73
Figure 48: Performance Distribution in URDU - Balochistan.....	75
Figure 49: Performance Distribution in SCIENCE - Balochistan	77
Figure 50: <i>Overall Mean Score of Performance by SCHOOL TYPE</i> - Balochistan.....	79
Figure 51: <i>Overall and Subject-wise Mean Score of Performance by School Type- MATHEMATICS</i> - Balochistan	80
Figure 52: <i>Overall and Subject-wise Mean Score of Performance by School Type- ENGLISH</i> - Balochistan....	80
Figure 53: <i>Overall and Subject-wise Mean Score of Performance by School Type- URDU</i> - Balochistan	81
Figure 54: <i>Overall and Subject-wise Mean Score of Performance by School Type- SCIENCE</i> - Balochistan	81
Figure 55: <i>Overall &Subject Wise Performance Segregated into GENDER</i> - Balochistan	82
Figure 56: Overall &SUBJECT WISE Performance Segregated into GENDER – Balochistan	82

ANNEXURES

Annexure 1: Focus Group Discussion Outline - SC members, Teachers and Community Organizations

Annexure 2: Semi Structured Interview for Availability & Use of Resources

Annexure 3: FGD Discussion Guideline for IT Teacher and Students for IT Services in High Schools

Annexure 4: Semi Structured Questionnaire - Assessment for Attendance Monitoring Mechanism

Annexure 5: Table of Specification (TOS) for English, Urdu, Mathematics and Science)

Annexure 6: Summary Sheet of Selected SLOs

Annexure 7: Assessment Tests for SLO Assessment (Mathematics, English, Urdu and Science)

ACRONYMS

AKRSP	Aga Khan Rural Support Programme
ASER	Annual Status of Education Report
CRQs	Constructive Response Questions
FGD	Focus Group Discussion
GGPS	Government Girls Primary School
GKPS	Government Kalash Primary School
GPS	Government Primary School (Boys)
HCF	Highest Common Factor
IFAD	International Fund for Agricultural Development
IDC	Italian Development Cooperation
KP	Khyber Pukhtunkhwa
LCM	Lowest Common Factor
MCQs	Multiple Choice Questions
MER	Monitoring Evaluation and Research
NRSP	National Rural Support Programme
ODA	Official Development Assistance
PO	Partner Organizations
PPAF	Pakistan Poverty Alleviation Fund
PPR	Program for Poverty Reduction
SDG	Sustainable Development Goal
SDP	School Development Plan
SLO	Student Learning Outcome
SMC	School Management Committee
SRSP	Sarhad Rural Support Programme
SSI	Semi Structured Interview
TOS	Table of Specifications
UC	Union Council

ACKNOWLEDGEMENTS

We are highly indebted to the team of Monitoring Evaluation and Research (MER) and Poverty Reduction Programme (PPR) at Pakistan Poverty Alleviation Fund (PPAF) for their invaluable support, assistance and advice during the course of this project. Mr Zahid Hussain, Ms Nabeela Kausar and Mr. Ahsanullah Baig were instrumental in leading this assessment from the front and ensuring its execution. We are also grateful to the teams of Partner Organizations such as National Rural Support Programme (NRSP), Aga Khan Rural Support Programme (AKRSP), Sarhad Rural Support Programme (SRSP) and National Rural Support Programme (NRSP) for their help during the fieldwork. This assessment would not have been completed without the dedication of GAT Consulting team, both on the field and off, as well as our estimable consultants.

EXECUTIVE SUMMARY

This report is based on the study conducted to assess the contribution of resources in enhancing learning outcomes under the Program for Poverty Reduction (PPR), being implemented by the Pakistan Poverty Alleviation Fund (PPAF) in Balochistan and Khyber Pakhtunkhwa (KP) provinces of Pakistan.

The report analyzes the outcomes of PPR Program through assessment of children learning outcomes in selected Union Councils of districts Chitral, Upper Dir and Gwadar and sampling done through multi-stage stratified random and purposive sampling techniques to draw sample for study. To measure the impact of this intervention we compared schools where this program had been rolled out, against schools in the same locality without the intervention. The prolonged closure of schools due to the COVID – 19 pandemic had made the task challenging and time-consuming but the team was able to proceed once a window of opportunity opened up between closures.

The assessment papers were designed, based on the Student Learning Objectives, derived from the national curriculum for grade 4. A total of 243 children from 10 Schools were assessed in February 2020 in KP, against the initial sample target of 250 children. Furthermore, although it was not initially planned, 14 teachers from these schools were also tested using the same assessment papers. This was included based on the recommendations from the pilot testing exercise to analyze the relationship between the performances of teachers and their students. In November 2020, assessments of 181 children were undertaken in Balochistan against a target of 164 from 8 schools along with 8 teachers.

Limitations of the Study

It must be mentioned here that it is difficult to make definite conclusions in the absence of a baseline dataset about SLOs which has been a major limitation of this study. Hence, in the absence of a baseline, reliance had to be put on control group schools as per the Terms of Reference, which were mainly located in close quarters to the sample schools. It can be argued that these schools are similar in most observable and unobservable characteristics but may not be a true reflection of the ground realities of PPR supported schools as they were already established at the time of inception of the Programme. It is also recognized that the schools selected by PPAF for the initial interventions were already in poor condition due to floods, lack of teaching staff and teaching material as well as inadequate infrastructure facilities including classrooms, toilets and water management for drinking and sanitation.

Another major limitation that this study faced was the COVID – 19 pandemic that left schools closed for a prolonged period of time. The schools re-opened after a 9 month gap in which no online classes were given in the Balochistan sample schools. Hence, when the children returned after such a long gap, it was not very surprising that they could not perform very well in the assessments, primarily due to lack of revision and practice. It was also not possible to wait more than 3 weeks after the re-opening of the schools due to the fear of a second wave of the pandemic that resulted in school closures again in late November.

Many of these interventions, like provision of Science and IT Labs, were directed towards improving quality of education at the secondary levels; therefore, their impact on the learning outcomes of the primary students cannot be assessed. Assessing the quality of education at the elementary and high levels did not fall under the purview of this study, hence, it was not possible to assess the impact of PPR interventions on these grades.

Study Findings and Recommendations

Overall children from both the treatment and control groups need substantial improvement in the learning levels of all the four subjects (English, Urdu, Mathematics and Science) that were assessed, as children from both the groups had average results. The lowest learning outcomes observed were in the comprehension area in the two language subjects, i.e. English and Urdu. This is particularly alarming as these two languages are used interchangeably as the mediums of instruction in these schools. Thus, this poor performance will translate into greater difficulty for students in understanding Mathematics and Science in future classes.

The children's learning outcomes under different SLOs of all four subjects showed that there was an immediate and dire need of improvement. Treatment group children need to improve their learning levels in all three cognitive levels related to four subjects. In comparison, children from the control group need to focus on 'Understanding' in Mathematics, Urdu and Science, 'Knowledge' in Mathematics and Urdu, and 'Application' in all four subjects.

Another interesting finding of the study was the disparity in the learning outcomes of teachers in correlation with their students. In Balochistan, the treatment group teachers were ahead of the control group teachers in all subjects but their students did not perform as well as the control group students, although results for both can be considered poor. Conversely, in KP, the control group teachers performed significantly better than their counterparts in the treatment group and their students also performed better.

As a major finding of the study, it has been observed that overall, the children from the control group have performed comparatively better than their counterparts in the treatment group. One major reason for this performance could be the utter lack of facilities in the treatment schools which was why they were selected for the Programme. In comparison, the control group schools already had most of the facilities available hence, their progression to current learning outcomes can be explained.

The study also found that although under PPR initiatives, equipment for IT labs had been provided to high schools in KP, to have fully functional, dedicated IT labs, there were no qualified and trained teachers to staff them. In one school, the equipment was lying under dust covers since its receipt in 2016 and the other, the IT lab was functional but instead of IT staff, other teachers were enabling the students of grades 9 and 10 to make use of the computers for various other assignments like making presentations and excel sheets. Equipment for IT labs had not been provided to Balochistan schools, so the focus was on Science Labs. The findings indicated that there were no specialist science teachers in both the schools where the science lab was provided. The primary school teachers were also teaching the middle, secondary and

higher secondary classes. The equipment also did not appear to be used and was covered in dust. Hence, there is a need to keep a check on the utilization of resources under the Programme to ensure that the resources are actually being used properly for the purpose they were given.

Another finding of the study suggests a need for further improvement in the Attendance Monitoring Mechanisms in the school. Although there was some kind of Attendance Monitoring Mechanism in all the schools that were included in the study, however, it was found that in most cases it was not effective. This suggests that the Attendance Mentoring and Child-Tracking Mechanism should be improved by involving School Management Committees and through other measures put forward in this report.

Focus group discussions with the community and school management committees yielded the information that the onus of the parenting had fallen on mothers due to the absence of fathers who were mainly overseas for work purposes in KP and out fishing for days in Gwadar, Balochistan. The task of managing to ensure that children who left home actually attended school was proving to be difficult for mothers to manage as they are mostly confined to their homes due to prevailing traditions and norms of the most conservative areas of KP and Balochistan. Parents also could not assist nor inquire children about their schoolwork which has an impact on the performance of the children for which an overwhelming need to provide adequate training and awareness-raising campaigns for parents were voiced by the participants. It should be noted that the participants in the FGDs were all male and in only one FGD in Balochistan was there female presence from SMC members but not mothers.

It is recommended that teachers from the Treatment Group need to be trained on classroom teaching methodologies and activity based teaching strategies that can help them in transferring knowledge to their students since it had been observed that the students did not perform as well as they should have considering the assessment results of the teachers. Hence, pedagogy skills enhancement is a dire need if students' subject understanding is to be built.

The COVID – 19 pandemic has very badly affected children's learning outcomes and it is suggested that PPAF undertake a study to determine how the pandemic has impacted the students, not only in their learning outcomes but being absent from the school environment. The study could also look at ways of helping students continue their education at home without the help of online classes which is not a possibility in these poverty stricken areas.

Another suggestion is to further determine how the provision of IT and Science labs have affected the learning outcomes of secondary level students for whom they are intended.

Chapter 1. INTRODUCTION

Pakistan Poverty Alleviation Fund (PPAF) is the lead apex institution for community-driven development in the country. Set up by the Government of Pakistan as an autonomous not-for-profit organization, PPAF enjoys facilitation and support from the Government of Pakistan, The World Bank, International Fund for Agricultural Development (IFAD), KfW (Development Bank of Germany), Italian Development Cooperation and other corporate donors. Through its partner organizations and community institutions, PPAF has its outreach in all the provinces and regions across Pakistan. It's interventions in the sectors related to health, education, livelihood, community physical infrastructure, water-efficient schemes, disaster management, and access to financial services for the poor have been widely recognized. Externally commissioned independent studies have substantiated significant impact of PPAF interventions on the lives of benefiting communities related to their economic output, household incomes, assets, agricultural productivity skills and other quality of life indices. PPAF aims to be the leading catalyst for improving the quality of life, broadening the range of opportunities and socio-economic mainstreaming of the poor and disadvantaged, especially women. The core operating units of the PPAF deliver a range of development interventions at the grassroots/community level through a network of more than 130 Partner Organizations across the country.

PPAF is the lead implementing agency of “Programme for Poverty Reduction through Rural Development in Balochistan, Khyber-Pakhtunkhwa, Federally Administrated Tribal Areas and Neighboring Districts”, in short, referred as “Programme for Poverty Reduction/PPR”. The programme is being implemented through PPAF’s Partner Organizations. The programme has a total budget of Euro 40 million financed by the Government of Italy (GoI) through the Directorate General for Development Cooperation (DGCS) and managed by Italian Agency for Development Cooperation (AICS). The programme is being implemented in 38 Union Councils of 14 districts in the areas of Balochistan, Khyber Pakhtunkhwa and FATA through 17 partner organizations (POs).

1.1 Project Background

The Education Component, under PPR programme, aims at improving access of the local population towards primary education. This is achieved through the establishment of community schools and rehabilitation of government schools. The major activities in this regard include capacity building of communities on right to education, awareness-raising activities, linkages and leveraging through organizing district development forums, provision of missing facilities in schools through school development plans and developing local capacities in establishing and managing community schools. These activities are focused towards improvement in education indicators including school enrolment and learning outcomes of the students. The attention of the programme has been re-focused from enrolment and completion to Sustainable Development Goal (SDG 4) for education. The shift aims on

ensuring inclusive and equitable quality education and promote lifelong learning opportunities for all.

In the same context, a total of 126 community schools have been established. A thorough process of identifying locations characterized by out of school children is employed while facilitating the establishment of these schools. Further, training of Community Resource Persons, school management and running the school as social enterprise are also conducted. In addition to the initial support provided for establishing schools, continuous technical and financial support is also provided to ensure smooth running and management of these schools. As per baseline survey for PPR, total 63,599 children including 33,267 girls are out of school in the Programme area. Under PPR, about 6,924 children have been enrolled (2133 girls) in these community schools. 508 Government Schools have also been supported under the Programme through the provision of capacity building, fixtures, school renovation and use of technology. In these schools, total 64,559 students including 28,609 girls are enrolled.

1.2 Objectives of the Study

The objectives of the assignment were to assess the learning outcomes in PPR funded schools in comparison with learning outcomes at provincial/national levels as well as other facilities of the same area. It also aimed at identifying gaps and suggests recommendations to enhance the quality of services and ensure desired results of improved learning outcomes. For this purpose, GAT Consulting Pvt Ltd was hired to undertake the exercise and facilitate PPAF/PPR in improving its education programme. The consultancy aimed to:

1. Conduct school-based assessment on basic learning outcomes of students enrolled in PPR supported schools. Assess the learning outcomes of students enrolled in similar schools supported by programmes other than PPR as well as in comparison with the standards at provincial/national level and share a viable and successful model to guide the education component in ensuring quality programme delivery, the achievement of desired results and ensure the sustainability of community schools.
2. Developing a community-managed regular monitoring and assessment system to carry out attendance monitoring and student assessment on the learning outcomes mentioned in the national or provincial curriculum and accordingly provide feedback to teachers, parents and communities. The monitoring system will also focus on out of school children to track their enrolment and dropout while engaging local community institutions to address the reasons for low enrollment and dropouts of all primary school-going age children.

1.3 Scope of Work

The purpose was to establish a system of informed policy choices via education for enhancing quality, equity and access. Following was the scope of services for the firm.

1. Assess whether community schools established and PPR supported government schools are providing educational services in line with the educational needs of the target beneficiaries in terms of learning and quality of education.
2. Through a robust analytical framework and statistical analysis, assess how far the learning resources provided for students (including teaching facilities, library and IT resources etc.) supported the achievement of the learning goals.
3. The analysis should take into account how much the diverse factors (ethnic, religious and geographical) have positively or negatively complemented the given resources in the attainment of learning outcomes.
4. Assess and document the learning outcomes achieved by students in PPR supported community schools and identify gaps and challenges towards quality implementation. Also, recommend a methodology to overcome the challenges and gaps.
5. Assess the learning outcomes of students enrolled in similar schools supported by programmes other than PPR as well as provincial/national level learning outcomes and share a viable and successful model to guide the education component in ensuring quality programme delivery, the achievement of desired results and ensure the sustainability of community schools and government schools. Recommend what works and what does not in PPR programme areas.
6. Recommend a community-managed regular monitoring and assessment system to carry out attendance monitoring and student assessment on the learning outcomes mentioned in the national or provincial curriculum and accordingly provide feedback to respective stakeholders.
7. Assess the contribution outcomes under PPR education component towards PPAF education strategy.

Chapter 2. TECHNICAL APPROACH AND METHODOLOGY

2.1 Overall Approach

The methodology was framed as per the terms of reference given in the request for proposal and was subsequently revised as per various meetings held with PPAF before signing of the contract. The revisions were made in light of budgetary constraints and timelines. GAT had presented a combination of activities to undertake this assignment that comprised of undertaking assessment tests of students of grade 5 based on the SLOs of grade 4, semi-structured interviews with Head Teachers and assessment of resources present in the school, focus group discussion with School Council members, focus group discussion with students of High School (grade 9/10) for IT resources present in the school and assessment for attendance monitoring system through an interview with school head/administrator. The rationale for assessing grade 5 students is given in section 2.2 ahead. It should be noted that the methodology was slightly altered to include conducting the same assessment test on the teachers teaching those Grade 5 classes as per the results obtained through the pilot testing exercise.

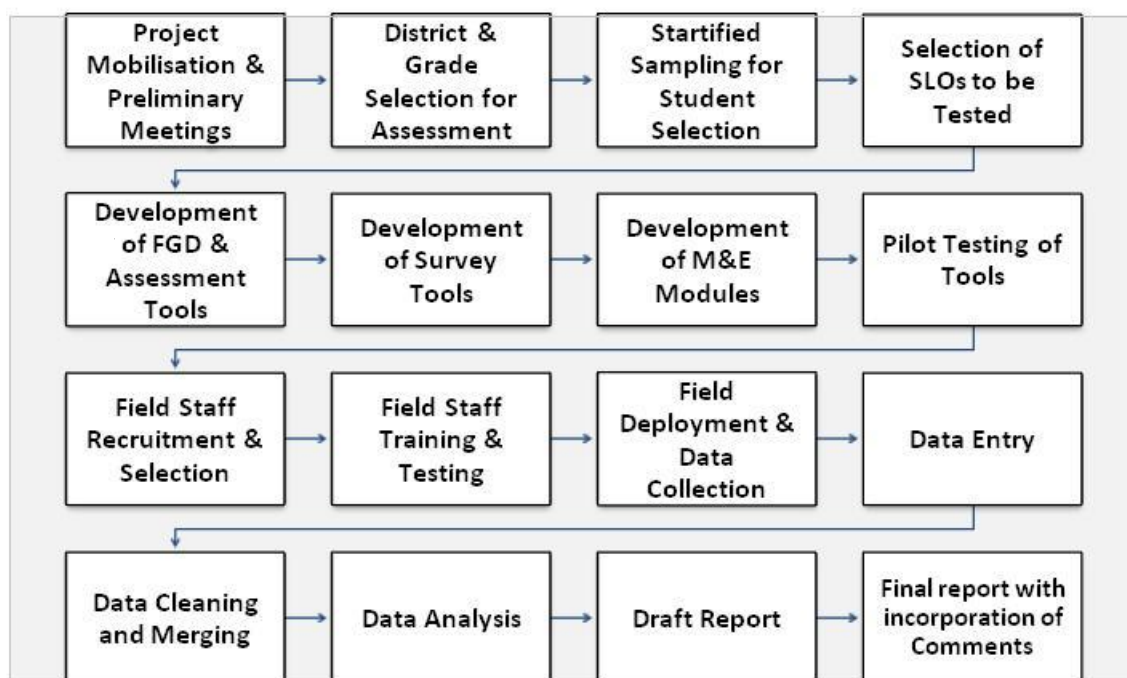
The methodology design comprised of holding a mobilization meeting with key stakeholders. After seeking feedback on the study design, GAT selected two districts from Khyber Pakhtunkhwa and one from Balochistan (with two Union Councils in each province). Selected regions are listed as follows

TABLE 1: SELECTION OF DISTRICTS AND UCS

District	UC
Chitral	Ayun
Upper Dir	Barawal Bandi
Gwadar	Peshukan, Surbandar

It was agreed that a total of 400 students would be assessed with 300 belonging to PPR supported schools and 100 in government schools that did not have any intervention from PPAF and would serve as the control group. An equal representation of boys and girls were taken into consideration. A written assessment test on selected SLOs was conducted in the subjects of English, Urdu, Mathematics and science. The tests in KP were conducted in February 2020 and Balochistan in November 2020. This was because schools in Balochistan had closed early due to the coronavirus pandemic and opened up in mid - October. The children were given a 3 week revision time before taking the assessments since the schools were again scheduled to be closed by mid to end November because of the second wave of the virus.

The approach and methodology framework is shown in the chart below:



2.2 Rationale for Assessing Grade 5 Students on Grade 4 SLOs

All the international studies at primary and secondary level focus on different grades such as 2, 4 and 8 (which are stage 1, 2 and 3 and defined in the national curriculum 2006 p.3) instead of all grades to evaluate the learning outcomes of the children. Similarly, following international practices in assessment, the children who are in grade 5 and have attended at least one academic year in the school were selected to attempt the test developed on grade 4 SLOs. Four subjects (two literacy English and Urdu, one numeracy Mathematics and Science) which help students to excel in post-primary stages were selected for assessment.

The Annual Status of Education Report (ASER) conducts surveys in Pakistan to measure the learning outcomes of the children at primary and secondary level in the country and to determine their position with the national and international indicators. Findings of ASER will be used to compare the results of PPR schools with national and international trends and suggest recommendations.

Annual Status of Education Report (ASER) provides information on common competency assessment languages and Arithmetic. ASER covers listening, Speaking, Reading and Writing domains in both languages and arithmetic assessment. ASER assessment tools are based on the assessment of the basic competencies up to grades 2 and 3 according to the National Curriculum of Pakistan 2006. The subject focus is on English, Urdu/Sindhi/ Pashto and Mathematics. The latest study was conducted in 2018.

2.3 National Curriculum a Guiding Document

National Curriculum 2006 is the guide that delineates the learning path of a student and determines the process of learning which consists of;

Competency:

The key learning area is describes what students are supposed to know and be able to do. They are further broken down into standards, benchmarks and Student Learning outcomes (SLOs).

Example: competency1: “Reading and thinking skills”

Standard:

The description of a particular competency by specifying broadly about the knowledge, skills and attitudes which students will acquire throughout the developmental levels i.e. during twelve years of schooling.

Example Competency 1 Standard 1: “All students will search for, discover and understand a variety of text types through tasks which require multiple reading and thinking strategies for comprehension, fluency and enjoyment.”

Benchmark:

An indication of what the students will be able to accomplish at the end of each developmental level to meet the standard.

Example Competency 1, Standard 1, Benchmark 1: “Identify digraphs, silent letters, and Inflections in words, comprehend words, sentences and paragraphs as meaningful units of an expression.”

Student learning outcomes (SLOs):

A statement that describes what students will be able to do as a result of instruction at a particular grade.

Example competency 1, standard 1, benchmark 1, SLO Grade 5: “Articulate and syllabify words containing digraphs, trigraphs and silent letter.”

2.4 Bloom’s Taxonomy; A Tool for Designing Assessment Papers

To assess the learning outcomes of the children, questions from different levels or development domains were selected. These leaning domains were first created by an educational psychologist Dr Benjamin Bloom in 1956 and known as Bloom's Taxonomy. Bloom’s Taxonomy was developed to promote higher forms of thinking in education, such as analyzing and evaluating concepts, processes, procedures, and principles, rather than just remembering facts (rote learning). It is most often used when designing educational, training,

and learning processes. He identified three domains of educational activities or learning (Bloom, et al. 1956):

1. **Cognitive:** mental skills (knowledge)
2. **Affective:** growth in feelings or emotional areas (attitude or self)
3. **Psychomotor:** manual or physical skills (skills)

Bloom’s Taxonomy identifies the idea of the hierarchical arrangement of the intended learning outcomes. The order of the original levels by Bloom et al. (1956) was as follows: **Knowledge, Understanding or Comprehension, Application, Analysis, Synthesis, and Evaluation.**

Anderson and Krathwohl (2001) revised the Bloom’s Taxonomy by changing the names of the levels from nouns to an active verb and reversing the order of last two levels, which made them more fit according to modern educational objectives.

1. **The lowest-order level (Knowledge)** became remembering, in which the student is asked to recall or remember information.
2. **Comprehension became Understanding**, in which the student would explain or describe concepts.
3. **The application became Applying** or using the information in some new way, such as choosing, writing, or interpreting.
4. **The analysis was revised to become Analyzing**, requiring the student to differentiate between different components or relationships, demonstrating the ability to compare and contrast.

Generally, the first three levels of cognitive domains (Knowledge, Understanding and Application) are evaluated in our educational settings at the primary level. Therefore, these 3 domains were also considered for developing the assessment tools for PPR supported schools. Below is the description of the taxonomy with sample verbs and a sample behavior statement for the first three levels.

TABLE 2: TAXONOMY WITH SAMPLE VERBS

Sr. #	LEVEL	DEFINITION	SAMPLE VERBS
1	KNOWLEDGE	Student recalls recognizes information, ideas, and principles in the approximate form in which they were learned.	Write, List, Label, Name State, Define, Arrange, Collect, Show, State
2	UNDERSTANDING / COMPREHENSION	Student translates, comprehends, or interprets information based on prior learning.	Explain, Express, Summarize, Paraphrase, Describe, Illustrate, Clarify, Classify, Distinguish, Generalize, Interpret, Report
3	APPLICATION	Student selects, transfers and uses data, and principles to complete a problem or task with a minimum of direction.	Use, Compute, Solve, Demonstrate, Develop, Apply, Assess, Calculate, Construct, Examine, Discover, Show, Sketch, Organize

2.5 Selection of Student Learning Outcomes

For developing any assessment paper, the first step is to select the SLOs. From the assessment point of view SLOs are categorized into two types;

1. One which can be assessed only during a teaching in the classroom by teachers through different assessment approaches (questioning, observations, presentations, discussions, homework, speaking, and others)
2. Others which can be tested through pen and paper during summative and formative assessments.

Following criteria is used for selecting SLOs of each subject:

1. SLOs which are essential in the term that without achieving them candidates would lack the foundation for the next grades i.e. post-primary. These SLOs are generally known as pre-requisite for the next grades.
2. SLOs can assess children's basic literacy and numeracy concepts at the primary level.
3. SLOs which can be accessed through pen and paper.
4. SLOs which can be accessed through MCQs and CRCs.
5. SLOS which are comparable with other national and international trends.

2.6 Table of Specification (TOS)

A Table of Specifications (TOS) is a two-way chart which describes the topics to be covered by a test and the number of items or points which will be associated with each topic. Sometimes the types of items are described as well. The importance of developing TOS is to achieve balance in the test and to identify the achievement domains being measured and to ensure that a fair and representative sample of questions appears on the test.

To develop the TOS, the following process has been followed:

1. Reviewed National Curriculum 2006 of grade 4 and 5 to list down all the SLOs of each subject proposed for the test.
2. Prioritized SLOs which can be accessed through pen and paper.
3. Out of these prioritized SLOs of grade 4, identified essential SLOs (without achieving those candidates would lack the foundation for the next grades i.e. post-primary and also the pre-requisites for next grade).
4. After selecting SLOs for a test, identified number and type of questions for each subject like how many Multiple-Choice Questions (MCQs) and how many Constructive Response Questions (CRQ) will be for each competency/ standard.
5. Cognitive level (**K**nowledge, **U**nderstanding and **A**pplication) was also identified concerning each SLO selected.

TOS of each subject which provide the framework for developing assessment papers are attached as **Annexure-5**:

2.7 Assessment Papers

After developing TOS for each subject, the next step was to develop the assessment papers for the children of Grade 5. For this purpose, books for grade 4 from KP and Balochistan were reviewed. The assessment is based on the SLOs given in the curriculum and books rather than taking questions from the textbooks. This means that majority of the questions (95% plus) in each subject were prepared on the selected SLOs and not copied from the textbooks. This helps to assess the level of understanding of the children on the SLOs rather than assessing their rote learning capabilities.

2.7.1 Language of Assessment Papers

The papers prepared were bilingual since the medium of instruction in KP and Balochistan is different; in KP, the official medium of instruction is English and hence, books of Science and Mathematics are in English, whereas in Balochistan these books are in Urdu, where it is the medium of instruction.

2.7.2 Pilot Testing of Papers

Assessment papers were first piloted in the field before finalizing them for the actual assessment exercises. The objective for the pilot testing of the assessment tools was to identify the children's ability to understand the test instrument/paper and make an attempt to solve it. The findings from the pilot testing helped in finalizing the assessment papers. Pilot testing took place in Awaran district of Balochistan.



Awaran was one of three districts where schools had re-opened after winter break and were still operational whereas, the rest came in the winter zone and had yet to re-open after the winter break. One girls' and one boys' school was selected from the list provided by PPAF where interventions had been carried out. Advice from the partner organization (PO) based in Awaran (NRSP) was also taken at the time of selection of the schools so that shortfall in the number of students would not be present. Pilot testing involved assessment tests of 25 girls and 17 boys. Head-teacher and 2 teachers were also interviewed in the same school in order to assess the Attendance Monitoring Mechanism and outcomes of other school improvement interventions.

Based on the results from the pilot testing, it was concluded that no changes were required in Urdu and English assessment papers, a majority of the questions were attempted by more than 97% of the children. However, 4 questions in Mathematics and 6 questions in the Science assessment papers were simplified for a better understanding of the children. Based on the result from the pilot testing, it was also suggested that teachers should also be asked to solve the same assessment paper that can help to compare students' performance with teacher's mastery and knowledge of these subjects.

2.7.3 Summary Sheets of Selected SLOs and No. of Questions

Summary sheets of selected SLOs of each subject are attached as Annex 6. The Summary sheets give detailed information regarding the selected SLOs, type of question (whether MCQ or CRQ) against each SLO, number of questions and cognitive level (Knowledge Understanding or Application) of each SLO.

2.7.4 Final Test Papers

Final assessment papers are attached as Annex 7. There are 28 questions in English, 27 questions in Urdu, 30 questions in Mathematics and 26 questions in Science. The detail of the questions is already mentioned in the Summary sheet.

2.8 Conduct of Assessment in Schools

Assessments were conducted in selected districts of Chitral and Upper Dir in KP and in 2 UCs of District Gwadar in two types of schools as mentioned in the ToRs;

1. Category-1: Government Schools and Community Schools where PPR has invested in developing School Development Plans (SDP), infrastructure development, and teachers training.
2. Category-2: Government Schools where donors other than PPR have made an investment or no investment has been made.

The learning outcomes of children in both category schools were compared with each other and with national standards as well. The following protocols were followed for conducting the tests:

1. Two independent invigilators were hired for conducting the assessments in each school.
2. Teachers from the selected schools (especially the teachers of the class) were not involved in the assessment.
3. Protocols for the conduct of the assessment were prepared and invigilators were oriented on these protocols.
4. Assessments were done in one day in each district for the treatment schools and the next day for the control schools.
5. Assessment dates were communicated to selected schools in advance so that children were mentally prepared for the assessment and have no anxiety and stress.
6. Each paper was of 45 minutes' duration. Total three and a half hours were spent by the children for the assessment.
7. The assessments were done in two halves; in the first half, children attempted two subjects English and Urdu; and in the second half children attempted two papers i.e. Mathematics and Science. There was a 10 minutes break between the two halves.

2.9 Determination of PPR Investment Link with SLOs

The complete list of specific interventions made in each of the selected schools was taken from PPAF. This assisted in the determination of any link between the investment by PPAF and the results obtained from the assessment tests of both the school and the corresponding non - PPR affected control group schools. The results of some kinds of the investment may be subjective, especially those related to cleanliness, playgrounds etc.



2.10 Sampling Methodology

2.10.1 Target Population

The sampling methodology adopted for this study is the multi-stage stratified random and purposive sampling techniques. The stages of sampling are as follow:

1. In the first stage, three geographically and ethnically representative districts (Gwadar from Balochistan and Chitral and Upper Dir from KP) were selected as target districts.
2. The second stage of sampling included the selection of union councils (UCs) from the targeted districts. Following random selection criterion, two UCs were selected from each selected district (one UC from District Chitral and Upper Dir and two from district Gwadar) where PPR educational interventions are present.
3. In the third stage, a statistically significant and representative sample of size 400 was calculated out of the total target population of 5th-grade students. The statistically significant and viable sample was then allocated to the treatment and control group respectively (300 to treatment and 100 to control group)
4. In the fourth stage of sampling, the specific number of students of the 5th grade was selected from each of the targeted schools in the targeted areas to take the test for selected SLOs.

Determination of sample size formula: Following the sample size calculation formula given below, the statistically significant sample size has been determined.

$$\text{Sample Size} = \frac{\frac{z^2 * p(1-p)}{e^2}}{1 + \left(\frac{z^2 * p(1-p)}{e^2 N} \right)}$$

In the above formula, N is the target population, e is the margin of error and z is the critical value for the confidence level of 95%. To calculate the optimum sample size a normal distribution (p = 50%) has been used. In this case, a margin of error of 5% and a confidence level of 95% was selected.

Sample Size determination for FGDs and Students test

The table below illustrates the total number of the target population and the proposed sample size for FGDs and students test.

TABLE 3: TARGET POPULATION

Sr. No	Description	Target Population	Sample Size	Survey Activity
1	SMCs Formed	767	16	FGD
2	Teachers Trained	3,866	16	FGD
3	Students Enrolled*	107,374	400	Test
Total		112,007	432	

* Progress as of March 2018

Target Area:

As mentioned at stage one of the sampling methodologies, three representative districts following the criteria of geographical and ethnical representation was identified. After detailed deliberation, Upper Dir and Chitral from KP and Gwadar from Balochistan were selected as target districts. From each province equal representation of union councils i.e. – Ayun, Barawal Bandi from Chitral and Upper Dir while UCs Peshukan and Surbandar from Gwadar were selected as they met the desired sample population as per Table 3. Within these UCs, schools having students of grade 5 were randomly selected. Table 4 gives information related to total number of students enrolled currently in grade 5 in these targeted districts.

TABLE 4: SUB-POPULATION (GRADE 5)

Province	District	Union Council	Primary	Grade 5 Students
KP	Chitral	Ayun	17	269
KP	Upper Dir	Barawal Bandi	11	343
Balochistan	Gwadar	Peshukan	22	162
Balochistan		Surbandar	28	375
Total			78	1149

A statistically significant sample of size 300 of Grade 5 was decided upon to be assessed for learning outcomes in targeted PPR supported schools. Out of the total 78 schools, only those schools were selected as target schools where there was the enrollment of more than or equal to 10 students currently enrolled. After excluding the schools with less than 10 numbers of currently enrolled students, the target population further decreased to a total of 950. Furthermore, to ensure gender representation the sample is divided among girls and boys equally.

TABLE 5: NUMBER OF SCHOOLS AND TARGET POPULATION AFTER REMOVING LESS THAN 10 ENROLLMENTS

Population distributed in four districts	Number of students enrolled in 5 th grade	Number of Schools
Chitral	246	14
Upper Dir	343	11
Gwadar (sub-population in Peshukan)	77	05
(sub-population in Surbandar)	284	10

Sample size allocation criterion:

Since our population is divided into three districts, the stratified sampling is a suitable technique to draw a representative sample from each of the districts (strata). By definition, stratified sampling is a method of sampling from a population of N units divided into k strata where the with stratum has N_i , $i=1,2,\dots, k$ number of units. Total sample size n is distributed to all strata and a suitable sampling technique is then applied to select the samples of allocated sizes n_1, n_2, \dots, n_k from each of the k strata.

It was intended to investigate the population in all three districts, therefore, the sample size was allocated to each stratum (district) using *proportional allocation method*. In the proportional allocation method, the size of the sample in each stratum is taken in proportion to the size of the stratum. Stratified sampling offers several advantages over simple random sampling, most notably the following:

1. Population within each strata is relatively homogeneous i.e. the measurements exhibit lower standard deviation; therefore, stratification gives a smaller error of estimation.
2. Since stratified sampling offers high statistical precision, it also means that it requires a small sample size which can save a lot of time, cost and effort of the researchers, particularly when sampling is being carried out in remote or difficult terrain such as the districts selected for this study.

For this study, the sample size is proportionally allocated to all four districts following stratified sampling technique. The sample size within each district, thus, is calculated as below:

$$\begin{aligned}
 n_1 \text{ (sub-sample size for Chitral)} &= N_1/N*300 = 246/950*300=77.7=78 \\
 n_2 \text{ (Upper Dir)} &= N_2/N*300=108 \\
 n_3 \text{ (Peshukan)} &= N_3/N*300=24 \\
 n_4 \text{ (Surbandar)} &= N_4/N*300=89.7=90
 \end{aligned}$$

Furthermore, to give equal representation to both genders in our sample, all boys and girls were listed separately for all three districts. The total sample size allocated to the individual

district was then divided equally between girls and boys. The sample size for each of the districts was determined as follows:

Chitral: A random sample of $78/2=39$ students from each gender subgroup to give equal representation to girls and boys in the sample was drawn.

Upper Dir: All the boys and girls shall be listed separately and a random sample of $108/2=54$ students from each subgroup to give equal representation to both groups in the sample was drawn.

Peshukan: Similarly, a random sample of $24/2=12$ students from each subgroup was drawn.

Surbandar: Draw a random sample of $90/2=45$ students from each subgroup.

After determining the sample size for each district, Purposive Sampling technique has been used to select the schools with the required population size to save on time and distances, especially in mountainous terrain. The following table shows the schools in the sample and the sample size, district wise and overall.

TABLE 6: SAMPLED SCHOOLS AND STUDENTS

Province	District	UC	School	Boys	Girls	Total Students
KP	Chitral	Ayun	GPS Ishkoonlasht	27	15	42
			GKPS Rumbore	16	13	29
			GPS Gambak	15	11	26
	Upper Dir	Barawal Bandi	Government Primary School Barawal No 1	36	07	43
			Government Girls Primary School BarawalBandi	0	55	55
			Government Primary School TikarKot No 1	22	0	22
Balochistan	Gwadar	Pishukan	Govt Girls Primary School Bresi Ward Pishukan	0	16	16
			Govt Girls Primary School Bresi Ward Pishukan	14	0	14
		Surbandar	GGHSS Surbandar	0	50*	50
			GBHS Surbandar	58	0	58
		Total			188	167
			53%	47%	100%	
			Required Sample Size			
Overall	Chitral	Ayun	78	58	39	97
	Upper Dir	Barawal Bandi	108	58	62	120
	Gwadar	Pishukan	24	14	16	30
	Gwadar	Surbandar	90	58	50	108
			300			

*total number of girls in this school is 84 out of which 50 will be tested

Since the number of students of Grade 5 in most of the schools was very near to the required sample therefore, all of them were tested. In schools, where the number of students exceeds the required sample, all the students were tested and a computer-generated random sample shall be drawn to select for evaluation the number of students corresponding to the required sample size.

2.10.2 Control Group

100 students from the comparable schools were assessed (control group). The schools in the control group were comprised of only those government schools where no PPR intervention has been made in terms of provision of missing facilities or otherwise. Around 25 students from each UC were involved for assessment from one school per UC. Interaction with PPAF’s partner organization’s (such as NRSP, AKRSP and KhwendoKor/SRSP), local communities, PPR schools, and local authorities helped in identifying and approaching the schools for assessment. The list of selected schools for the SLO testing was shared with PPAF prior to the start of the fieldwork.

2.11 Data Collection Instruments

In order to cover other areas of the evaluation study different tools which include FGD, SSI, and Survey Form were designed. Information collection exercises were conducted with different target groups.

TABLE 7: ASSESSMENT TOOLS

S.#	Tool	Purpose	Target Group	Annexure
1	Assessment	Assess the learning outcome of children	Children	Annex-7
2	FGD	Determine the efficiency & efficacy of PPR interventions in improving learning outcomes	Teachers, HT, SC members of primary schools	Annex-1
3	SSI	Teachers and HT of HS	Regarding the contribution of Resources in enhancing learning outcome	Annex-2
4	SSI/ FGD	Students	Regarding the contribution of Resources in enhancing learning outcome	Annex-3
5	Survey Form	Head Teachers, Teachers of primary school	Attendance maintenance system	Annex-4

2.11.1 Semi Structured Interview for Other Resources (IT Labs/Science Labs and Library Facilities)

Under PPR, high and middle schools have IT labs, science labs and library facilities. Though the assignment has primarily focused on primary schools, but to assess the contribution of provided facilities (IT Lab, Library, Science Labs) towards the learning outcomes of students, focus group discussions in high schools were conducted. For insights into the IT Labs and Library Facilities in high schools, one high school in each district was identified.

TABLE 8: SAMPLED HIGH SCHOOLS

Province	District	Union Council	High Schools	High School Selected	Gender
KP	Chitral	Ayun	1	Government High School Birir	Co-Ed
KP	Upper Dir	Barawal Bandi	1	Government Girls Higher Secondary School Bandia	Female
Balochistan	Gwadar	Peshukan	4	Government Boys H/S Pishukan	Male
Balochistan	Gwadar	Surbandar	4	Government Girl Higher Secondary School Surbandar	Female

2.11.2 Focus Group Discussions

A focus group was conducted in each Union Council in the study. The focus groups aimed to access:

- whether community schools established and PPR supported government schools were providing educational services in line with the educational needs of the target beneficiaries in terms of learning and quality of education
- how far the learning resources provided for students (including teaching facilities, library and IT resources etc.) supported the achievement of the learning goals (this will supplement the analysis done at the high school level (separate FGD) for such activities)
- How much the diverse factors (ethnic, religious and geographical) have positively or negatively complemented the given resources in the attainment of learning outcomes.
- The learning outcomes achieved by students in PPR supported community schools and identify gaps and challenges towards quality implementation and recommend strategy to overcome the challenges and gaps.
- Recommend what works and what does not in PPR programme areas.
- Contribution of PPR interventions towards achievement of SDG 4 while suggesting ways for improvement.
- Contribution outcomes under PPR education component towards PPAF education strategy.

The focus group included participants from SMCs, COs and school teachers. Outline of the FGD is attached in the **Annex-1**:

TABLE 9: SAMPLED FOCUS GROUP COUNCILS

Province	District	Union Council	Focus Group	Participants	Targeted Participants
KP	Chitral	Ayun	1	Teachers, COs, SMCs	10
KP	Upper Dir	BarawalBandi	1	Teachers, COs, SMCs	10
Balochistan	Gwadar	Peshukan	1	Teachers, COs, SMCs	10
		Sur Bandar	1	Teachers, COs, SMCs	10

2.12 Field Work

2.12.1 Assessing the Children’s Learning Outcomes

The assessment field exercises were carried out in 7 treatment and 3 control schools of districts Chitral and Upper Dir in which 192 children and 11 teachers of the treatment schools were tested and 51 students and 3 teachers from the control group schools had their assessments taken. It is to be noted that due to less than required attendees on the day of the tests, another school in district Upper Dir had to be selected which met the PPR intervention requirements (GPS Nowra from which 18 male students were assessed). In Balochistan, 4 treatment schools of UCs Peshukan and Surbandar and 5 control schools of UCs Surbandar and Jiwani Ganz were tested. There were 124 children in treatment and 57 in control group schools. 4 teachers in each group were also given the assessment test. UC Jiwani Ganz had to be selected instead of UC Peshukan for the control group school as there was no school in Peshukan that did not have a PPR intervention.

TABLE 10: SAMPLE FOR GRADE 5 SLO ASSESSMENTS

Group	Schools									Teachers			Students		
	GPS	GGP S	GKPS	GGHSS	GGHS	GBPS	GBMS	GBHS	Total	Female	Male	Total	Female	Male	Total
Control Group	2	1	1	0	1	1	0	2	3	2	5	8	32	76	108
Treatment Group	5	2	1	1	0	0	1	1	7	5	9	15	150	166	316
Total	7	3	2	1	1	1	1	3	19	7	14	22	182	242	424

2.12.2 Focus Group Discussion

Focus group discussions took place on two levels; one with the community comprising of members of the school management committees including parents and community members and the other with high school students to get their views on the IT and library facilities provided in these schools through PPR interventions. For this purpose, one FGD of each type was carried out in Chitral and Upper Dir.



The school selected in Barawal Bandi, Upper Dir was GPS Tikar Kot No.1 for the community FGD in which 3 SMC members, 2 parents and 3 guardians participated who were all male (due to the conservative nature of the area, this was expected although efforts had been made to make it an inclusive FGD). Government Girls Higher Secondary School Bandia was the high school for the FGD on IT resources in which 8 female students and 2 teachers participated.

GPS Ishkoonlasht was the school in Ayun, Chitral where the FGD for the SMC and community members, took place with 4 parent/teacher committee members and 3 teachers. Government High School Birir was the location for the IT resources FGD with was attended by 11 male and female students as the school was co-educational.



The community FGD in Balochistan took place at the GBHS Pishukan in which all the participants, comprising of 8 parents and community members, were all male. There were



found to be functioning school management committees in Balochistan. The second FGD took place at GGHSS Surbandar in which the three female participants were members of the School Management Committee and the remaining five men included parents and SMC members. The FGD with students of GGHSS Surbandar and GBHS Pshukan was undertaken for Science Labs since there is no intervention in Gwadar where IT equipment was supplied for student use in high schools.

An interactive classroom for early childhood education had been set up through a PPR intervention at GGHS Surbandar containing an LED screen, iPads and colourful furniture. The classroom stood out in the school due to it's a

friendly and welcoming atmosphere. The FGD participants claimed that this classroom was a huge draw for retention and attendance.

2.13 Analysis of Data

In the first stage, the data entry was carried out by creating controlled data entry sheets for each subject in the excel application. The data was authenticated and verified by another team and further adjustments were made after the verification process. The response against the questions was recorded according to the question number and the response selected by the students and entered accordingly. The results were calculated by the computer in excel queries, through the key defined for response against the question of the entire subject. This eliminated the chance of human error as markings were directly calculated by the computer key. Further analysis was made using excel queries linked with each other and no manual calculation was done in the whole process. Most of the analysis has been done based on the average and mean values from four subjects, using different data points. All the analysis presented in the report in the form of tables and graphs carries comparative information between two groups i.e. Control and Treatment with a further breakdown of information on teachers and student performances.

The report is based on the 7 major analysis classifications, explained below:

1. Overall performance with comparative analysis teachers and student's performance from both groups i.e. Control and Treatment.
2. Overall performance analysis distribution based on the four categories of achievements i.e. 0-25, 26-50, 51-75 and 76-100
3. Overall performance distribution by subject based on the four categories of achievements i.e. 0-25, 26-50, 51-75 and 76-100
4. Overall performance according to the cognitive level based on the mean score in each SLO category of all the subjects.
5. Subject wise performance based on the mean value in each SLO under the subjects.
6. Overall performance by school type
7. Overall performance gender wise

Chapter 3. LIMITATIONS AND OVERALL FINDINGS AND ANALYSIS

3.1 Limitations of the Study

The execution of this study was limited by a few factors that are explained in the subsequent paragraphs.

It is difficult to make definite conclusions in the absence of a baseline dataset about SLOs which has been a major limitation of this study. Hence, in the absence of a baseline, reliance had to be put on control group schools as per the Terms of Reference, which were mainly located in close quarters to the sample schools. It can be argued that these schools are similar in most observable and unobservable characteristics but may not be a true reflection of the ground realities of PPR supported schools as they were already established at the time of inception of the Programme. It is also recognized that the schools selected by PPAF for the initial interventions were already in poor condition due to floods, lack of teaching staff and teaching material as well as inadequate infrastructure facilities including classrooms, toilets and water management for drinking and sanitation.

Another major limitation that this study faced was the COVID – 19 pandemic that left schools closed for a prolonged period of time. The schools re-opened after a 9 month gap in which no online classes were given in the Balochistan sample schools. Hence, when the children returned after such a long gap, it was not very surprising that they could not perform very well in the assessments, primarily due to lack of revision and practice. It was also not possible to wait more than 3 weeks after the re-opening of the schools due to the fear of a second wave of the pandemic that resulted in school closures again in late November.

Many of these interventions, like provision of Science and IT Labs, were directed towards improving quality of education at the elementary and High Secondary levels; therefore, their impact on the learning outcomes of the primary students cannot be assessed. Assessing the quality of education at the elementary and high levels did not fall under the purview of this study, hence, it was not possible to assess the impact of PPR interventions on these grades.

A limitation of this study was that although teachers' content knowledge was assessed, their competency level to deliver the content was not part of the study. Hence, the differing results of the control group and treatment group students cannot be fully explained.

3.2 Overall Results of the Assessment in Khyber Pakhtunkhwa and Balochistan

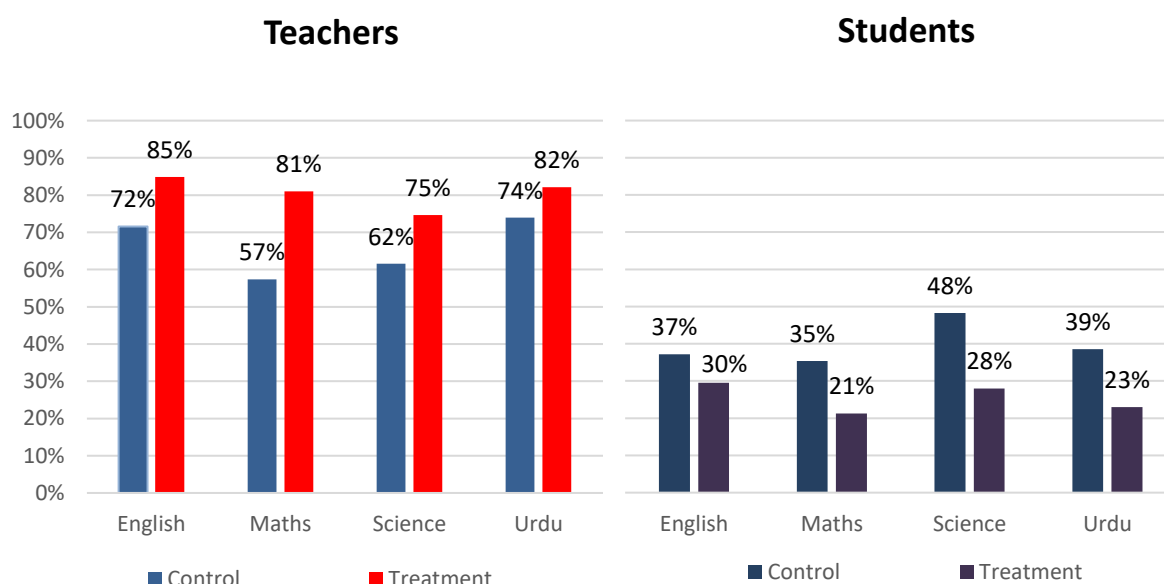
This section presents the overall results of the sample treatment and control group schools in the three selected districts of KP and Balochistan. It should be mentioned that no interventions of any kind had taken place in the control group schools in all the 3 selected districts. ***A comparison with the pre-intervention SLOs of treatment is not possible due to a lack of an SLO baseline but it is safe to assume that if there had been a baseline study the scores would have been much lower than the present ones simply because the schools were in very poor condition with no or little infrastructure and a severe shortage of teaching staff.***

Attendance was also highly irregular due to the fact that the children had to sit in the open in most schools and weather conditions could get precarious at times. *In contrast, the control group schools were already established at the time of the inception of the Programme.* Hence, the situation between the two groups of schools cannot be deemed as completely similar for comparison purposes.

3.2.1 Overall Performance

The bar chart below shows a comparison between the control and treatment groups of teachers and students in the overall mean score across all subjects. As can be observed, the teachers of both groups have performed far better than their students. However, the disparity between the results is very wide. It can also be seen that the treatment group teachers have performed better than their control group counterparts in all the subjects. This is most visible in the Mathematics result where the treatment group teachers have scored over 80% marks as compared to 57% for the control group.

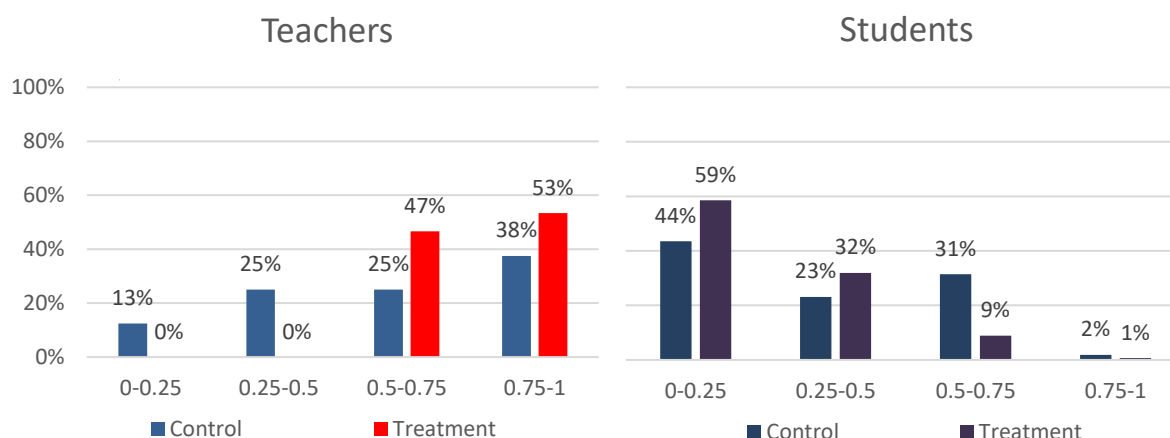
FIGURE 1: OVERALL MEAN SCORES IN ENGLISH, MATHEMATICS, SCIENCE AND URDU IN 2020



In contrast, the students of the control group have performed better than the treatment group children although the overall results are below par for both. The intervention school students displayed poor results in Mathematics, Urdu and Science whereas, Science was the highest-scoring mean subject of the control group school children followed by Urdu and English. Mathematics remained the weakest subject.

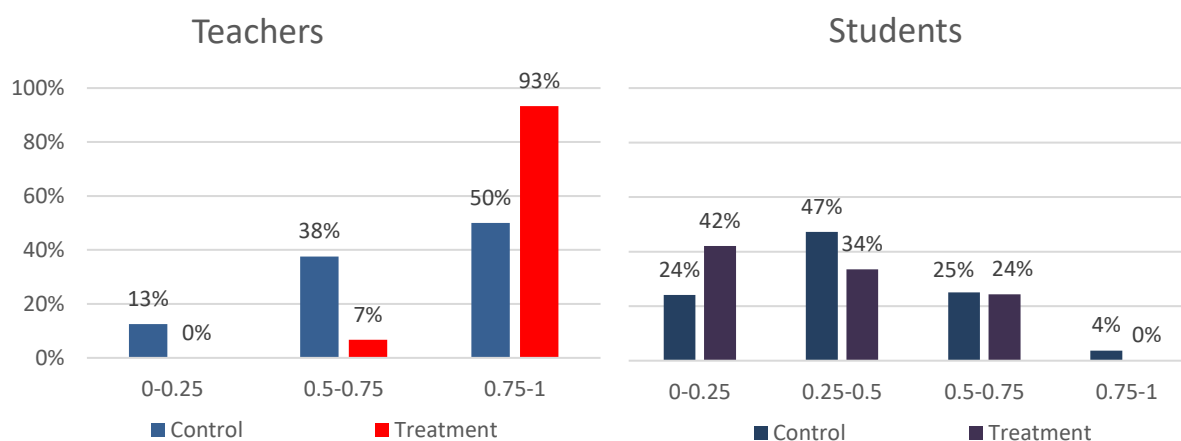
The results show that the teachers of both groups, but more so the treatment group ones, have been unable to transfer their subject knowledge to their students and a sizeable learning gap exists. The following figures show this disparity in greater detail for each subject:

FIGURE 2: OVERALL MEAN SCORES OF TEACHERS & STUDENTS IN MATHEMATICS



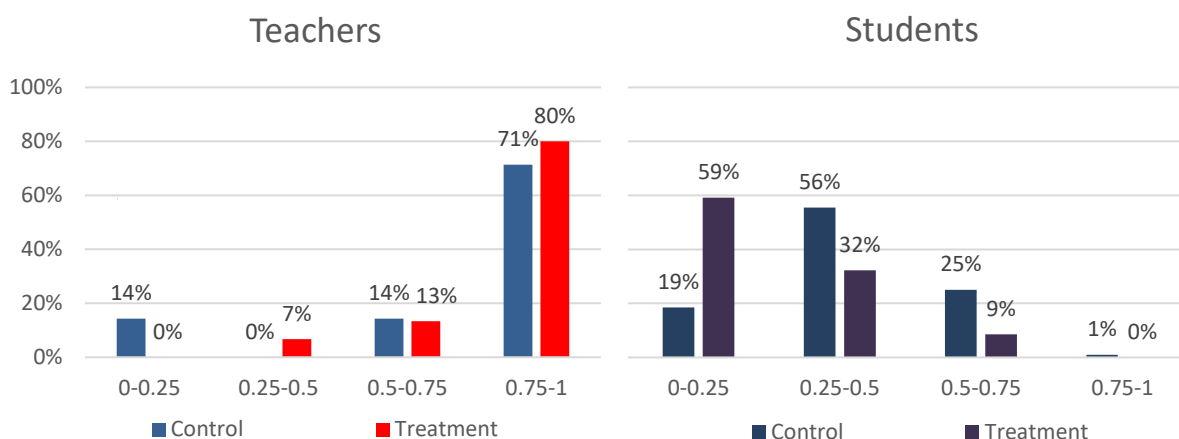
100% of teachers in the treatment group scored results of between 50 – 75%. Conversely, most of the students (93%) in the same group had a result of between 0 – 0.5 marks with almost 60% scoring below 25%. The student results in the control were also somewhat similar but 33% were able to score over 50% marks against 10% of the treatment group students.

FIGURE 3: OVERALL MEAN SCORES OF TEACHERS AND STUDENTS IN ENGLISH



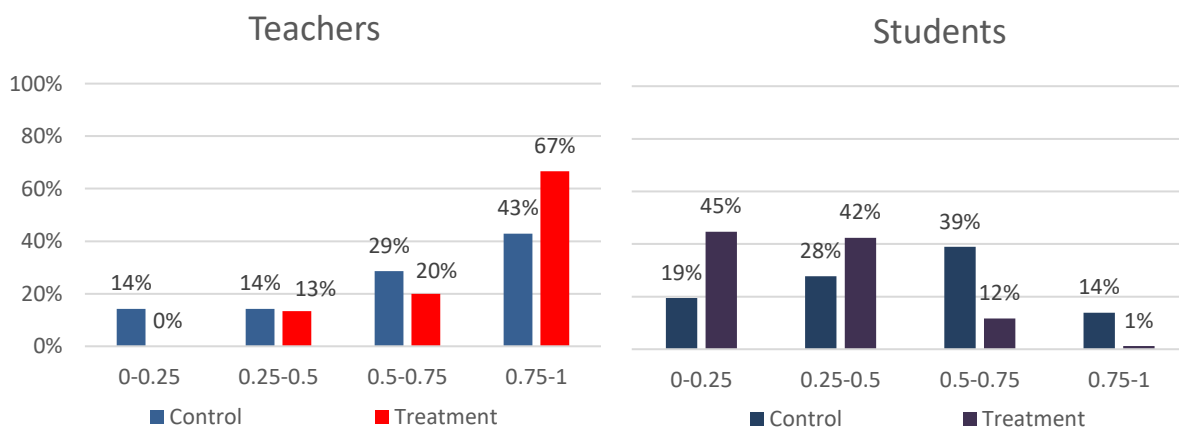
An overwhelming 93% of the treatment group teachers had scored over the 75th percentile with only 50% of the control group teachers in this range. As was previously the case in Mathematics, the majority of the students (76%) scored below the 50% from the treatment group. This pattern was also followed by the control group students.

FIGURE 4: OVERALL MEAN SCORES OF TEACHERS & STUDENTS IN URDU



93% of teachers belonging to the treatment group had scored over 50% with 85% of teachers from the control group scoring in this range. Majority of the students in both groups were below the 50% marks with most of the treatment group (59%) being in the 0 - 25% range.

FIGURE 5: OVERALL MEAN SCORES OF TEACHERS AND STUDENTS IN SCIENCE

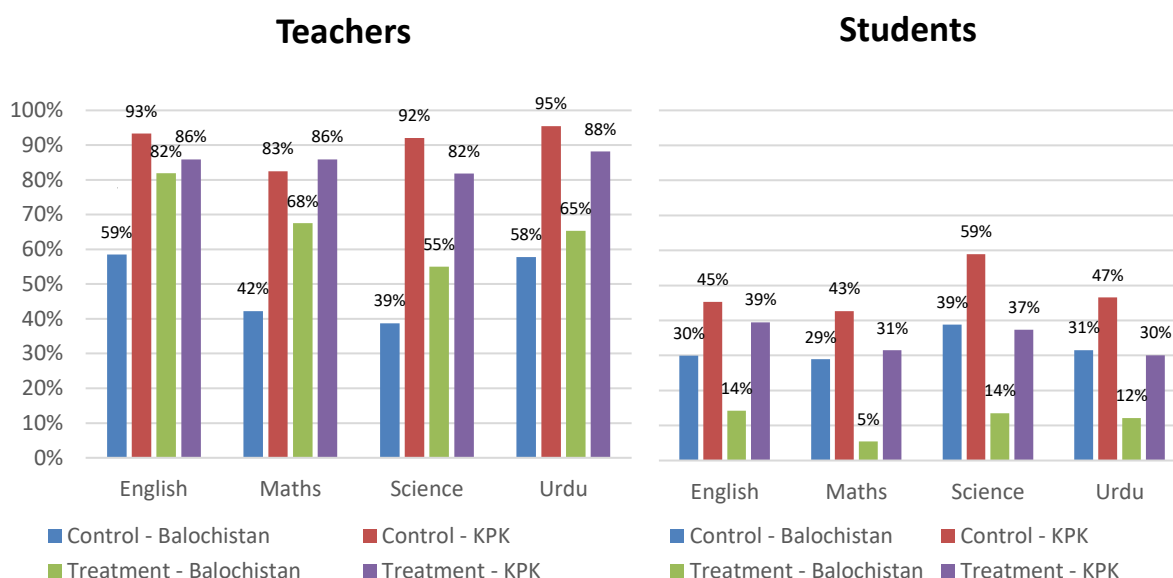


Majority of the teachers in the treatment group performed well in the Science assessment test whereas, most of the students in the treatment group fell in the 0 – 0.5 range (87%) with 47% of the control being in this range. 44% control group students scored in the 50 – 75% range.

3.2.2 Further Comparisons

A further comparison has been performed through separating the control and treatment group teachers and students from KP and Balochistan in all the 4 subjects.

FIGURE 6: COMPARISON OF SCORES IN ALL SUBJECTS IN KP AND BALOCHISTAN

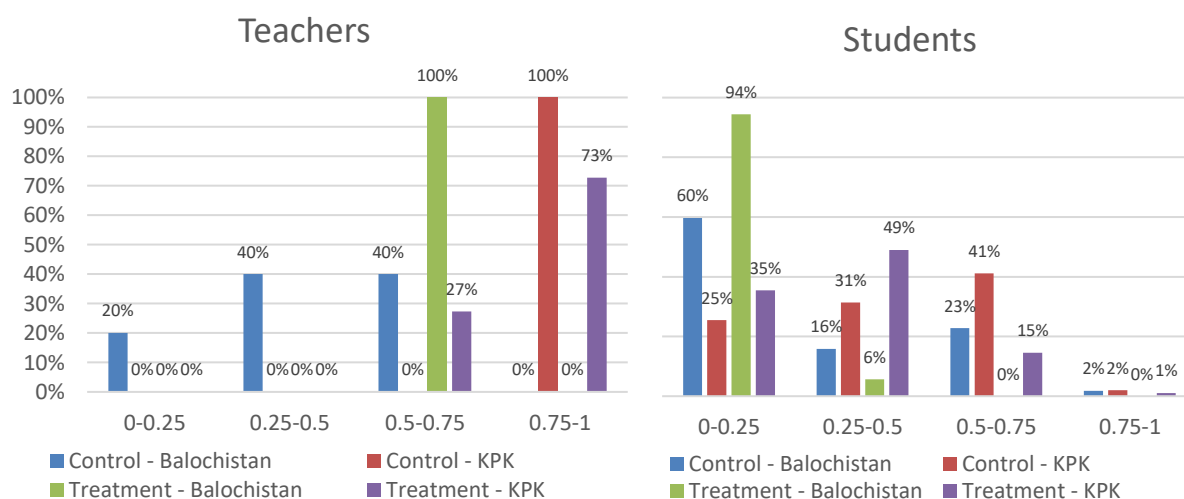


The teachers in control groups in KP have performed far better than their counterparts in Balochistan in all the subjects with over mostly 90% marks. Similarly, the treatment group teachers in KP have performed much better than the Balochistan teachers of the same group. The overall scores of the teachers in Balochistan are well below those in KP. However, it should be noted that overall teachers in treatment groups have not performed as well as the control group teachers in both provinces.

The students of the control group in KP have performed better than the students either in control or treatment groups of Balochistan and KP. The best scores of 59% can be observed in Science for this group. However, the overall result is still below par for the entire subject for both groups, except science in the treatment group. The performance of the treatment of school children in Balochistan is very poor in all four subjects ranging from the poorest (5% in Mathematics) to 14% in English and Science.

Mathematics

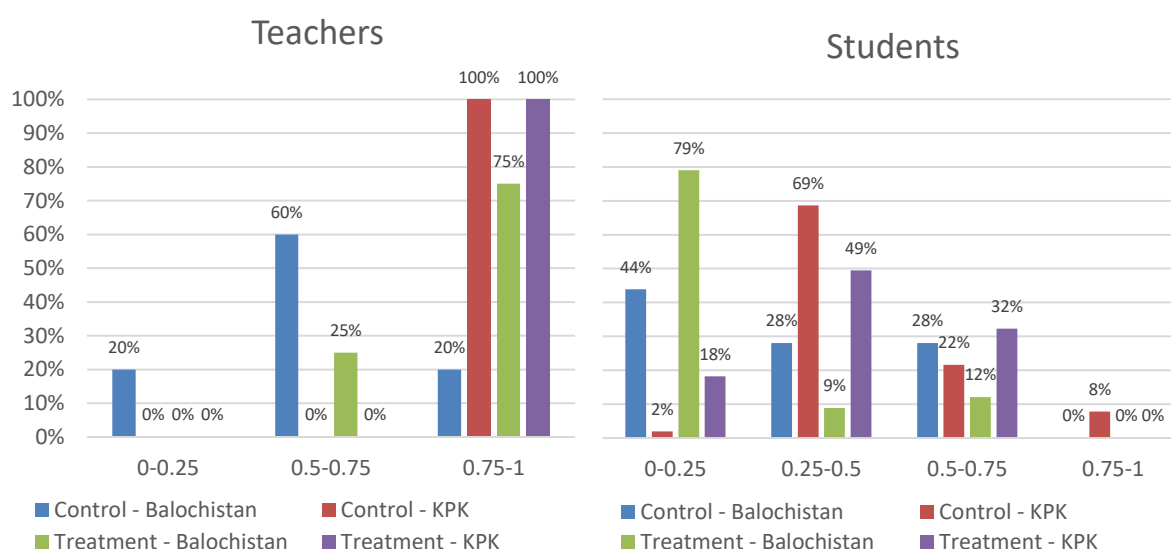
FIGURE 7: COMPARISON OF SCORES IN MATHEMATICS IN KP AND BALOCHISTAN



Segmentation of mathematics results shows that 100% of teachers scored in the 50-75% range in the treatment schools from Balochistan while the result for the control group teachers was fairly varied with only 40% in the 50-75% range and none in the 0.75-1 range. In contrast, all the teachers in the KP control group scored over 75% with the majority (73%) of the treatment school teachers as well. Students, on the other hand, had a dismal showing of 93% in the treatment group of Balochistan for the 0-25% range. The overall results for both treatment and control group school in this subject were much lacking.

English

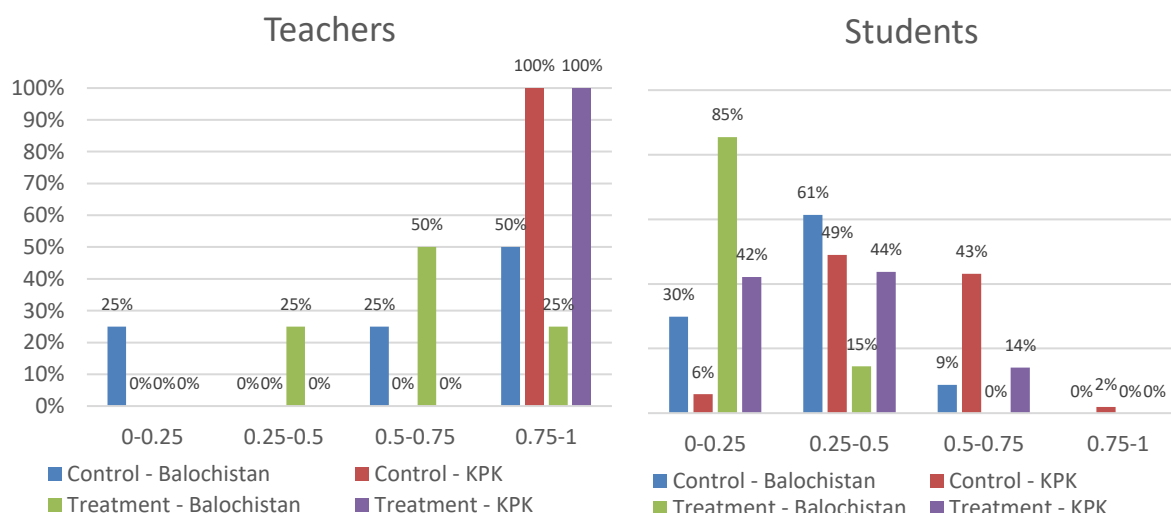
FIGURE 8: COMPARISON OF SCORE IN ENGLISH IN KP AND BALOCHISTAN



Almost all the teachers in both groups performed very well in English except the Balochistan control group teachers. Students, on the other hand, had a below-average result for most of the student body in both treatment and control group schools. Only 8% of students of the KP control group had a score of over 75%.

Urdu

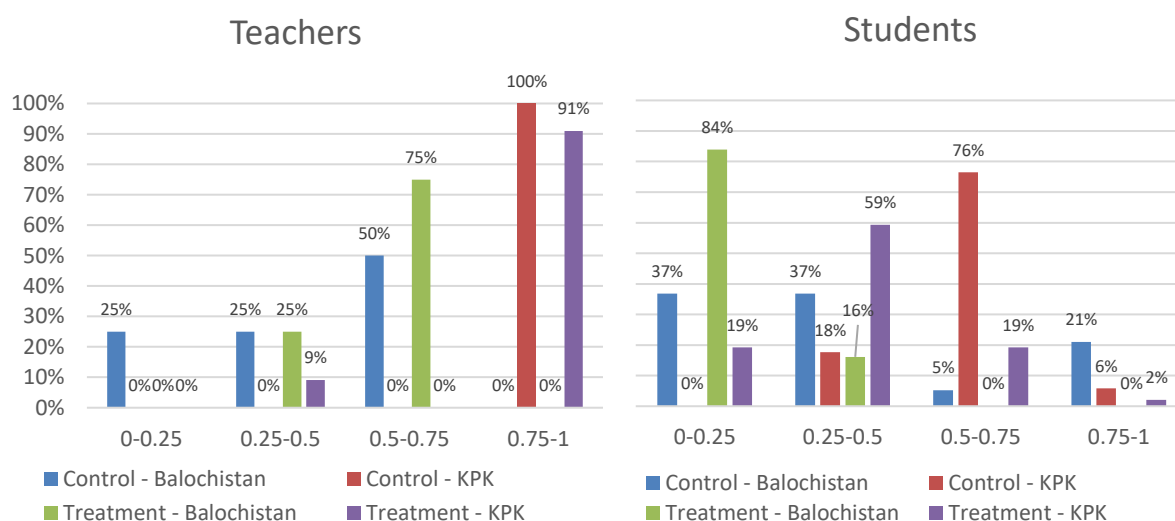
FIGURE 9: COMPARISON OF RESULTS IN URDU IN KP AND BALOCHISTAN



All the teachers in both groups in KP scored above 75% whereas, in Balochistan, the subject knowledge of Urdu was found to be lacking as 25% of the tested teachers in control schools had scores up to 25% and 50% has above 75%. Treatment school teachers there performed better with 75% scoring in the range of 50 – 100%. In contrast, student knowledge of Urdu language as a subject was highly deficient with 85% of students in treatment schools and 30% in the control group in Balochistan scored below 25%. In KP, 55% of students of control and 86% in treatment scored below 50%.

Science

FIGURE 10: COMPARISON OF SCORES IN SCIENCE IN KP AND BALOCHISTAN



Teachers scoring over 75% were 100% in KP control schools followed closely by treatment group teachers (91%). Majority of the treatment school teachers in Balochistan were in the 50 – 75% range with 50% of the control group teachers. An overwhelming 84% treatment student in Balochistan performed below average with 37% control group students in the same 0-25% range. Majority of the treatment group children (59%) in KP had scores in the 25-50% range with most of the control group (76%) being in 50-75% range. These statistics mainly prove that a wide learning gap exists between student and teachers.

3.3 Comparison with other National Studies

3.3.1. Comparison with ASER

As described in Section 2.2, ASER provides information on common competency assessment languages and Arithmetic. The 2019 ASER comprised of two different reports, one for Rural and one for urban areas. Information related to the three districts was extracted from the rural version of the report for comparison with the finding of this study.

As the scope and methodology of the ASER report are different than the methodology adopted by this study, therefore comparison with overall results from this study was not feasible as the assessment under this study are based on the detailed SLOs from the national syllabus that includes many learning objectives. In comparison, ASER’s assessment is primarily based

on the basic reading ability in two broad categories of language i.e. local languages, that includes Urdu or any other language that is locally practiced and in English. Arithmetic learning abilities assessed by ASER are mostly based on the child's ability to solve questions related to division only.

In order to compare the findings of this study, with the ASER's finding, only information related to those SLOs were extracted from this study that was directly relevant to ASER's methodology. For example, comparison for Local Languages and English was done by comparing SLO's related to reading abilities of the children in Urdu and English. For Mathematics only two Specific SLOs related to divisions were selected from the study for comparison with ASER's findings based on the arithmetic. The SLOs selected from this study are comparable with the findings from the ASER, except for local language as ASERs finding under this is based on the children ability to read either in the local language or in Urdu.

Although direct comparison based on the SLOs related to Urdu reading from this study does not meet the criteria for comparability, this section does compare the information in table 19 below, just to give an idea on the basic literacy level of the children.

TABLE 11: COMPARISONS WITH ASER 2019

Subject	ASER	Control		Total	Treatment		Total	G-Total
		51-75	75>		5 wit1-75	75>		
Urdu – Reading								
Khyber Pakhtunkhwa								
Chitral	33-40%	18%	38%	56%	10%	35%	45%	73%
Upper-Dir	>60%	9%	81%	90%	8%	22%	30%	75%
Balochistan								
Gwadar	>60%	15%	20%	34%	2%	7%	9%	26%
English – Reading								
Khyber Pakhtunkhwa								
Chitral	50-60%	9%	41%	51%	9%	42%	51%	76%
Upper-Dir	>60%	18%	52%	70%	11%	26%	37%	72%
Balochistan								
Gwadar	>60%	13%	15%	27%	6%	11%	17%	31%
Mathematics – Division								
Khyber Pakhtunkhwa								
Chitral	41-50%	2%	4%	6%	6%	32%	38%	41%
Upper-Dir	>70%	16%	52%	67%	7%	9%	16%	49%
Balochistan								
Gwadar	N.A.	2%	18%	19%	0%	2%	2%	12%

Comparing overall results from both the provinces under the study, in Urdu Language, students from control and treatment groups in districts Chitral displayed higher the average results from ASER in the same district. Students from the control group in Upper-Dir scored 30% higher than ASER results from the same district under the Urdu Language. In contrast,

students from the treatment group in Upper-Dir scored 30% less than the ASER result from the same district under the Urdu Language. In Gwadar, students from both groups scored below the average ASER results in the same districts, with the lowest displayed by the students from treatment group when they only scored 9% marks as compared to average ASER result of more than 60% in the district.

In English reading, students from both the groups in district Chitral score at par with the average ASER result in the district. Students from the control group in district Upper-Dir scored 10% higher and students from the treatment group scored 30% less than the average ASER results in the district. In Gwadar, students from control and treatment groups scored 33% and 43% less than the average ASER results in the district.

In Mathematics, students from both the groups in Chitral have less than the average NEAS results in the district, particularly students from the control group scored way less than the average results from ASER in Chitral, where they scored only 6% in Mathematics. In Upper-Dir, a student from the control group performed almost at par with results from ASER in the district, however, students from treatment group in Upper-Dir scored 54% less than the average results from ASER under Mathematics in the district. Comparison in district Gwadar was possible as ASER results were not available for district Gwadar in ASER 2019 report.

3.3.2 Comparison with NEAS

The National Education Assessment System (NEAS) is a comprehensive educational assessment programme setup in Ministry of Federal Education and Professional Training that conducts periodic national assessment studies across the country.

At the primary level, NEAS conducts National Assessment Testing (NAT) based on stratified random sampling with grade-4 students in the subjects of Mathematics and Urdu. The assessment helps to institutionalize a monitoring system which permits and encourages continuous educational improvement at the elementary level in Pakistan. The assessment is carried out at both primary and elementary levels. For primary level assessment, NAT carries out assessment tests with grade 4 students and for elementary grade 8 students are assessed.

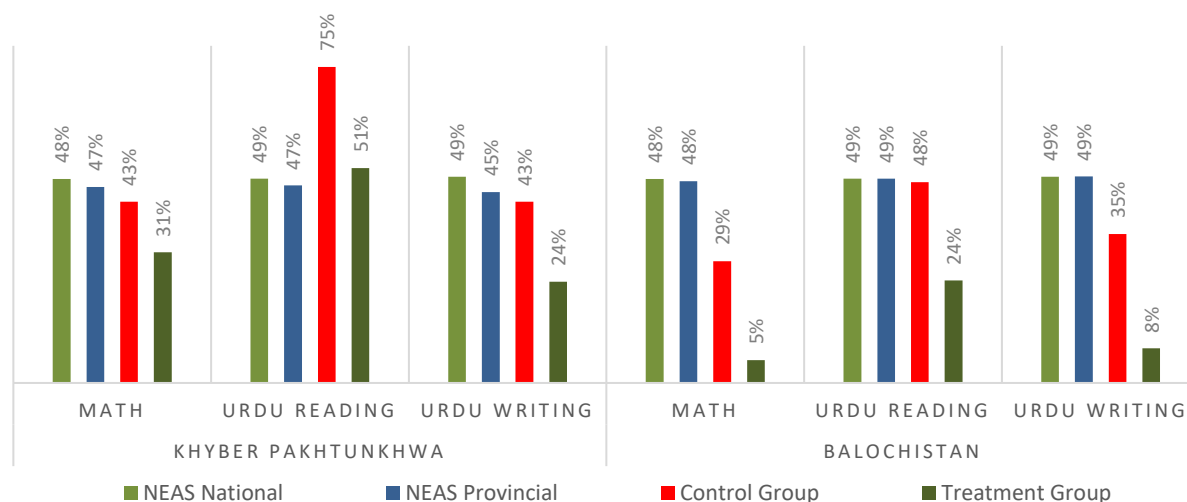
This study intended to compare the outcomes of the assessment with the grade-4 level results from NEAS-2019 report; however, NAT 2019 report was not published at the time when this report was developed. Therefore, the current comparison is based on the grade-4 results of three subjects from NAT 2016 report.

TABLE 12: SUBJECT WISE - COMPARISONS WITH NEAS-NAT-2016

Subject	NEAS National	Khyber Pakhtunkhwa			Balochistan		
		NEAS	Control Group	Treatment Group	NEAS	Control Group	Treatment Group
Mathematics	48%	47%	43%	31%	48%	29%	5%

Urdu Reading	49%	47%	75%	51%	49%	48%	24%
Urdu Writing	49%	45%	43%	24%	49%	35%	8%

FIGURE 11: SUBJECT-WISE - COMPARISON WITH NEAS-NAT-2016 - BALOCHISTAN



Overall results of students from Treatment group in ‘Mathematics’ and ‘Urdu Writing’ almost matches the results from NEAS-NAT in KP. However, students from the Control group have shown low scores in these subjects. In Urdu reading students from both the groups have shown higher scores as compared to the NEAS-NAT KP scores, especially students from the Treatment group who scored almost 30% higher than the NEAS-NAT and National scores. In Balochistan, only students from the control group managed to score at par with the NEAS-NAT scores. Students from the treatment group have performed particularly low in comparison with NEAS-NAT scores in mathematics and Urdu Writing.

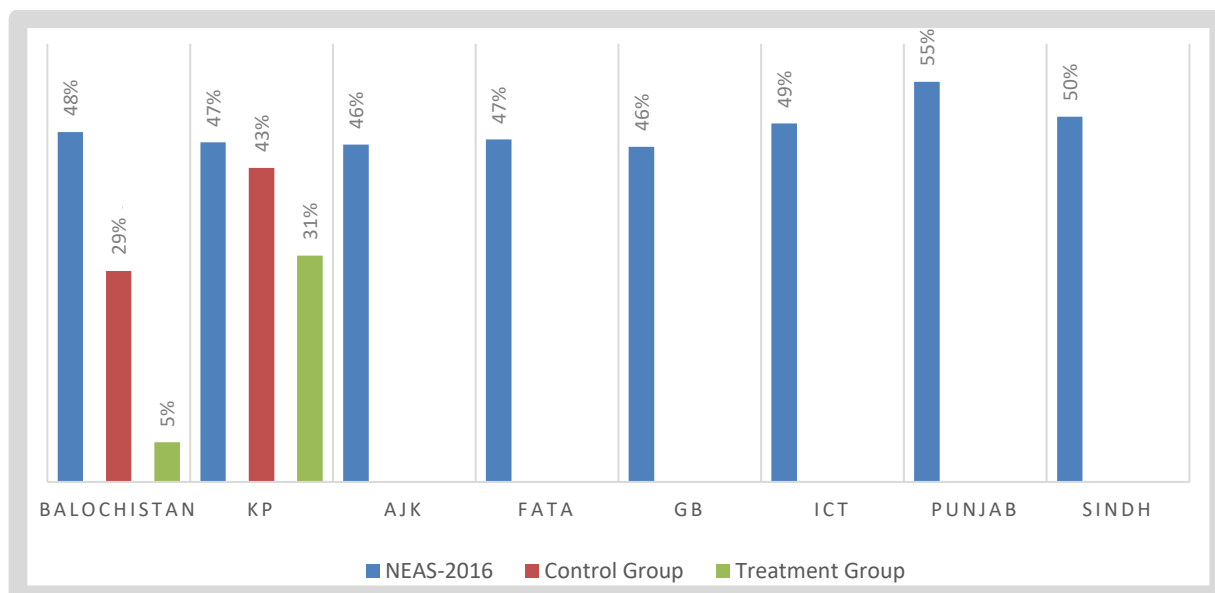
3.3.3 Comparison with Provincial Data

District data from the NEAS-NAT Report has been utilized to draw provincial comparison with the results from this study.

MATHEMATICS

Both the groups in KP have scored lowest as compared to NEAS-NAT results. Students from the Control group in KP scored only three points low, however, students from the Treatment group in KP scored 15 points less as compared to the results of NEAS-NAT in KP. In Balochistan, students from both the groups score less than the NEAS-NAT scores, with the lowest of only 5% of the students of the treatment group.

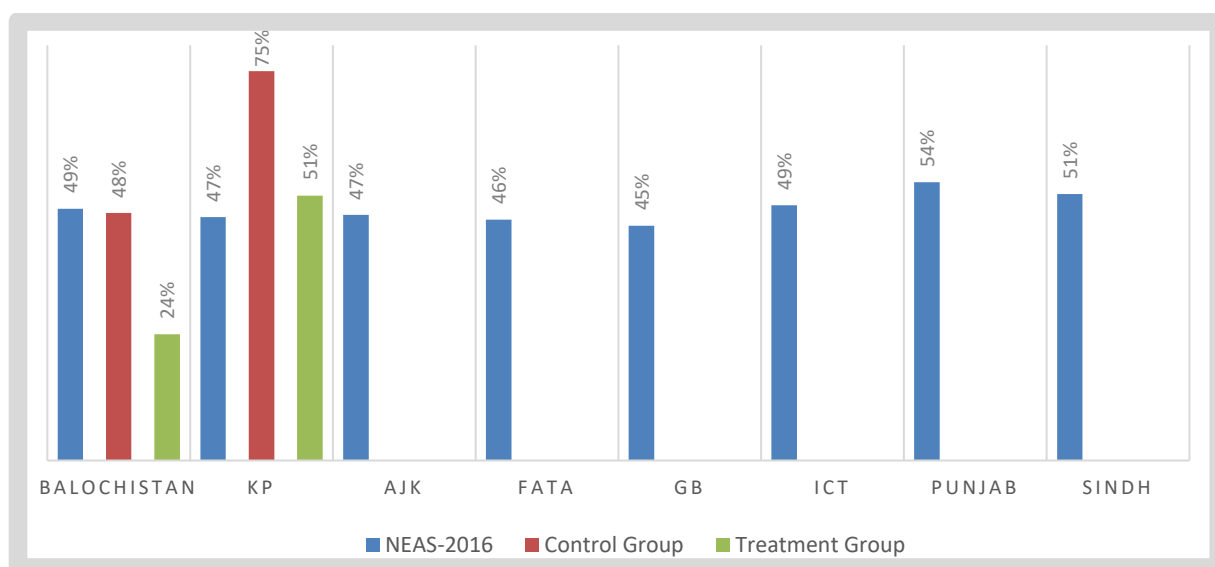
FIGURE 12: MATHEMATICS –DISTRICT WISE COMPARISON WITH NEAS-NAT-2016



URDU READING

In Urdu reading, students from the Treatment group have scored almost 30% above as compared to the NEAS-NAT scores in KP and about 18% above the highest scorer Punjab in the NEAS-NAT assessment results. Similarly, students from the Control group have also scored higher than KP results in the NEAS-NAT, however lower than the highest scorer Punjab in the NEAS-NAT assessment results. In Balochistan students from the control group scored almost at par and students from the treatment group scored 25% less than the NEAS-NAT scores.

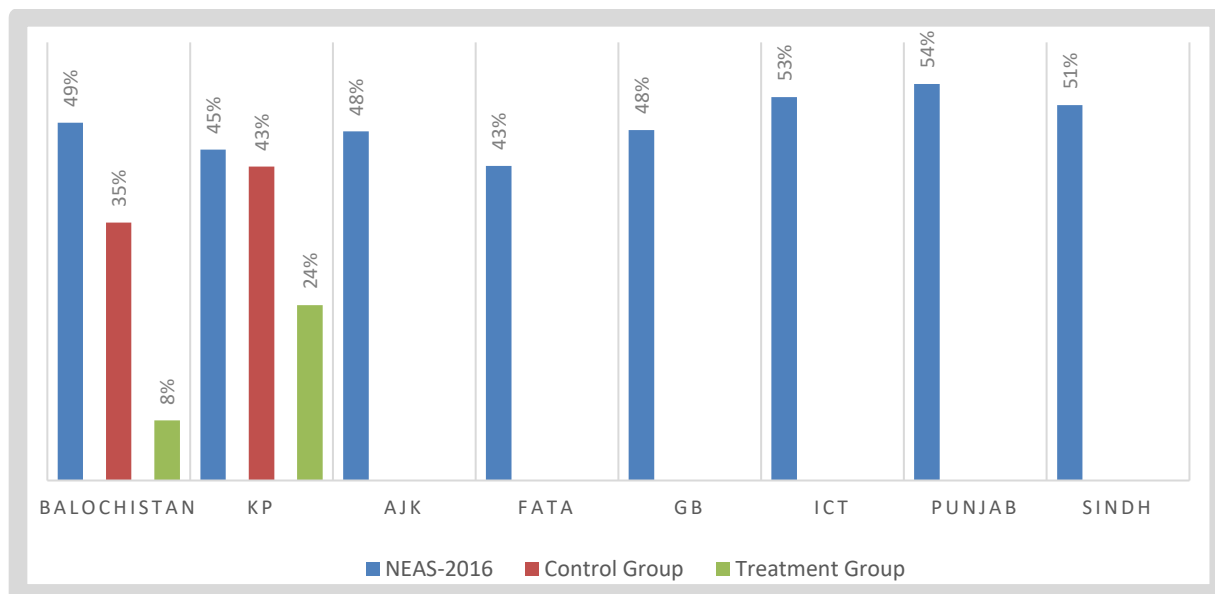
FIGURE 13: URDU READING –DISTRICT WISE COMPARISON WITH NEAS-NAT-2016



URDU WRITING

Students from both the groups have scored lowest in Urdu writing, as compared to results from other provinces in NEAS-NAT assessment results. Students from the control group scored around 20% less than the lowest scorer FATA in NEAS-NAT assessment results. In Balochistan, students from the control group performed 14% and students from the treatment group scored 41% less than the NEAS-NAT scores.

FIGURE 14: URDU WRITING –DISTRICT WISE COMPARISON WITH NEAS-NAT-2016



Chapter 4. FINDINGS AND ANALYSIS – KHYBER PAKHTUNKHWA

4.1 Headline Results of the Assessment in Khyber Pakhtunkhwa

This section presents assessment results for the total sample of students, i.e. those tested in control and treatment groups, in Government Schools of Chitral and Upper Dir.

4.1.1 Overall Performance

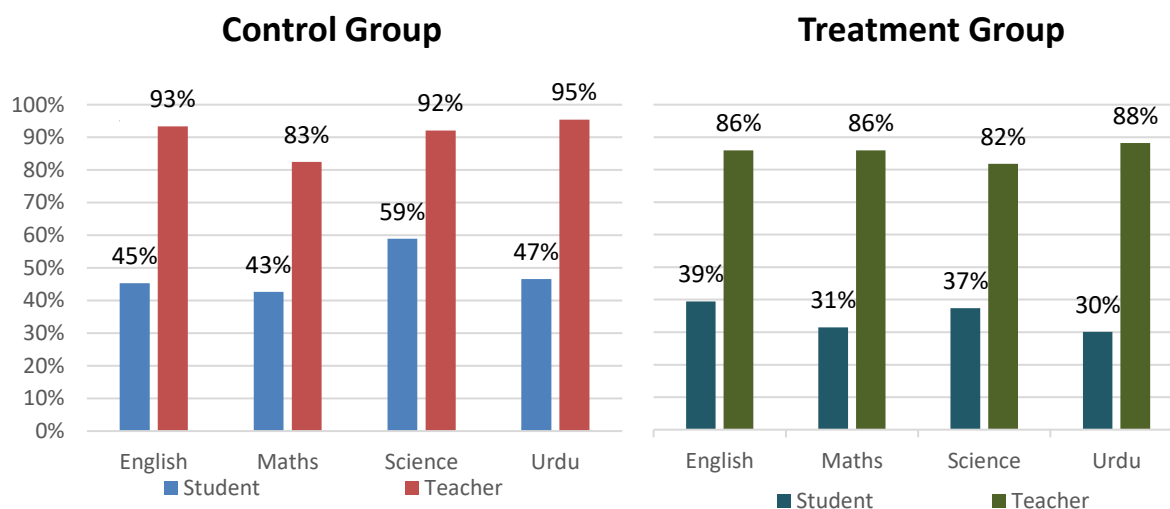
Figure 2 below presents a comparison between the control and treatment groups of teachers and students for each subject, along with the overall mean score across all subjects. According to the data, overall, both the teachers and students of the control group have comparatively displayed better performance in all subjects in comparison with the treatment group. All the teachers from the control group have accumulated 90% or above in three subjects, except 83% in Mathematics. Although little short in performance as compared to the control group, the teachers of the treatment group have accumulated 80% or above in all the subjects.



Students of the control group have displayed better results as compared to the students of treatment group, but their overall score in three subjects is below average, accumulating mean value of less than 50%, with the exception in Science where their mean score is slightly better i.e. above 50%. In comparison, the students of the treatment group were not able to accumulate the mean score of more than 38% in any subject.

Overall teacher to student ratio of performance in both the groups is pretty much consistent with each other. It means that if the teachers of treatment groups have displayed low performance as compared to the teachers of the control group, so did the students of treatment group as compared to the students of the control group.

FIGURE 15: MEAN SCORES IN ENGLISH, MATHEMATICS, SCIENCE AND URDU IN 2020 - KHYBER PAKHTUNKHWA



4.1.2 Overall Performance Distribution

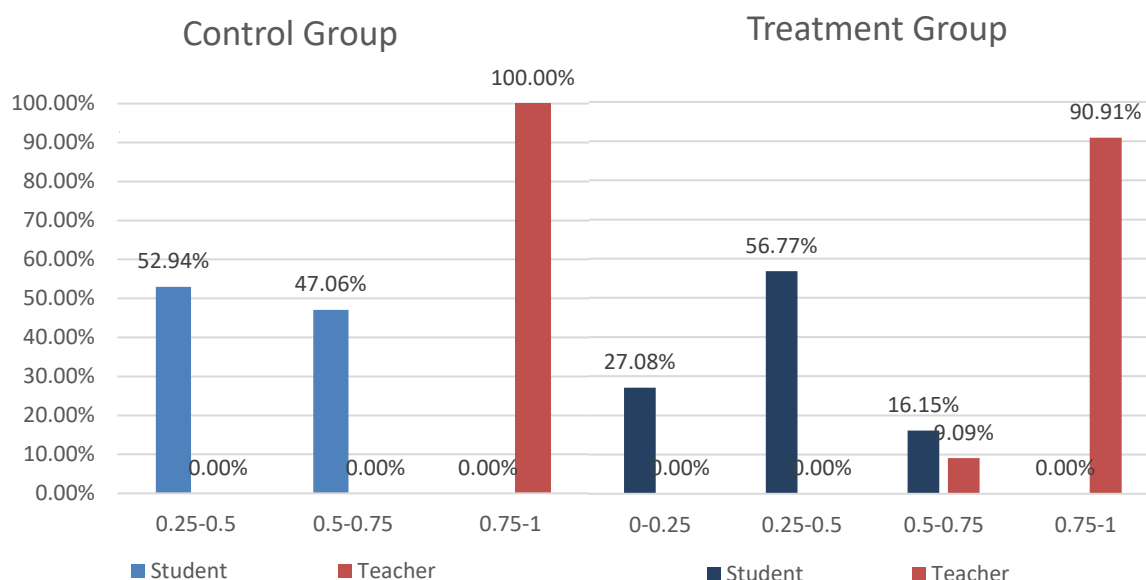
To examine performance distribution, four categories of achievement were identified:

- Above 75%
- 51 – 75%
- 26 – 50%
- 0 – 25%

Figure 3 shows the distribution of teachers and students performance across all subjects, indicating that 53% students in the control group and an overwhelming amount of more than 80% students in the treatment group have accumulated mean score of less than 50% in all subjects. In other words, they do not have a comprehensive understanding of almost half of the curriculum SLOs for Grade 4. Around 45% of the students in the control group have managed to accumulate a mean score of 50%, as compared to only 16% in the treatment group. Not a single student in both groups has managed to score more than 75% in any subject. It has emerged that there is a pressing need for extensive interventions to improve the mastery level of students, especially in the treatment group.

All the teachers in the control group and 90% of the teachers in the treatment group have accumulated more than 75% mean score in all the subjects. Only 10% of teachers in the treatment group did not manage to attain more than 75% mean score.

FIGURE 16: OVERALL PERFORMANCE DISTRIBUTION CATEGORIES - KHYBER PAKHTUNKHWA



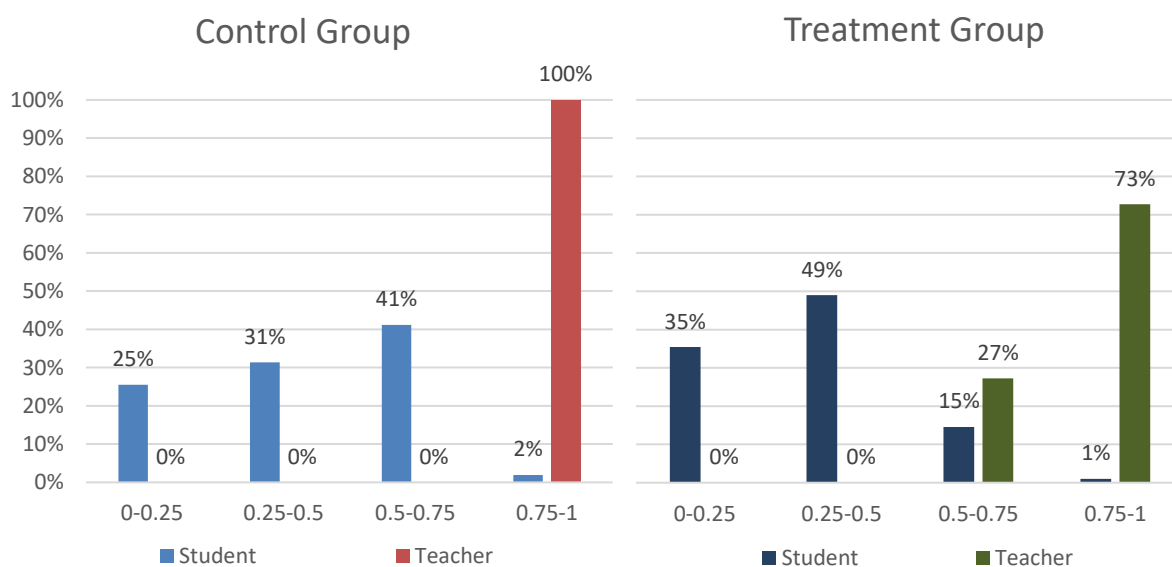
4.1.3 Performance Distribution by Subject

Performance distribution of teachers and students is shown in four different charts across each of the subjects. Almost all the teachers in both the groups have performed well in each subject, except in Mathematics where 27% of the teachers from the control group scored less than 75%. However, most of the students, 27 and 161 students from Control and Treatment group, respectively displayed average results in all subjects. Only comparatively better performance is observed in science where 39% of students from the control group have performed above average as compared to only 16% in the treatment group.

In Mathematics, English, Urdu and Science, 43%, 30%, 45% and 82% students from the control group displayed above-average (50 – 100%) results as compared to 16%, 32%, 14% and 21% students from treatment group respectively. In comparison, the treatment group students with above average scores were 16%, 32%, 14% and 21% respectively. The difference in science scores stood out followed by Urdu and Mathematics. The English language scores were almost the same in both groups.

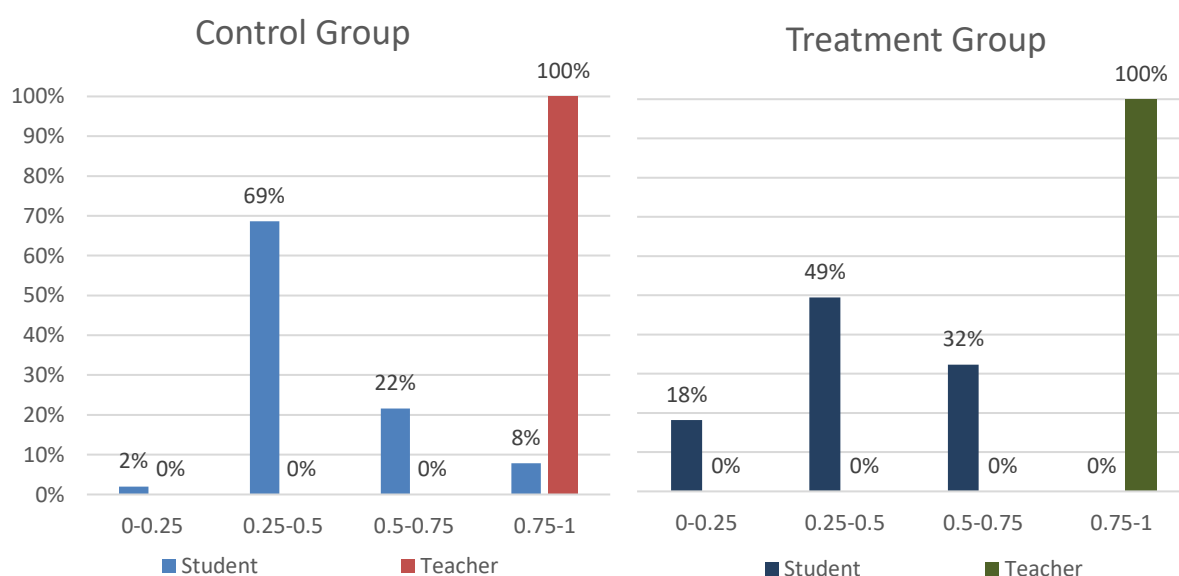
Mathematics

FIGURE 17: SUBJECT WISE PERFORMANCE DISTRIBUTION – MATHEMATICS – CATEGORIES - KHYBER PAKHTUNKHWA



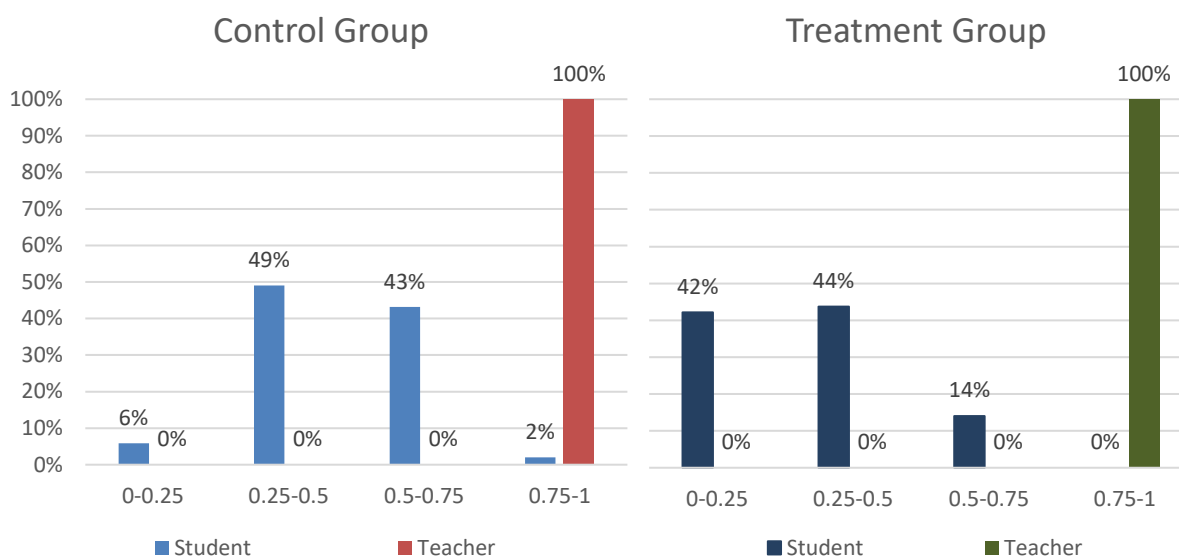
English

FIGURE 18: SUBJECT WISE PERFORMANCE DISTRIBUTION – ENGLISH – CATEGORIES - KHYBER PAKHTUNKHWA



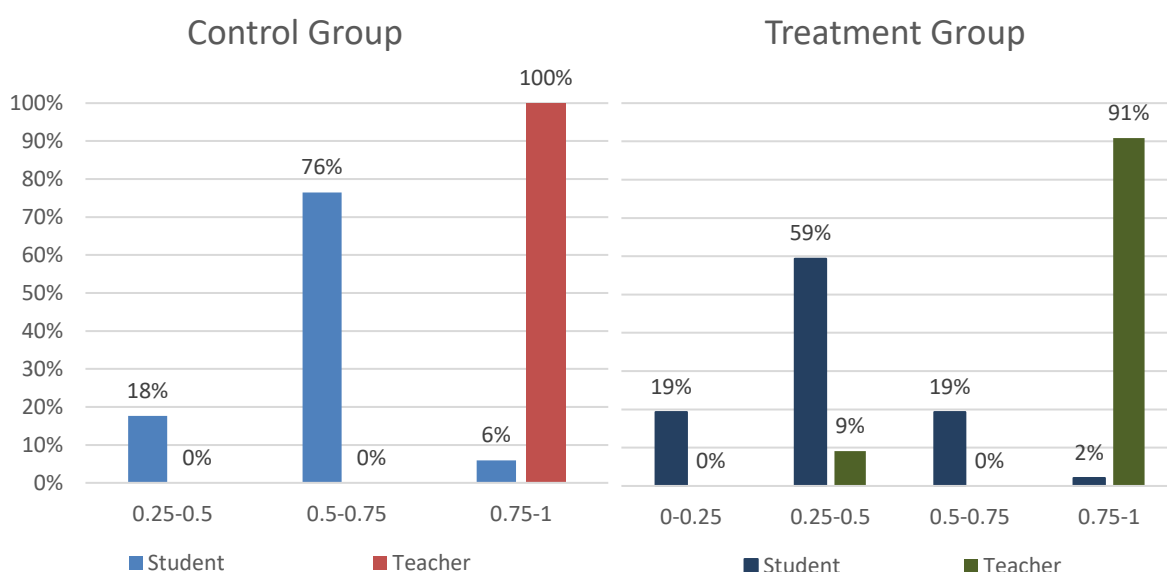
Urdu

FIGURE 19: SUBJECT WISE PERFORMANCE DISTRIBUTION – URDU – CATEGORIES - KHYBER PAKHTUNKHWA



Science

FIGURE 20: SUBJECT WISE PERFORMANCE DISTRIBUTION – SCIENCE – CATEGORIES - KHYBER PAKHTUNKHWA



4.1.4 Overall Performance According to Cognitive Level

Overall teachers from both the groups have performed well in all three cognitive levels, except for slightly low performance in understanding based questions in Mathematics and

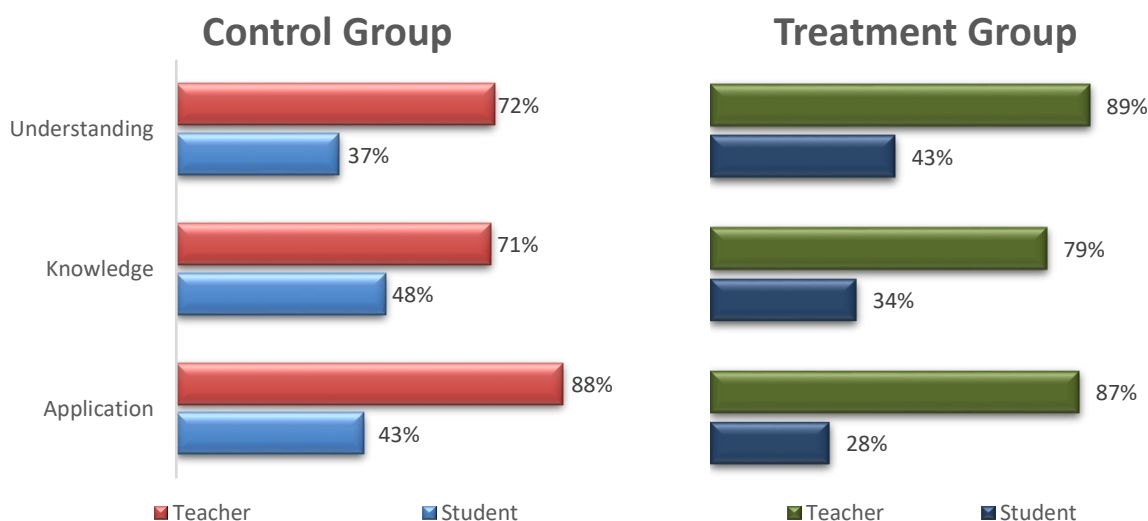
application-based questions in Science, where around 75% of the teachers from control and treatment groups respectively answered correctly.

In Mathematics, more than 50% of the students from both groups did not manage to answer correctly under all three cognitive levels. The maximum number of correct answers was observed under knowledge-based questions, where 45% of students from the control group performed well.

Similarly, in Urdu where most of the students, 26 and 139 from the Control and Treatment groups respectively, were not able to answer correctly under all three cognitive levels, with comparatively better results under application-based questions where maximum 54% of the students from control group answered correctly. Slightly better results were observed in understating based questions related to English and knowledge-based questions in Science, where respectively 66% and 71% of the students from the control group answered correctly. Poor performance observed from treatment group students under application-based questions in Mathematics and Science, understanding based questions in Urdu and Science and knowledge-based questions in Urdu.

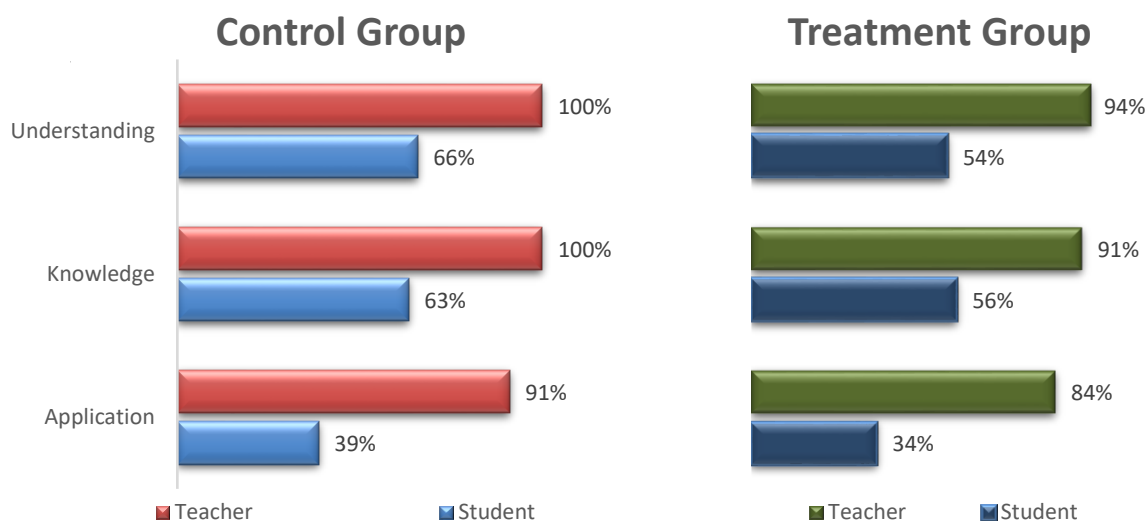
Mathematics

FIGURE 21: PERFORMANCE BY COGNITIVE LEVELS – MATHEMATICS - KHYBER PAKHTUNKHWA



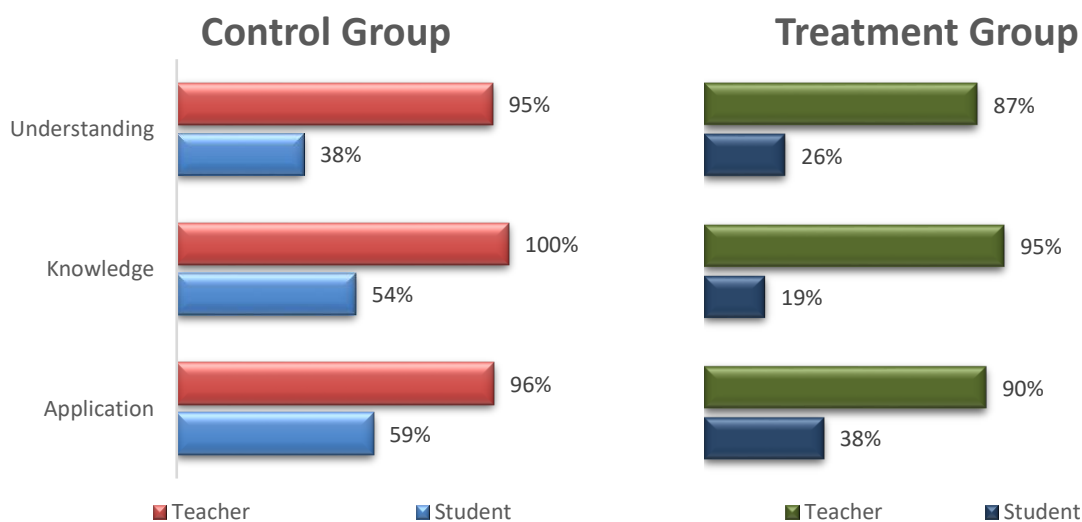
English

FIGURE 22: PERFORMANCE BY COGNITIVE LEVELS – ENGLISH - KHYBER PAKHTUNKHWA



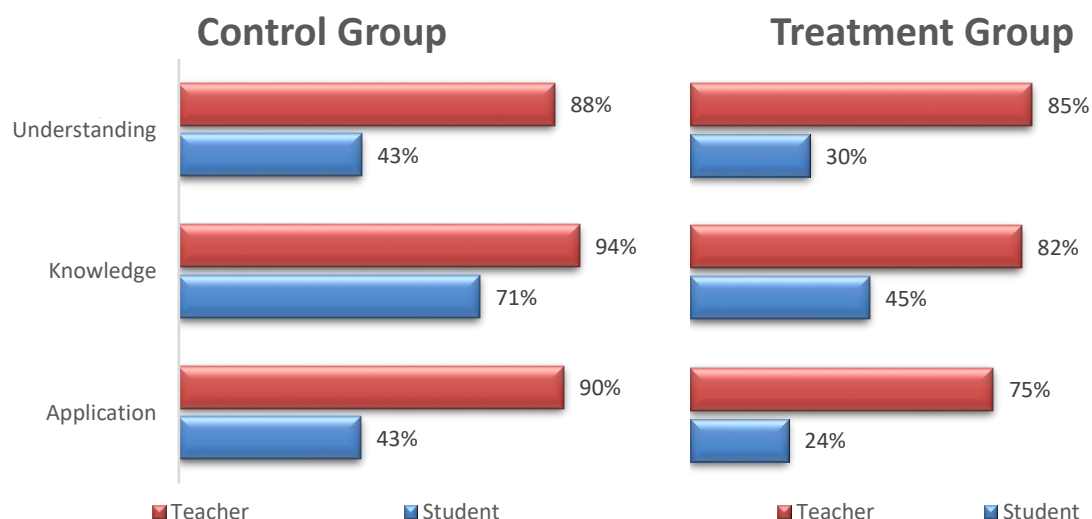
Urdu

FIGURE 23: PERFORMANCE BY COGNITIVE LEVELS – URDU - KHYBER PAKHTUNKHWA



Science

FIGURE 24: PERFORMANCE BY COGNITIVE LEVELS – SCIENCE - KHYBER PAKHTUNKHWA



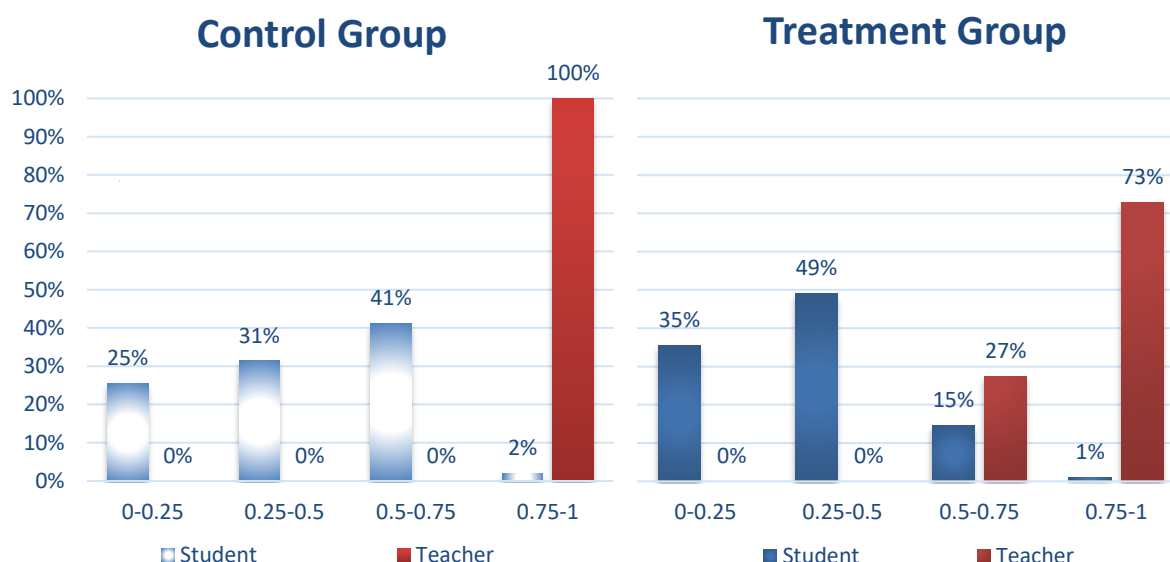
4.1.5 Subject-wise Performance

This section is comprised of an item-wise analysis of each subject based on the SLOs. The analysis is aimed to provide decision-makers with a detailed analysis of where to focus their efforts to improve the mastery level of the students. In particular, the section is focused on identifying gaps related to students’ learning. Although segregated information on teachers and students’ performance is presented in the tables and charts in this section, however, the detailed analysis will only be presented related to students, as teachers from both the groups have performed according to the expectations in all the subjects.

4.1.5.1 Mathematics: Detailed Analysis of Performance

Overall 31% and 49% of students from the control group and treatment group scored average results respectively. However, 41% of students from control managed to perform above 50% mean score in Mathematics, as compared to only 15% from the treatment group. Students from both groups have scored average scores in each of the four main SLO categories, except for 50% mean score by the students from the control group that performed better in Information Handling. Quite a substantial number of students from both the groups have also performed below average.

FIGURE 25: PERFORMANCE DISTRIBUTION IN MATHEMATICS - KHYBER PAKHTUNKHWA



4.1.5.1a SLO-wise Student Performance in Mathematics

The table below shows the percentage of students from both the groups that mastered the individual SLOs tested in the mathematics assessment.

TABLE 13: SLO-WISE STUDENT PERFORMANCE IN MATHEMATICS - KHYBER PAKHTUNKHWA

SLOs	Control		Treatment	
	Student	Teacher	Student	Teacher
Geometry	37%	58%	27%	80%
Information Handling	50%	72%	35%	86%
Measurement	46%	96%	41%	93%
Numbers and Operations	42%	88%	29%	85%

- Geometry

The overall score of students from both the group was observed to be average in almost all SLOs related to Geometry. Lowest learning levels observed in the understanding of ‘drawing squares and rectangles’, where students have scored a mere 19% and 9% in the control and treatment group respectively. Students from the treatment group have also displayed low scores in the understanding of drawing ‘different parts of a circle’, where they managed the mean score of only 30%. However, students from the treatment group performed slightly better in drawing ‘right-angle’ as compared to the control group. Similarly, students from the control group performed comparatively better in drawing ‘acute and obtuse angles. Overall students from both groups need to fill huge gaps in their learning and understanding levels of all the concepts related to geometry.

- Information Handling

Students from the treatment group displayed the lowest learning achievement of 18% in understanding ‘simple bar graph’. Similarly, students from the control group although have scored better results, but remain below average in terms of overall learning achievement in the

same SLO. Overall teachers have performed well in all subjects and in individual SLOs, however, teachers from the control group have displayed a slightly low level of learning achievement in this SLO.

Students from the control group performed really well in understanding ‘line graph’ with a score of 80%. Students from the treatment group although performed well but displayed a slightly low achievement level of 65% in the same SLO.

- Measurements

Students from both the groups performed comparatively well in ‘converting units of time’. Students from the control group scored slightly above average in ‘units of measurement related to weight, length and distance’. Students from the treatment group only scored marginally above average in ‘units of measurement related to length’.

- Numbers and Operations

Students from the control group displayed good learning achievement in ‘identifying place value of a digit in decimals, in contrast, the students from the treatment group who only managed 25% under the same SLO.

It has emerged that students from both the groups have a lacking in ‘multiplying numbers up to 5 digits by numbers up to 3 digits’. Students from both groups also performed very low in ‘dividing fractions by another fraction’. Similarly, students from the control group scored very low in ‘Identifying the place value of a digit in decimals’ and ‘arranging fractions in ascending and descending order’. Students from the treatment group also performed very low in ‘identifying proper, improper and mixed fractions’, ‘identifying place value of digits up to one hundred million’, ‘divide numbers up to 4 digits by numbers up to 2 digits’ and ‘division of a fraction by another fraction’.

4.1.5.1b Recap

Results from the mathematics assessment indicated:

- Overall students from both the groups need to improve their learning abilities in almost all of the SLOs in Mathematics, except few under the control group;
- Learning abilities of students from both groups need to be improved in understanding ‘simple bar graph’ under geometry.
- Learning abilities of students from both the groups in most of the SLOs under measurement category needs attention, except SLO related to ‘converting units of time’.
- Although students from control group performed well under one or two SLOs, overall learning abilities of the students from both the groups under the Numbers and Operations category needs major attention as most of the students, 28 and 161 under Control and Treatment groups respectively performed below average in most of the SLOs in this category.

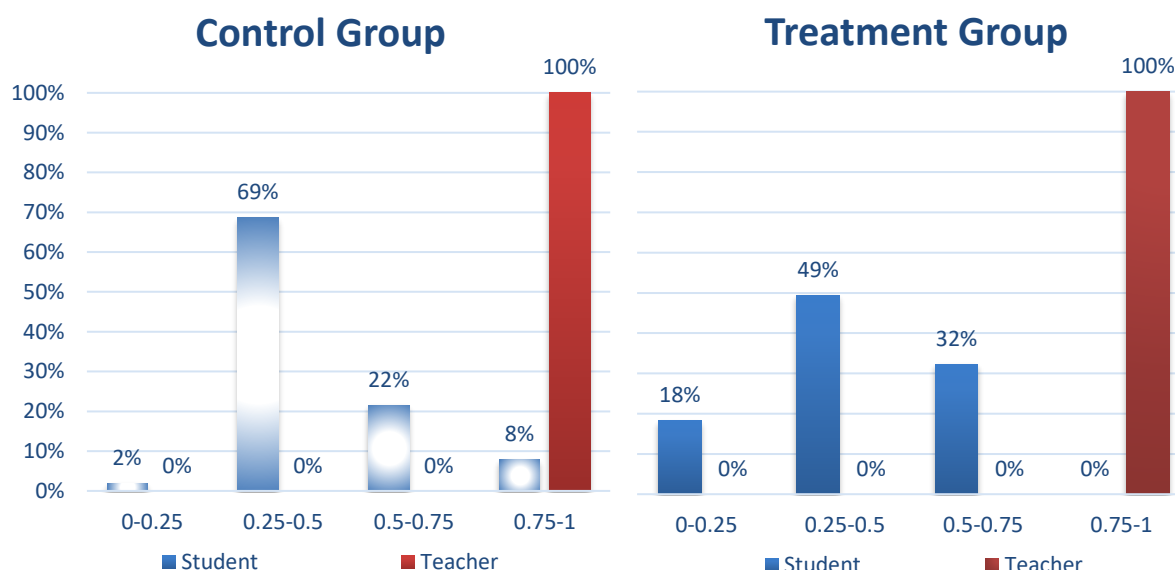
- Special focus needs to be made under following on the SLOs under the Numbers and Operations Category of the Mathematics curriculum:

SLOs (under Numbers and Operations Category)	Group(s)
Subtracting fractions with unlike denominator	Both
Multiplying numbers up to 5 digits by the numbers up to 3 digits	Both
Identifying place value of digits in decimals	Control
Identifying place value of digits up to one hundred million	Treatment
Divide numbers up to 4 digits by number up to 2 digits	Treatment
Divide fraction by another fraction	Both
Arrange fractions in ascending and descending order	Control

4.1.5.2 English: Detailed Analysis of Performance

Overall students from both the groups displayed a below-average mean score of 46% and 39% respectively in English. 22% from the control group and 32% of the students from the treatment group managed to perform above average in this subject. However, only 8% of students from the control group managed to display exceptional performance in English. One-fifth of the students (18%) under the treatment group were not even able to score 25% in English and not even a single student managed to accumulate 75% score or above.

FIGURE 26: PERFORMANCE DISTRIBUTION IN ENGLISH - KHYBER PAKHTUNKHWA



4.1.5.2a SLO-wise Student Performance

The table below describes the percentage of students who have mastered the individual SLOs tested in the English assessment in.

TABLE 14: SLO-WISE STUDENT PERFORMANCE IN ENGLISH - KHYBER PAKHTUNKHWA

SLOs	Control		Treatment	
	Student	Teacher	Student	Teacher
Reading	59%	83%	46%	77%
Writing	21%	93%	21%	83%
Lexical	58%	97%	50%	90%

- Reading

Overall performance level of students from the control group deemed satisfactory under all the SLO in this category. Students from the treatment group only managed to perform satisfactorily in diagraphs and trigraphs, however, students from the control group have displayed good learning achievement of 90% mean score under the same SLO. The performance level of teachers from the treatment group under the graphical features needs attention as they only managed a mean score of 55% under this SLO, performing marginally better than their students.

- Writing

Students from both the groups lack in both the SLOs under this category, with low scores, specifically in SLO related to writing descriptive, narrative and expository paragraphs. It seems like students from both groups need major attention to improve SLOs under this category.

- Lexical

Overall students from the control group have performed average in most of the SLO in this category. However, major areas of concern in an SLO under lexical is understanding of verbs, where students from both the groups have scored very low. Students from both the groups also displayed unsatisfactory results in using the simple future tense, and understanding of adverbs. Students from the treatment group also need to improve their understanding of using past continuous tense; locating compound words; joining words; regular and irregular nouns; and adverbs. Similarly, students from the control group need to improve their understanding in areas like using simple future tense; adverbs; and adjectives.

4.1.5.2b Recap

Results from the English assessment showed:

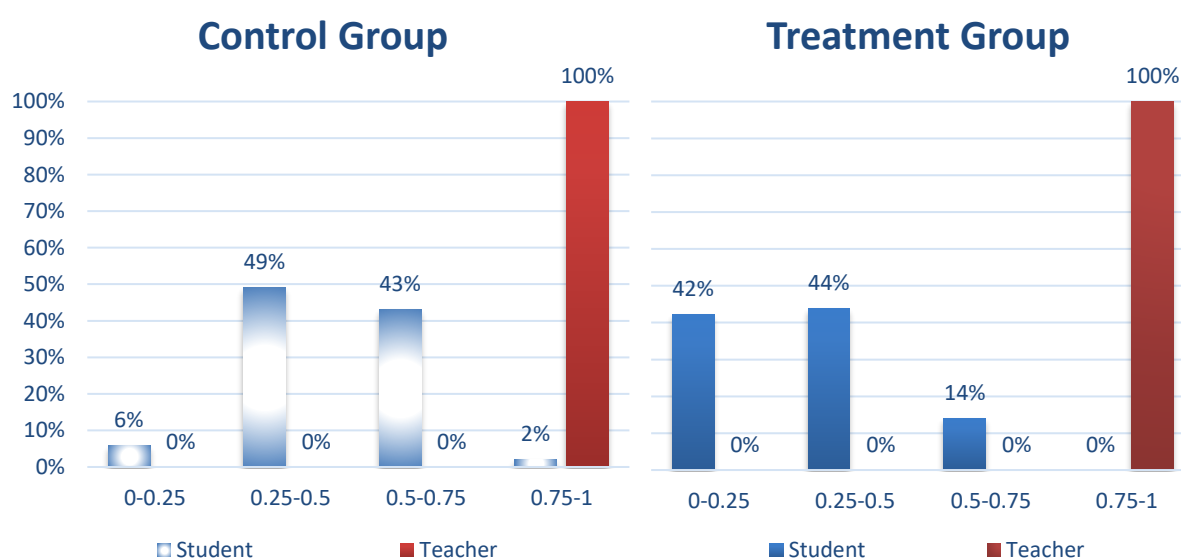
- There is significant room for improvements under some of the SLOs for students from both the groups.
- Teachers from the treatment group need to improve their understanding and explanation of graphical features/ picture description.
- Students from the treatment group need attention to improve their overall reading abilities.
- Students from both groups need attention to improving their overall writing abilities.
- Children from the treatment group performed average under the lexical category of the curriculum, they need attention in improving most of the SLOs in under lexical.

Although students from the control group have performed exceptionally well in a few of the SLO, there is a big room for improvement in their understating of quite a few SLOs under this category.

4.1.5.3 Urdu: Detailed Analysis of Performance

Teachers from both the groups have performed very well as all the teachers accumulated 75% or above scores in Urdu. The results of the children, however, were not very satisfactory. The students from the control group performed better than the students from the treatment group. The result shows that more than 50% of students from both groups have scored below average marks. In particular, students from the treatment group displayed very poor results, as more than 85% of the children from this group did not manage to score above average marks. No student from the treatment group and only 2% of the control group managed to score 75% or above marks.

FIGURE 27: PERFORMANCE DISTRIBUTION IN URDU - KHYBER PAKHTUNKHWA



4.1.5.3a SLO-wise Student Performance

The table below describes the percentage of teachers and students that have mastered the individual SLOs tested in the Urdu assessment from the control and treatment groups. The analysis below will be focussed on the children’s performance as teachers from both the group have performed overall well.

TABLE 15: SLO-WISE STUDENT PERFORMANCE IN URDU - KHYBER PAKHTUNKHWA

SLOs	Control		Treatment	
	Student	Teacher	Student	Teacher
Reading	75%	100%	51%	98%
Writing	43%	100%	24%	89%
Lexical	41%	92%	28%	85%

Reading

Overall, students from the control group have performed comparatively better than students from the treatment group, accumulating near 70% or above in both of the SLO's under the reading skills. However, students from the treatment displayed an average performance in reading and comprehension SLOs.

- **Writing**

Students from both groups have not shown encouraging results in this area. Only students from the control group managed to get average marks in one SLO related to 'understanding narratives from the lesson'. Rest of students from both the group did not even manage to display even average scores. Both the group have displayed low scores in 'making sentences'. Similarly, students from both the groups scored poor marks in 'understanding poetry', in particular students from the treatment group scored very low under this area. Students from the treatment group also displayed poor marks in 'identifying activities from the lesson' and 'writing prepositions', where students from the control group displayed average scores.

- **Lexical**

Students from the control group have displayed above average results in most of the SLOs under this area, except very poor performance in 'identifying synonyms and antonyms', and slightly below average in identifying 'masculine-feminine'. However, in contrast, students from the treatment group only managed to get slightly above average results in only two areas i.e. using 'prepositions, copulative, conditional and penalty words, and in 'converting plurals to singles'. In the rest of the SLOs, students from the treatment group displayed poor results, in particular, an SLO where children from the control group also displayed poorest results i.e. 'identifying synonyms and antonyms'. Moreover, the teachers from the treatment group also need to focus on their learning regarding 'correct use of punctuations'.

4.1.5.3b Recap

Results from the Urdu assessment indicated the following:

- Students from both groups need to improve their understanding of drawing activities from poetry, sentence making, and the difference between synonyms and antonyms. Other areas that both groups need to focus on are the preposition in fill in the blanks, and identification of Masculine Feminine. Also, more than half of the children from both groups need to improve their learning's of use of punctuations.
- Around half of the students from the treatment, the group need to improve their mastery in reading skills, proper and improper nouns, drawing activities from the lesson, making simple sentences and proper use of active inactive signs.
- Although teachers from both the groups have shown outstanding performance in most of the SLOs, however, performance from teachers of both the group, especially teachers from treatment group is poor in the use of punctuations.

4.1.5.4 Science: Detailed Analysis of Performance

Overall students from the control group performed well in science. More than 70% of the students from the control group accumulated above average score in Science. But only 6% displayed above-average understating of Science under the control group. In contrast, most of the students from the treatment group, about 78%, performed below average in this subject. 19% of students from the treatment group managed to score more than average numbers, with only 2% that scored beyond 75%.

FIGURE 28: PERFORMANCE DISTRIBUTION IN SCIENCE - KHYBER PAKHTUNKHWA

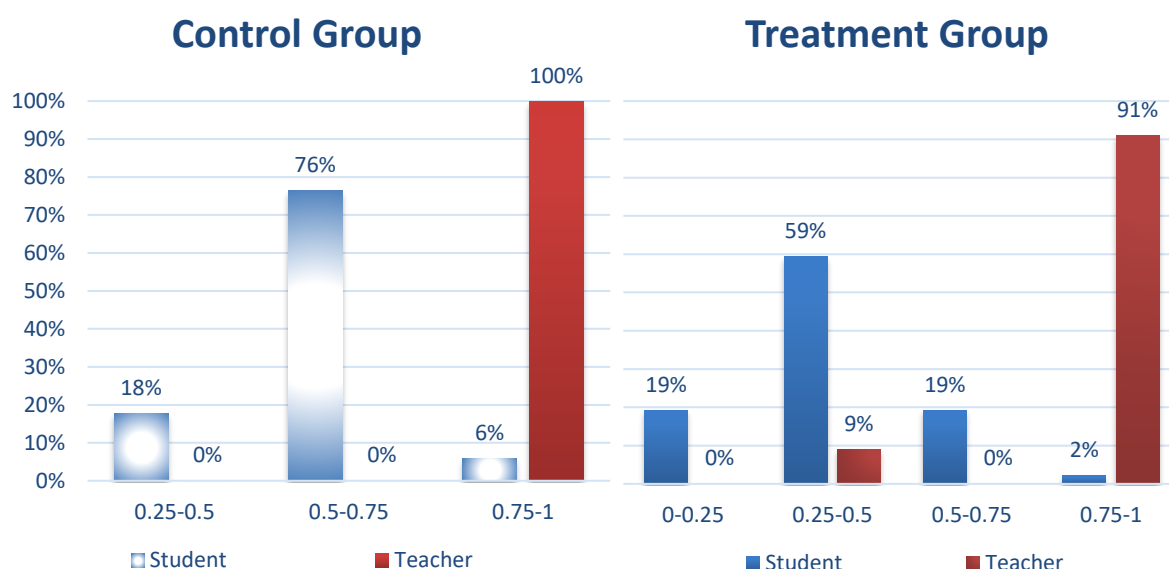


TABLE 16: SLO-WISE STUDENT PERFORMANCE IN SCIENCE - KHYBER PAKHTUNKHWA

SLOs	Control		Treatment	
	Student	Teacher	Student	Teacher
Earth and Space Science	14%	87%	18%	81%
Life Science	68%	92%	38%	78%
Physical Science	62%	94%	42%	86%

4.1.5.4a SLO-wise Student Performance

Overall students from the control group have shown good understanding of life science and physical sciences. However, students from both the groups scored less than 40% in Earth and Space Sciences. A brief description is given below:

- Earth and Space Sciences

This strand of the science curriculum has two main SLOs, that displayed contrast in outcomes from students of both the groups, presenting good results under one SLO and low in other. Children from both the groups have shown that they lack understanding on how day and nights are formed due to earth's rotation.

- Life Sciences

Overall performance of teachers from both groups is observed to be satisfactory in this area. However, students displayed deficiencies in some of the SLOs. Students from the control group performed poor in physical characteristics of animals, major parts of the human body and life cycle of plants and animals. Similarly, children from the treatment group performed below average or in pyramids and life cycle of plants and animals, and very poor in producers, consumers and decompress in a food chain, physical characteristics of plants and animals, and life cycle of plants and animals.

- Physical Sciences

Overall students from the control group performed comparatively better than their counterparts in the treatment group. Students from both groups have displayed excellent results in simple machines and the definition of force. Students from the control group performed remarkably well in speed and its related with distance; solid, liquid and gases; Noise and other sounds; insulators and conductors; heat and temperature; and definition of force. Similarly, children from the treatment group performed well in open and closed electric circuit and definition of force.

Above-average results were observed from students of both the groups, in uses of magnets and magnetic materials and magnetic poles. However, really low results were observed from the students of both the groups in electric circuits. Students from the treatment group also displayed low performance in the effects of force and state of matter.

4.1.5.4b Recap

Results from the Science assessment indicated the following:

- Students from both the groups need to improve their learning levels in understanding how day and nights are formed due to earth's rotation, as poorest results have been observed under one strand of this SLO from both the sides
- Students from control need to improve their learning level in physical characteristics of animals, major parts of the human body and life cycle of plants and animals. Similarly, students from treatment group need to improve their learning levels in almost half of the SLOs in Life Sciences.
- Students from both the groups need to majorly improve their learning level in understanding Electric Circuits, as control group and treatment group scored a mere 6% and 3% respectively in this SLO.
- Low learning achievements from students of the treatment group in identifying State of Matter, Insulators and Conductors and Effects of Force, while average results were observed in Noise and other sounds, Heat and Temperature and definition of matter.

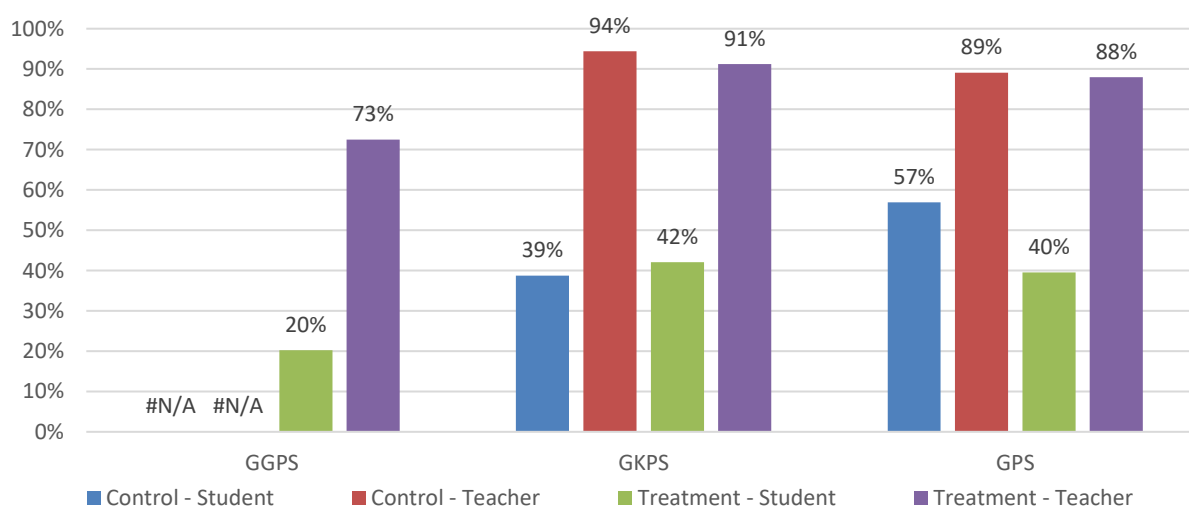
4.1.6 A Closer Look at School Performance by School Type

Overall, the teachers from the Government Kailash Primary School (GKPS) have shown good mastery in all of the four subjects, with teachers from Government Primary

Schools (GPS) just trailing behind. Teachers from the Government Girls Primary Schools (GGPS) comparatively performed less than both of the aforementioned, but it cannot be labeled as poor. Overall there is no evidence on the correlation between the performance of teachers and the students in GKPS and GPS schools.

However, there seems to be a clear relationship between the performance of teachers as relative to their students in GGPS Schools, as both the teachers and students have performed comparatively low as compared to rest of the two other groups of the school. In two cases, there seems to be an inverse correlation between the teachers and students' performance under GKPS and GPS. For instance, teachers from the control group in GKPS scored highest marks, but ironically their students performed comparatively low. Similarly, teachers in GPS scored comparatively low marks, but their students performed comparatively higher average marks as compared to two other groups, and this trend can be observed in all four subjects. Students overall performed average or below average in all three school type, with the poorest performance shown by the students from GGPS with the mean score of only 20%.

FIGURE 29: OVERALL AND SUBJECT-WISE MEAN SCORE OF PERFORMANCE BY SCHOOL TYPE - KHYBER PAKHTUNKHWA



There seems to be no or small impact of the PPR intervention on the learning outcomes of the students in the treatment schools, as overall learning outcomes of the students observed to be below average according to the assessments carried out in both type of schools where PPR interventions were made. Improvement in the students learning outcomes can only be assessed if compared with the pre-PPR-intervention baseline of the children learning outcomes. However, feedback from the group discussions points to better retention due to the intervention made by the PPR.

Most of the PPR interventions made in these schools like provision of library, computer and science labs are targeted to improve the learning outcome of the students at the higher grade i.e. grade secondary and onwards Only intervention that would have directly impacted the learning outcomes of the primary grade children is the capacity building of teachers, which

is evident by the learning outcomes assesses by this study as most of the teachers in the treatment group has performed above average in all the subjects. However, it seems that teachers were not able to effectively transfer their knowledge to the students.

FIGURE 30: OVERALL AND SUBJECT-WISE MEAN SCORE OF PERFORMANCE BY SCHOOL TYPE- MATHEMATICS - KHYBER PAKHTUNKHWA

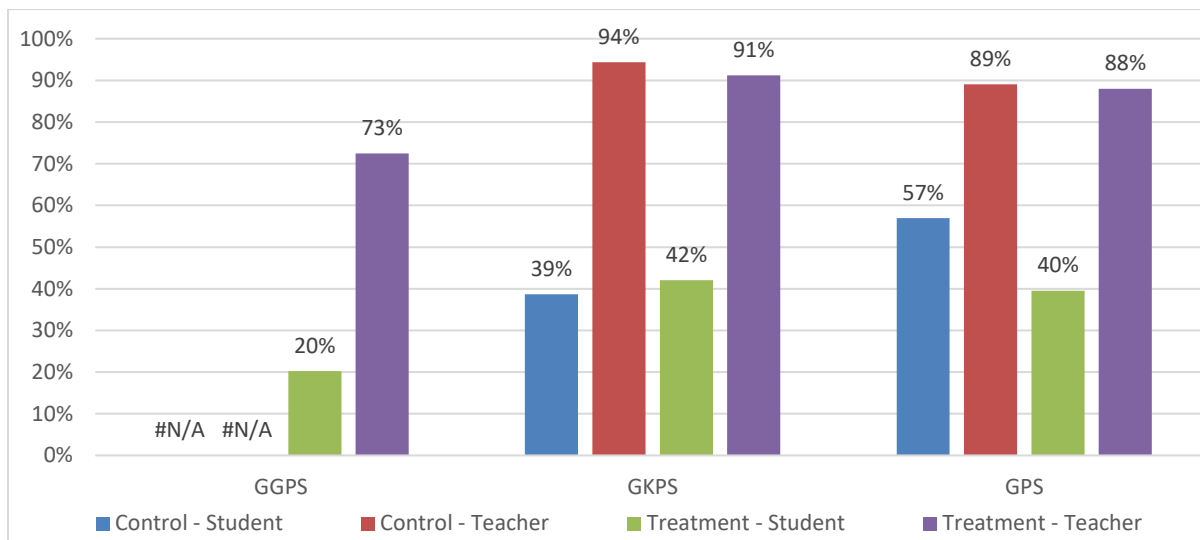


FIGURE 31: OVERALL AND SUBJECT-WISE MEAN SCORE OF PERFORMANCE BY SCHOOL TYPE- ENGLISH - KHYBER PAKHTUNKHWA

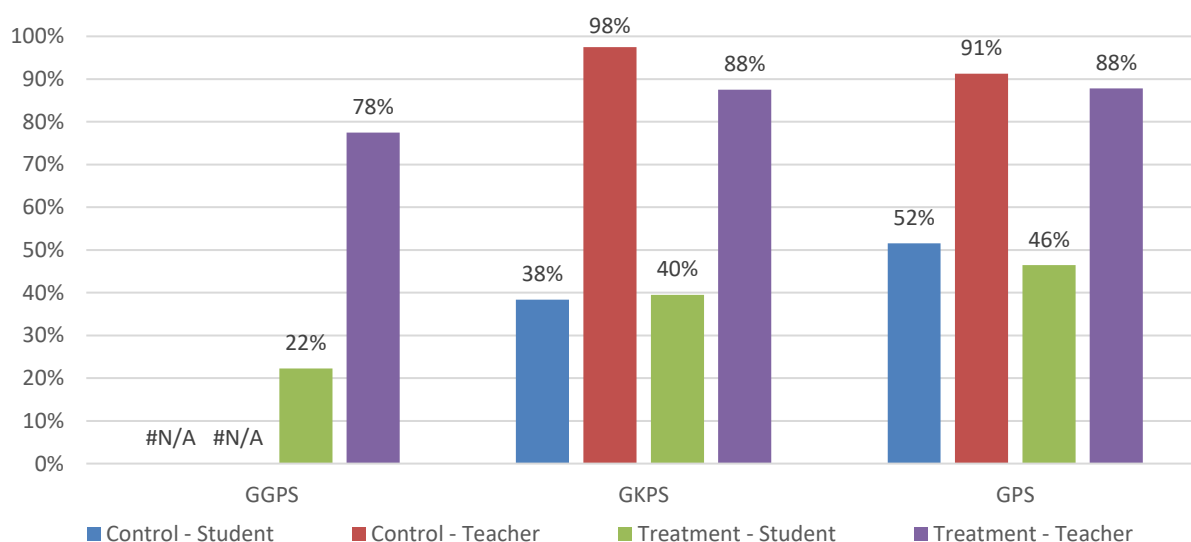


FIGURE 32: OVERALL AND SUBJECT-WISE MEAN SCORE OF PERFORMANCE BY SCHOOL TYPE- URDU - KHYBER PAKHTUNKHWA

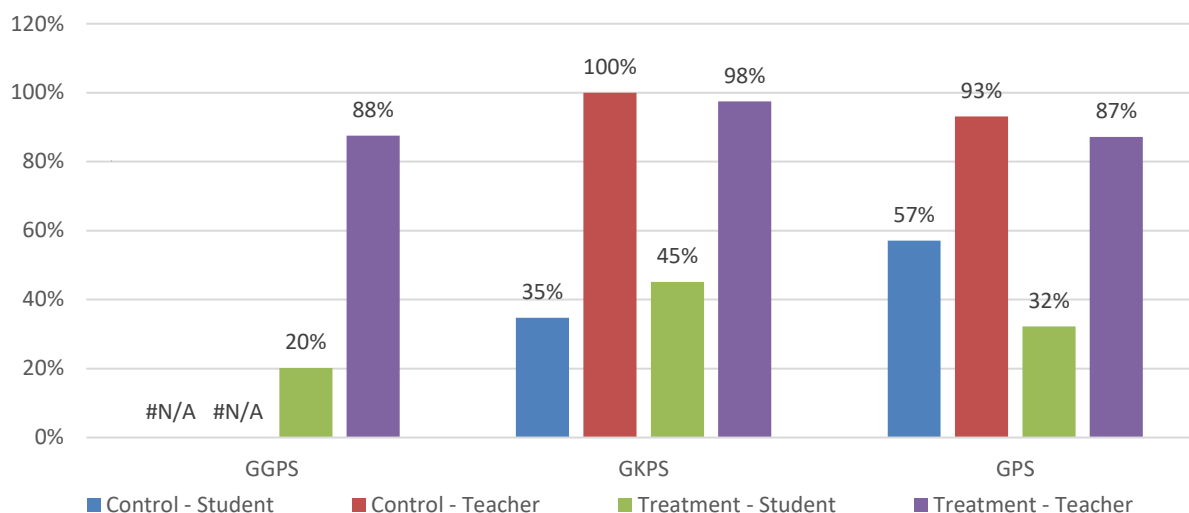
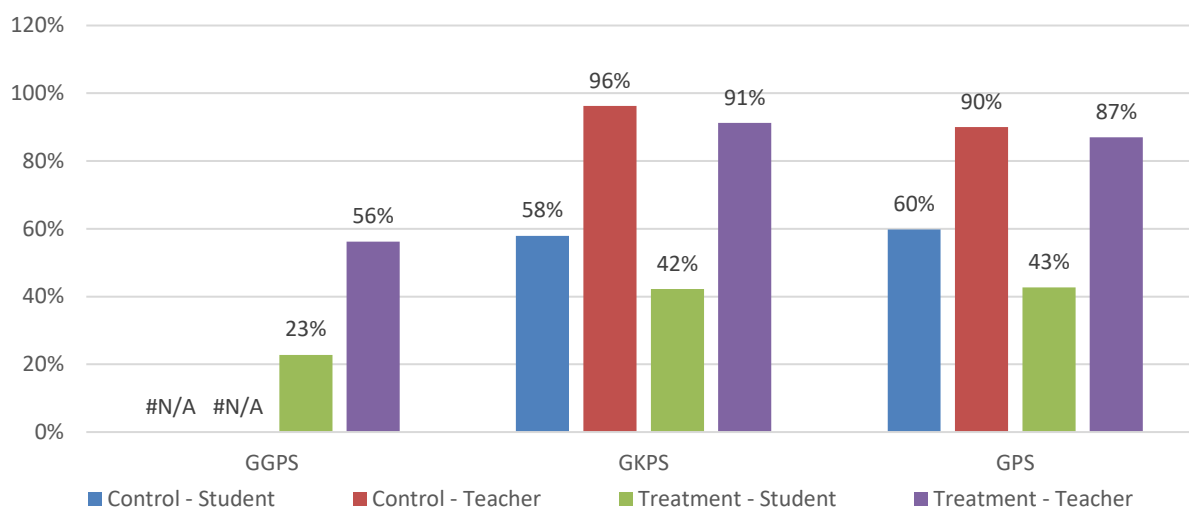


FIGURE 33: OVERALL AND SUBJECT-WISE MEAN SCORE OF PERFORMANCE BY SCHOOL TYPE- SCIENCE - KHYBER PAKHTUNKHWA



4.1.7 Gender Wise Performance Analysis

Overall, male teachers and students fared better compared to the females, with an exception in the control group, where female students have performed slightly better compared to their male counterparts in the same group. However, gender comparison between the teachers from the treatment and control group cannot be made as no female teacher was tested in the control group.

Although the male/female ratio in the sample size of students is observed to be 55%:45% respectively, the sample does present bias in terms of teachers as only 3 teachers were tested as compared to 11 male teachers. Therefore, the analysis and conclusion of a performance by

the male/female students does justify the appropriate distribution, however, the analysis and conclusions based on gender in teachers cannot, therefore, can be termed as inconclusive.

4.1.7.1 Gender Distribution- Subject Wise Mean

FIGURE 34: OVERALL & SUBJECT WISE PERFORMANCE SEGREGATED INTO GENDER - KHYBER PAKHTUNKHWA

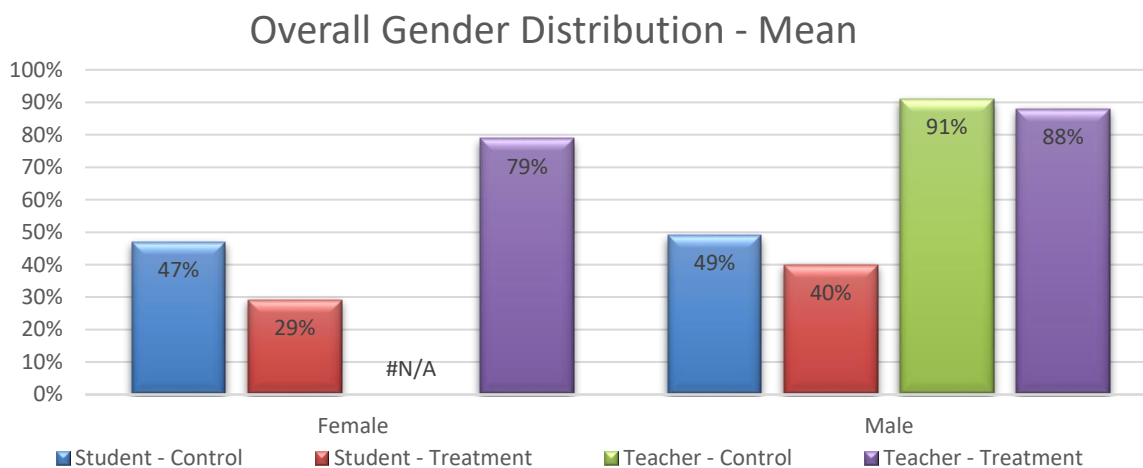
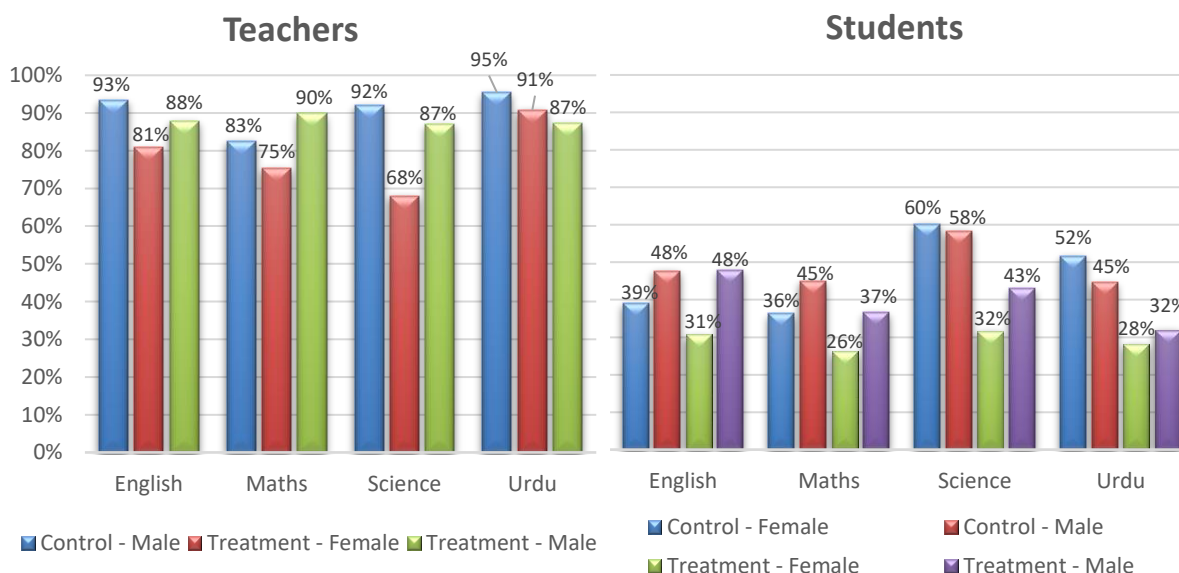


FIGURE 35: OVERALL & SUBJECT WISE PERFORMANCE SEGREGATED INTO GENDER - KHYBER PAKHTUNKHWA



Chapter 5. FINDINGS AND ANALYSIS FOR BALOCHISTAN

5.1 Headline Results of the Assessment in Balochistan

This section presents assessment results for the total sample of students, i.e. those tested in control and treatment groups, in Government Schools of Gwadar.

5.1.1 Overall Performance

The figure below presents a comparison between the teachers and student learning outcomes from the control and treatment group showing overall mean score across all subjects. According to the data, overall teachers from the treatment group have displayed better performance in all the subjects as compared to teachers from the control group. All the teachers from the treatment group have accumulated 60% or above in three subjects, except in Science.

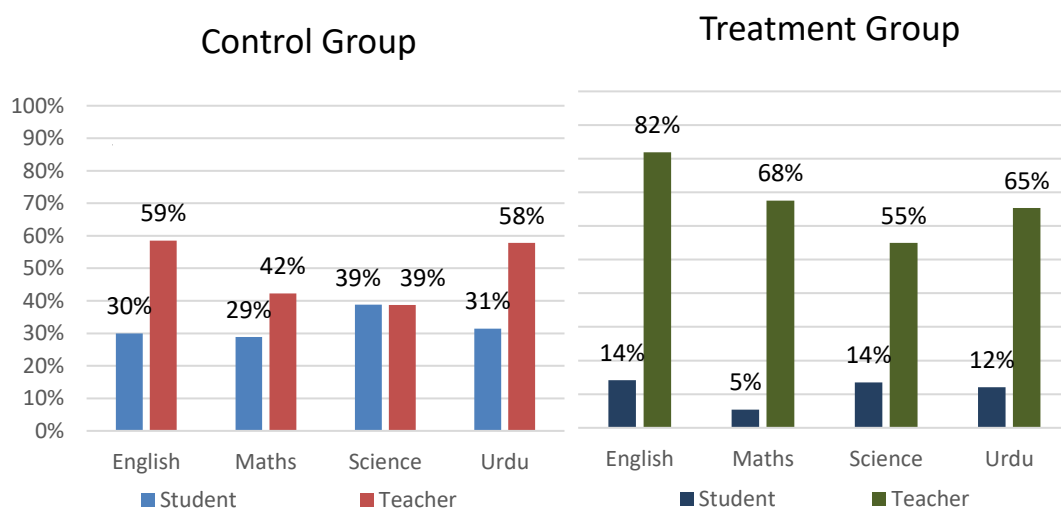


Teachers from the control group have scored less than 60% marks in the entire subject, with the lowest of 39% in Science.

Students from the control group have displayed better results as compared to the students of treatment group, accumulating mean value of around 30%, with the exception in Science where their mean score is close to 40%. In comparison, the students from the treatment group were not able to accumulate the mean score of more than 15% in any subject, with the lowest of 5% in Mathematics.

Although teachers from the control group have accumulated comparatively low scores as compared to teachers from the treatment group, their students have scored comparatively higher results in comparison with the students from the treatment group. In other words, the learning gap between students and teachers from the control group is less than the learning gap between the students and teachers from the treatment group.

FIGURE 36: MEAN SCORES IN ENGLISH, MATHEMATICS, SCIENCE AND URDU IN 2020, BALOCHISTAN



5.1.2 Overall Performance Distribution

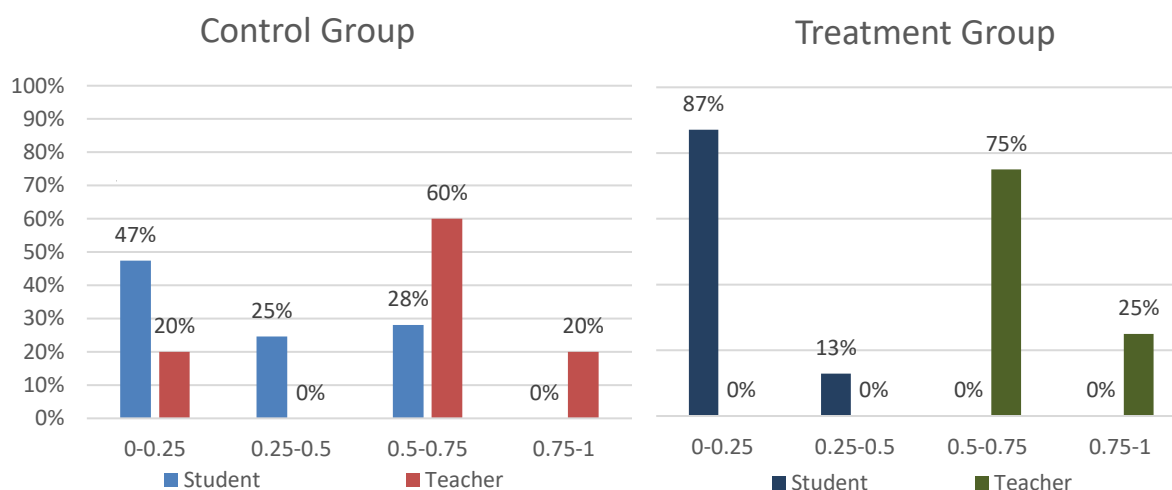
To examine performance distribution, four categories of achievement were identified:

- Above 75%
- 51 – 75%
- 26 – 50%
- 0 – 25%

Figure 28 shows the distribution of teachers and students’ performance across all subjects, indicating that 47% students in the control group and an overwhelming amount of more than 85% students in the treatment group have accumulated mean score of less than 25% in all subjects. In other words, students from the treatment group do not have a comprehensive understanding of more than 75% of the curriculum or SLOs for Grade 4. More than 25% of the students in the control group have managed to accumulate a mean score of 50%, however, no student from the treatment group managed to score above 50% marks in any subject. It has emerged that there is a pressing need for extensive interventions to improve the mastery level of students, especially in the treatment group.

Around 75% of teachers from the treatment group and 60% of the teachers from the control group have accumulated more than 50% mean score in all the subjects. Only 25% of teachers from the treatment group and 20% of teachers from the control group managed to accumulate a mean score of more than 75% in all the subject. Around 20% of teachers from the control group did not manage to accumulate the mean score of more than 25% in all the subjects.

FIGURE 37: OVERALL PERFORMANCE DISTRIBUTION CATEGORIES IN BALOCHISTAN



5.2 Performance Distribution by Subject

Performance distribution of teachers and students is shown in four different charts across each of the subjects. Around $\frac{3}{4}$ of the teachers from the treatment, the group have accumulated more than 50% or above marks in all the subjects. In comparison, only half of the teachers from the control group managed to accumulate more than 50% or above marks. Around 60% and 20% of teachers from the control group scored less than 50% marks in Mathematics and English respectively.

Despite the low score from the teachers of the control group, their students have comparatively fared well as compared to the students from the treatment group. In Mathematics, 20% of teachers from the control group scored less than 25% marks and only 40% managed to score more than 50% in the same group. In comparison, all the teachers from the treatment group scored more than 50% marks in the same subject. However totally contrary results were displayed by the students of the treatment group, where more than 90% of the students scored less than 25% marks in Mathematics. Similarly, in the control group, 60% of students scored less than 25% marks in this subject. Although teachers from the control group have performed comparatively better than teachers from the treatment group, however, it is important to note that no teacher from control group managed to score more than 75% marks in Mathematics, but 2% of their students did.

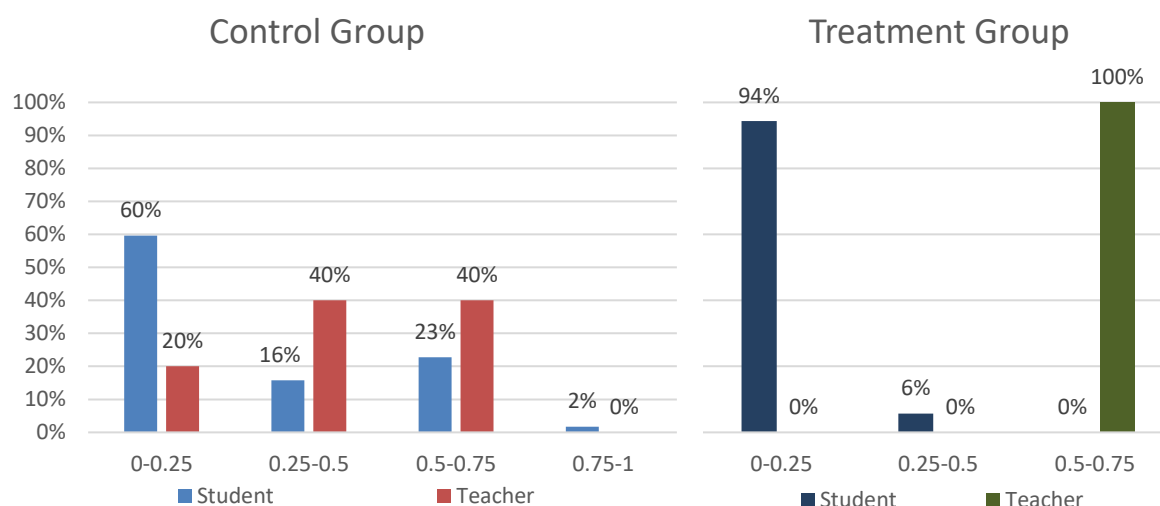
In English, a similar pattern can be observed in the treatment group where $\frac{1}{3}$ of the teachers in this group scored more than 75% marks and contrary around 80% of their students scored less than 25% marks. Students from the control group have displayed comparatively better results in this subject. Only 28% of students from the control group and 12% of the treatment group managed to score more than 50% marks in English. Around 20% of teachers from the control group scored less than 25% marks in this subject.

In Urdu, 50% of teachers from the control group and only 25% of teachers from the treatment group managed to score more than 75% marks. Around 60% of students from the control group and 15% of students from the treatment group scored marks between 25- 50% in this subject. More than 80% of students from the treatment group scored less than 25% marks and no student from this group managed to score more than 50% marks in Urdu. No students from both the group managed to score more than 75% in this subject.

In Science, teachers from the treatment group have displayed comparatively better results as compared to teachers from the control group. Around 1/3 teachers from the treatment group scored more than 75% marks, as compared to none from the control group in this subject. More than half of the teachers from the control group scored 50% or less in Urdu. More than 80% of students from the treatment group and 37% from the control group scored less than 25% marks in this subject. Only 21% of students from the control group managed to score more than 75% marks in Science.

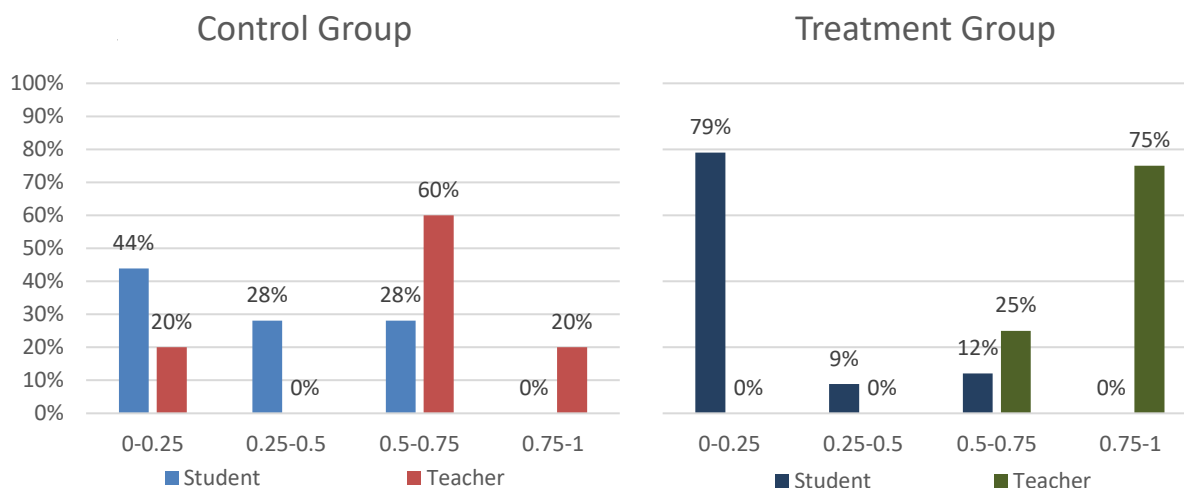
Mathematics

FIGURE 38: SUBJECT WISE PERFORMANCE DISTRIBUTION – MATHEMATICS – CATEGORIES - BALOCHISTAN



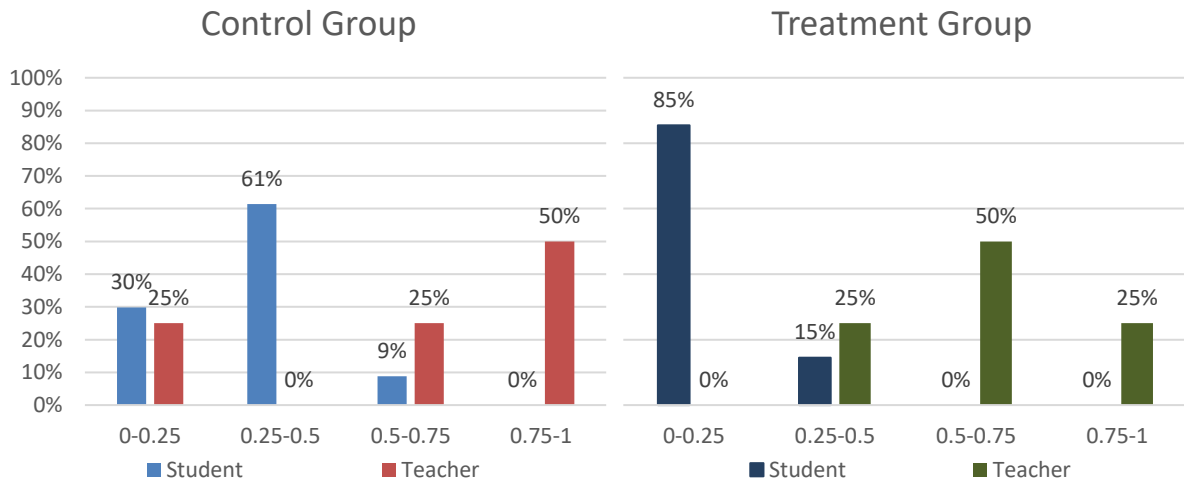
English

FIGURE 39: SUBJECT WISE PERFORMANCE DISTRIBUTION – ENGLISH – CATEGORIES - BALOCHISTAN



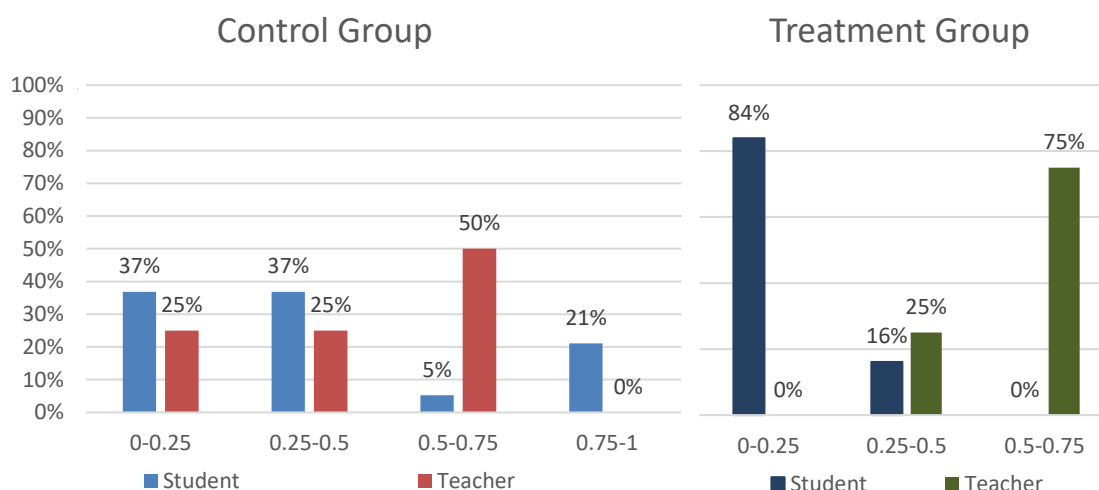
Urdu

FIGURE 40: SUBJECT WISE PERFORMANCE DISTRIBUTION – URDU – CATEGORIES - BALOCHISTAN



Science

FIGURE 41: SUBJECT WISE PERFORMANCE DISTRIBUTION – SCIENCE – CATEGORIES - BALOCHISTAN



5.3 Overall Performance According to Cognitive Level

Overall teachers from the treatment group performed comparatively well under all three cognitive levels, except for understanding and knowledge in Urdu and Science. Teachers from the control group scored less than 50% in under understanding in Mathematics, Urdu and Science, under knowledge and application in Mathematics and Science.

In Mathematics, students from the control group fared well, scoring 40% as compared their teachers who scored 37% under knowledge. Students from the treatment group scored less than 10% under all cognitive levels in this subject. In contract, their teachers scored more than 60% in each cognitive category.

Teachers from the treatment displayed good mastery in understanding, knowledge and application of English, scoring 93%, 83% and 79% respectively under these categories. However, their students did not manage to perform well in any of the cognitive categories. Teachers from the control group scored slightly above 50% in all cognitive categories and their students scored 39%, 43% and 27% under Understanding, Knowledge and Application respectively.

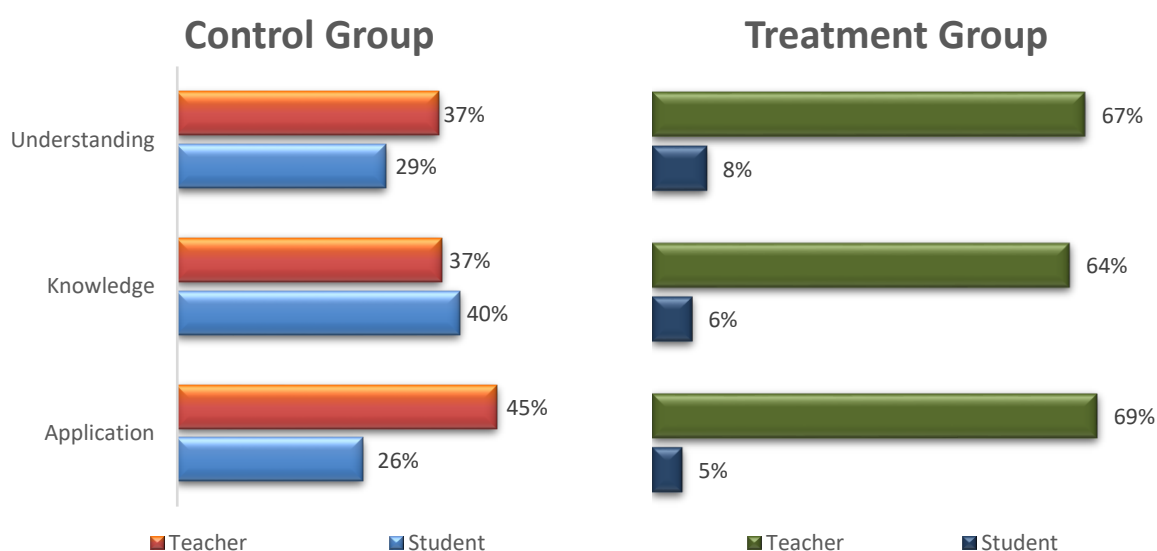
Teachers from the treatment group displayed good mastery in application scoring 78% under this category in Urdu, however, scored average and below-average scoring of 58% and 38% in understanding and knowledge respectively. Students from the treatment group, however, once again displayed low learning outcomes in all three cognitive categories, with the lowest of only 1% under the knowledge category. Teachers from the control group scored less than teachers from the treatment group scoring 57% and 58% understanding and application respectively. However, under knowledge category teachers from the control group scored 75%, which was about 50% more than teachers from the treatment group. Students from

the control group scored below average, but overall fared well under all cognitive categories as compared to the students from the treatment group.

In Science, teachers from both the group scored below average results under all three cognitive categories, except slightly better score by the teachers from the treatment group under knowledge category where they scored 64% marks. Students from the treatment group scored 9%, 17% and 7% under understating, knowledge and application respectively. Students from the control group displayed overall average results in all three categories, however, they scored 14% higher in the understanding category as compared to their teachers.

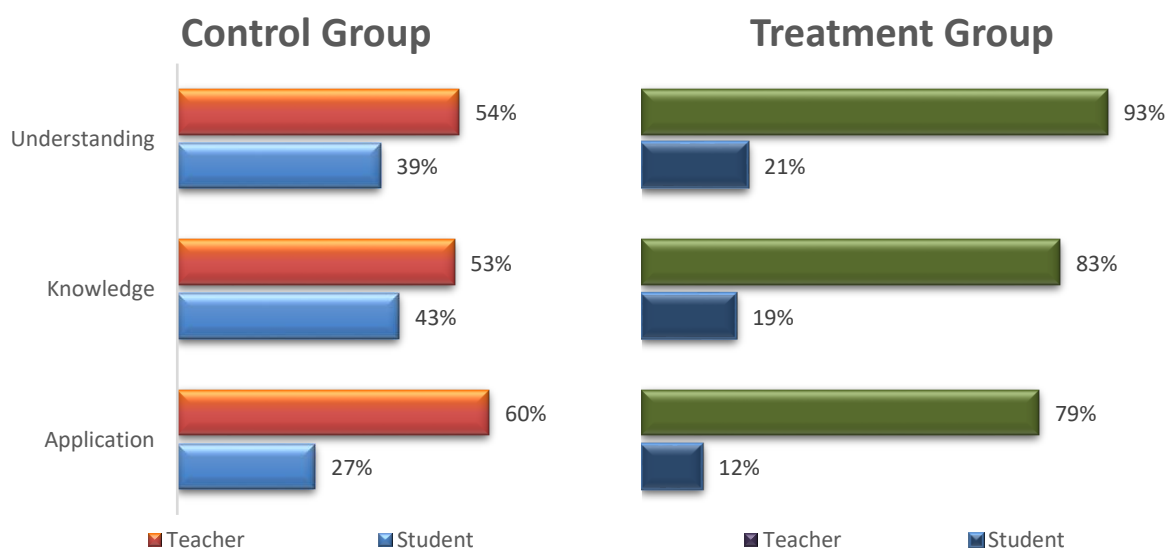
Mathematics

FIGURE 42: PERFORMANCE BY COGNITIVE LEVELS – MATHEMATICS - BALOCHISTAN



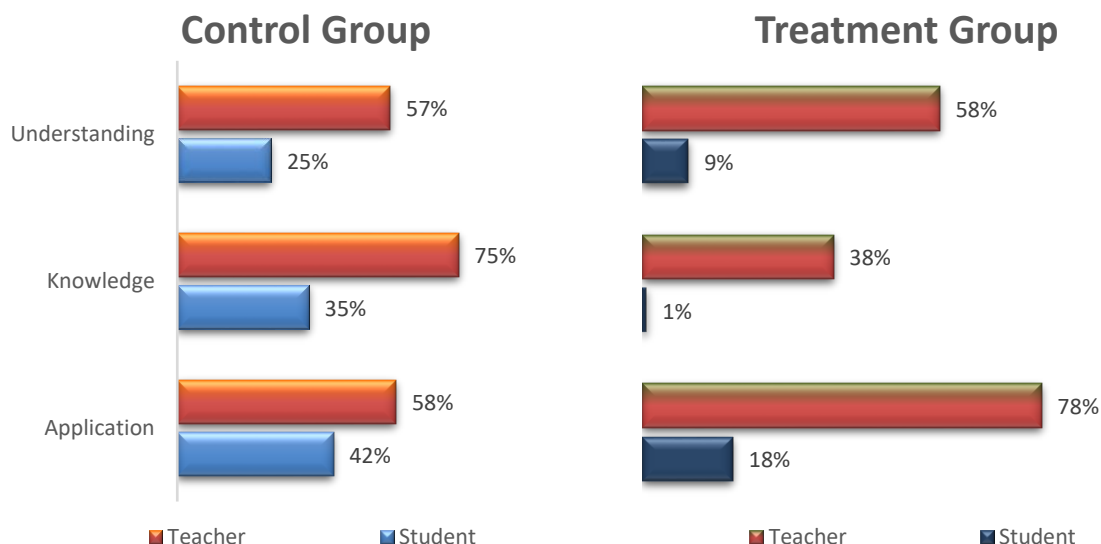
English

FIGURE 43: PERFORMANCE BY COGNITIVE LEVELS – ENGLISH



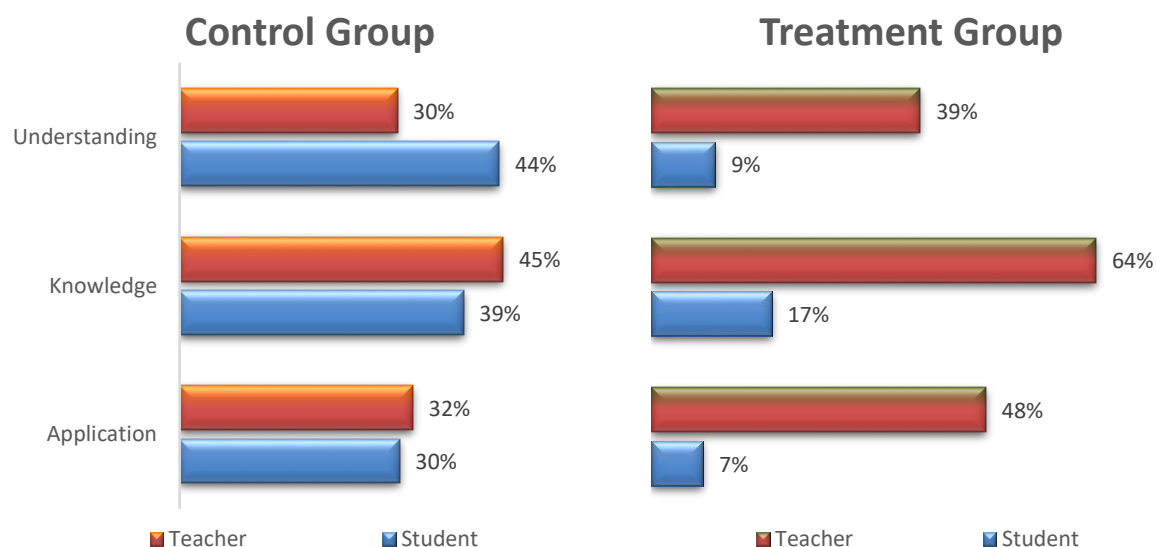
Urdu

FIGURE 44: PERFORMANCE BY COGNITIVE LEVELS – URDU - BALOCHISTAN



Science

FIGURE 45: PERFORMANCE BY COGNITIVE LEVELS – SCIENCE - BALOCHISTAN



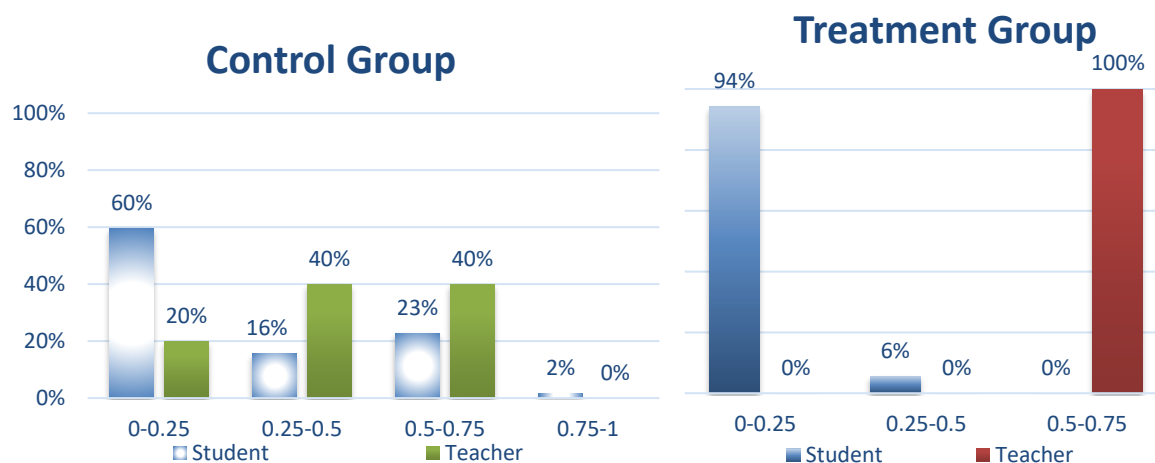
5.4 Subject-wise Performance

This section is comprised of an item-wise analysis of each subject based on the SLOs. The analysis is aimed to provide decision-makers with a detailed analysis on where to focus their efforts to improve the mastery level of the students. In particular, the section is focused on identifying gaps related to students' learning. Segregated information on teachers and students' performance is presented in the tables and charts in this section.

5.4.1 Mathematics: Detailed Analysis of Performance

Overall, more than 60% of students from the control group and a large number of students i.e. 94% from the treatment group scored less than 25% marks in Mathematics. Only 25% of students from the control group managed to score more than 50% in this subject and 16% scored between 25-50%. All the teachers from the treatment group performed well and scored more than 75% in Mathematics, however, in comparison only 40% of teachers from the control group managed to score more than 50%.

FIGURE 46: PERFORMANCE DISTRIBUTION IN MATHEMATICS - BALOCHISTAN



5.4.1a SLO-wise Performance in Mathematics

The table below shows the percentage of students from both the groups that mastered the individual SLOs tested in the mathematics assessment.

TABLE 17: SLO-WISE STUDENT PERFORMANCE IN MATHEMATICS - BALOCHISTAN

SLOs	Control		Treatment	
	Student	Teacher	Student	Teacher
Geometry	16%	24%	3%	37%
Information Handling	24%	37%	2%	75%
Measurement	37%	40%	6%	75%
Numbers and Operations	31%	50%	7%	74%

Geometry

Teachers from the control and treatment groups displayed average results in Geometry, scoring 24% and 37% respectively. Students from the control group scored 16% and students from the control group scored only 3% under this learning objective.

Information Handling

Teachers from the treatment group displayed good mastery in Information Handling, accumulating 75% marks under this category, however, teachers from the control group only managed to score almost half in comparison. Contrary to the good mastery shown by the treatment group teachers, their students however did not manage to perform well and scored only 2% under this learning objective. Students from the control group also displayed an average result accumulating 24% marks in this category.

Measurements

Teachers from the treatment group displayed good mastery in Measurements, accumulating 75% marks under this category, however, teachers from the control group only managed to score 40% in comparison. Contrary to the good mastery shown by the treatment group teachers, their students however did not manage to perform well and scored only 6% under this learning objective. Students from the control group also displayed an average result accumulating 37% marks in this category.

Numbers and Operations

Teachers from the treatment group displayed good mastery in Measurements, accumulating 74% marks under this category, however, teachers from the control group only managed to score less than half in comparison. Contrary to the good mastery shown by the treatment group teachers, their students however did not manage to perform well and scored only 7% under this learning objective. Students from the control group also displayed an average result accumulating 31% marks in this category.

5.4.1b Recap/recommendations

Results from the mathematics assessment indicated:

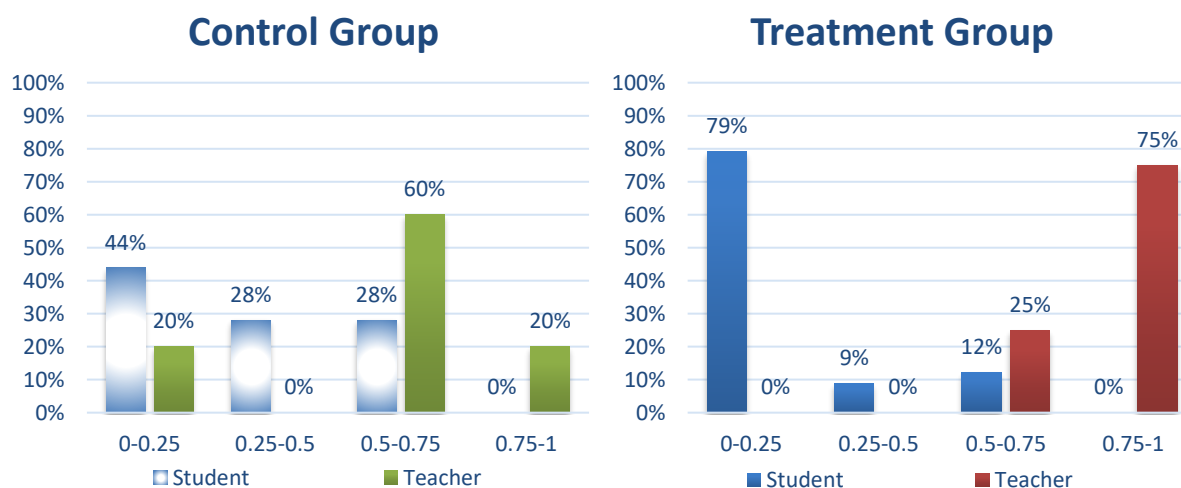
- Overall students from both the groups need to improve their learning abilities in almost all of the SLOs in Mathematics, except few under the control group;
- Under Geometry, learning achievements of students from both the groups needs to be improved in:
 - *recognizing parallel and non-parallel lines*
 - *drawing squares and rectangles with sides of the given measure*
 - Learning achievements of students from the treatment group needs to be improved in:
 - *identifying acute and obtuse angles of different measures using the protractor*
 - *calculating centre, radius, diameter and circumference of a circle*
 - Under Information Handling, learning achievements of students from the treatment group needs to be improved in:
 - *reading and interpreting the line graph*
 - *reading and interpreting simple bar graphs*
- Under Measurements, learning achievements of the students in both groups needs to be improved in:
 - *real-life problems involving conversion, addition and subtraction of units of time*
 - Learning achievements of students from the treatment group needs to be improved in:
 - *converting hours to minutes and minutes to seconds*
 - *converting liters to milliliters*
 - *units to measure the capacity/ volume of different objects*
 - *units to measure the mass/ weight of different objects*
 - Under Numbers and Operations, learning achievements of students from both the groups needs to be improved in:

- *dividing a fraction by another fraction*
- *subtracting fractions with unlike denominator*
- *identifying two unlike fractions by converting them to equivalent fractions with the same denominator*
- *calculating unit, proper, improper and mixed fractions*
- Learning achievements of students from the treatment group needs to be improved in:
- *dividing numbers up to 4 digits by numbers up to 2 digits*
- *converting fraction to a decimal*
- *sorting fractions in ascending and descending order*
- *calculating HCF of two or more 2-digit numbers*
- *converting improper fraction to mixed fraction and vice versa*
- *calculating LCM*
- *multiplying numbers up to 5 digits by numbers up to 3 digits*
- *writing numbers up to one hundred million*
- *identifying place value of a digit in decimals*
- *identifying place values of digits up to one hundred million*
- *identifying prime and composite numbers*

5.4.2 English: Detailed Analysis of Performance

One-third of the teachers from the treatment group scored more than 75% marks in English as compared to 20% of teachers from the control group. Around 80% of students from the treatment group and more than 40% of the control group scored less 25% marks in this subject. Only 28% of students from the control group and 12% of students from the treatment group managed to score more than 50% marks in English. 28% of students from the control group and 9% from the treatment group scored between 25-50%.

FIGURE 47: PERFORMANCE DISTRIBUTION IN ENGLISH - BALOCHISTAN



5.4.2a SLO-wise Performance

The table below describes the percentage of students who have mastered the individual SLOs tested in the English assessment in.

TABLE 18: SLO-WISE STUDENT PERFORMANCE IN ENGLISH - BALOCHISTAN

SLOs	Control		Treatment	
	Student	Teacher	Student	Teacher
Reading	38%	40%	17%	83%
Writing	5%	57%	2%	66%
Lexical	45%	65%	22%	93%

- **Reading**

Teachers from the treatment group displayed good results, accumulating more than 80% marks in English reading, as compared to only 40% teachers from the control group. However inverse scenario is observed where students from the control group performed better than the students from the treatment group. Students from the treatment group only scored 2% less than their teacher, however the learning gap between the teachers and students of the treatment group is more than 65%.

- **Writing**

In writing, teachers from the treatment group scored 66% marks as compared to 57% from the control group teachers. Students from both the group displayed low scores in English writing, accumulating only 5% and 2% marks by the students from the control group and the treatment group respectively.

- **Lexical**

Teachers from the treatment group score more than 90% marks under English lexical, in comparison teachers from the control group scored 65% marks. Students from the control group scored 45% marks as compared to 22% marks from the students of treatment group. The learning gap between the teachers and students of control group is 20% as compared to more than 70% between the teachers and students of treatment group.

5.4.2b Recap/recommendations

Results from the English assessment showed:

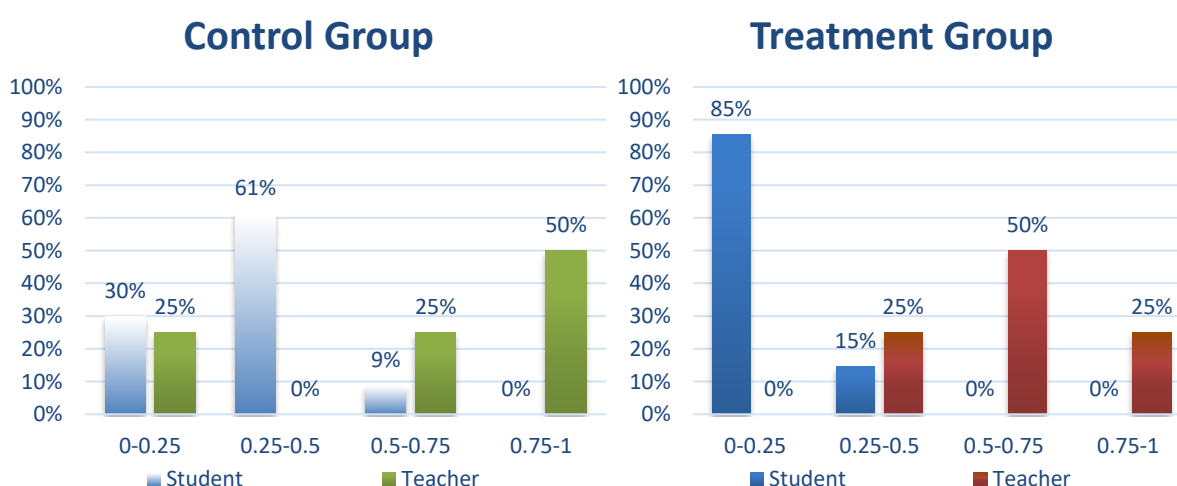
- Teachers from the control group need to improve their knowledge in the following areas:
 - *Reading*
 - *Descriptive, narrative and expository paragraphs*
 - *Adjectives*
 - *Simple pairs of words including homophones*
 - *Verbs*
- There is significant room for improvements under some of the SLOs for students from both the groups.

- Students from both the groups need to improve their writing skills in English. All the students from both the group score 0% under descriptive, narrative and expository paragraphs
- Teachers from the control group have shown overall average results in English subject and hence need to improve their knowledge in English language
- Most of the students from the treatment group need to improve their knowledge in English Language, as they scored overall below average results in this Subject.
- Although teachers from the treatment group have displayed good mastery in the English language, but it seems that they were not able to transfer their knowledge to the students, as big learning gap has been observed in this group. Teachers need to review their classroom practices and teaching methodologies to decrease the learning gap in English language.

5.4.3 Urdu: Detailed Analysis of Performance

In Urdu, half of the teachers from the control group score more than 75% marks, as compared to 25% teachers from the treatment group. 25% of the teachers from the treatment group displayed average results scoring less than 25% in this subject. Similarly, 25% of the teachers from the control group display below average results, scoring less than 25% in Urdu Language. More than 60% Students from the control group displayed average and 30% displayed below average results scoring between 25-50% and below 25% respectively. Similarly, most of the students i.e. 85% from the treatment group displayed below average results scoring less than 25% marks in Urdu language. Only 15% students from the treatment group managed to score more than 25% marks in this subject

FIGURE 48: PERFORMANCE DISTRIBUTION IN URDU - BALOCHISTAN



5.4.3a SLO-wise Performance

The table below describes the percentage of teachers and students that have mastered the individual SLOs tested in the Urdu assessment from the control and treatment groups. The

analysis below will be focussed on the children’s performance as teachers from both the group have performed overall well.

TABLE 19: SLO-WISE STUDENT PERFORMANCE IN URDU - BALOCHISTAN

SLOs	Control		Treatment	
	Student	Teacher	Student	Teacher
Reading	48%	67%	24%	75%
Writing	35%	64%	8%	68%
Lexical	25%	53%	11%	61%

- **Reading**

Teachers from the control and treatment group displayed mastery in Urdu reading scoring 67% and 75% respectively under this category. Students from the control group managed to get the average result of 48% in Urdu reading, however, despite good results from their teachers, students from the treatment group managed to score only 24% in Urdu reading. The learning gap between teachers and students of control and treatment groups is 19% and 51% respectively.

- **Writing**

Teachers from the control group scored 64% and teachers from the treatment group scored 68% in Urdu writing. Students from the control group scored 25% and in comparison, students from the treatment group managed to score only 11% in Urdu Writing. The learning gap between teachers and students of control and treatment groups is 21% and 60% respectively.

- **Lexical**

Teachers from the control group scored 53% and teachers from the treatment group scored 61% under lexical. Students from the control group scored 35% and in comparison, students from the treatment group managed to score only 8% in this category. The learning gap between teachers and students of control and treatment groups is 28% and 50% respectively.

5.4.3b Recap

Results from the Urdu assessment indicated the following:

Overall teachers from both the group have displayed slightly better than average results, however, there is the room from improvement. Some of the teachers from both groups need to focus on the following areas:

- *Understanding and drawing narratives from poetry to correct use of punctuations*
- *Differentiate between synonyms and antonyms*

Teachers from the control groups need to improve their knowledge n following areas:

- *Identifying concept, elements and draw conclusions from stories and poems*
- *Writing sentences on any subject*
- *Mastery of simple sentences*

Teachers from the treatment group need to further improve their knowledge in the following areas:

- *Understanding and drawing activities from the lesson*
- *Identifying Masculine and Feminine*

Students from the treatment group have shown overall below average results under all the SLOs in Urdu language and hence need to improve their overall knowledge in the Urdu language.

Although students from the control group have fared well as compared to the student from the treatment group, however, they need to further improve their knowledge in all the SLOs.

5.4.4 Science: Detailed Analysis of Performance

Three-quarters of the teachers from the treatment group and half of the teachers from the control group scored more than 50% marks, however, no teachers from both the groups managed to score more than 75% marks in Science. 25% of teachers from both the group scored between 25-50%. A quarter of the teachers from the control group scored below average scoring less than 25% marks in Science. Around 20% students from the control group managed to score more than 75% marks, 5% scored between 50-75% marks, 37% displayed average results and score between 25-50% and 37% displayed below average results scoring less than 25% marks in science. Majority of the students from the treatment group i.e. 84% scored less than 25% marks and only 16% managed to score between 25-50%.

FIGURE 49: PERFORMANCE DISTRIBUTION IN SCIENCE - BALOCHISTAN

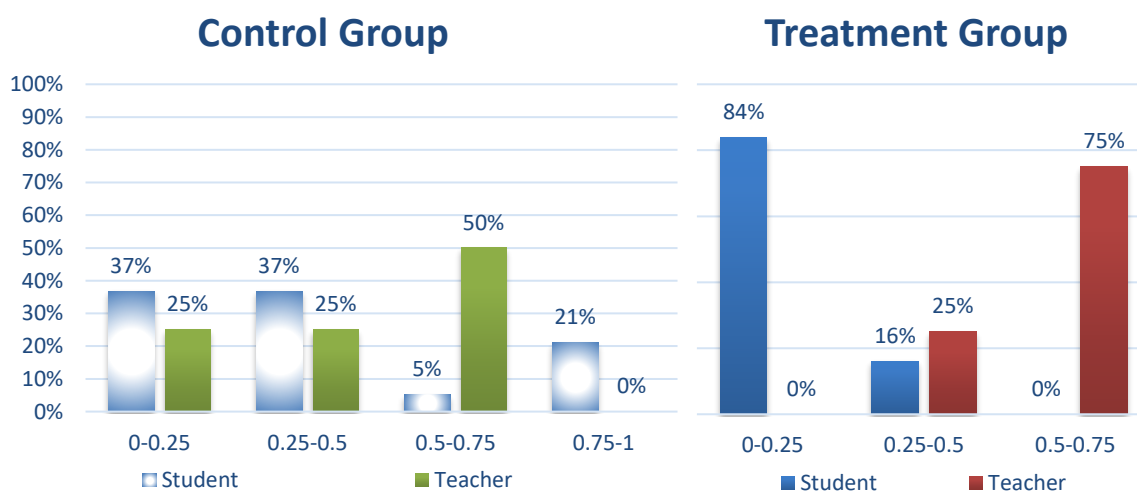


TABLE 20: SLO-WISE STUDENT PERFORMANCE IN SCIENCE - BALOCHISTAN

SLOs	Control		Treatment	
	Student	Teacher	Student	Teacher
Earth and Space Science	31%	10%	5%	15%
Life Science	36%	43%	14%	57%
Physical Science	44%	43%	15%	64%

5.4.4a SLO-wise Performance

Overall students from the control group have shown an average understanding of life science. However, students from both the groups scored less than 40% in Physical Sciences and Earth and Space Sciences. A brief description is given below:

Earth and Space Sciences

Teachers from control and treatment groups have displayed below average results in the knowledge related to Earth and Space Science, scoring only 10% and 15% respectively. The students from the treatment group, also display below average results with the scoring only 5% in this category. Students from the control group however, in contrast with the results from their teachers have shown better results, scoring 31% marks, 21% more than their teachers in this category.

Life Sciences

Teachers from the control group and treatment group scored 43% and 57% respectively in Life Sciences. Students from the control group displayed average results scoring 36% marks and students from the treatment group performed below average and scored only 14% under this category. The learning gap between the teachers and students of the treatment group observed to be more than 40% as compared to 13% in the control group.

Physical Sciences

Teachers from the control group and treatment group scored 43% and 64% respectively in Physical Sciences. Students from the control group displayed average results scoring 44% marks and students from the treatment group performed below average and scored only 15% under this category. The learning gap between the teachers and students of the treatment group observed to be more than 49% as compared to just 1% in the control group.

5.4.4b Recap

Results from the Science assessment indicated the following:

- Teachers from both groups need to further improve their mastery in Science, with a particular focus on improving their knowledge in Earth and Space Sciences.
 - Students from the treatment group need to improve their overall knowledge in Science as they have performed below average under all the SLOs related to Science subject.
- Although students from the control group have displayed better results as compared to the students from the treatment group, however, their overall results are average therefore they need to further improve their knowledge in science with the focus on following areas:
 - Understanding the effect of distance between the Earth and the sun
 - *The relation between the Earth's spin and the occurrence of day and night*
 - *A balanced and unbalanced diet*
 - *The life cycle of a plant and an animal*
 - *Physical characteristics of animals and plants*

- *Producers, consumers and decomposers in a food chain*
- *Pyramid*
- *Effect of 'Force' on the position and the shape of objects*
- *Electric circuit*
- *Heat and temperature.*
- *Insulators and conductors*
- *Magnetic poles (Repel and attract)*

5.5 A Closer Look at School Performance by School Type

Overall teachers from the treatment schools have shown good mastery in all of the four subjects, with teachers from Government Girls Primary Schools (GGPS) performing better. Teachers from the Government Boys Primary Schools (GBPS) comparatively performed less than another school, but it cannot be labelled as poor. Overall there is no evidence on the correlation between the performance of teachers and the students in the schools.

However, there seems to be a clear relationship between the performance of teachers as relative to their students since students have generally scored low as compared to the rest of the other groups of the school. In fact, there appears to be an inverse correlation between teachers and students' performance.

FIGURE 50: OVERALL MEAN SCORE OF PERFORMANCE BY SCHOOL TYPE - BALOCHISTAN

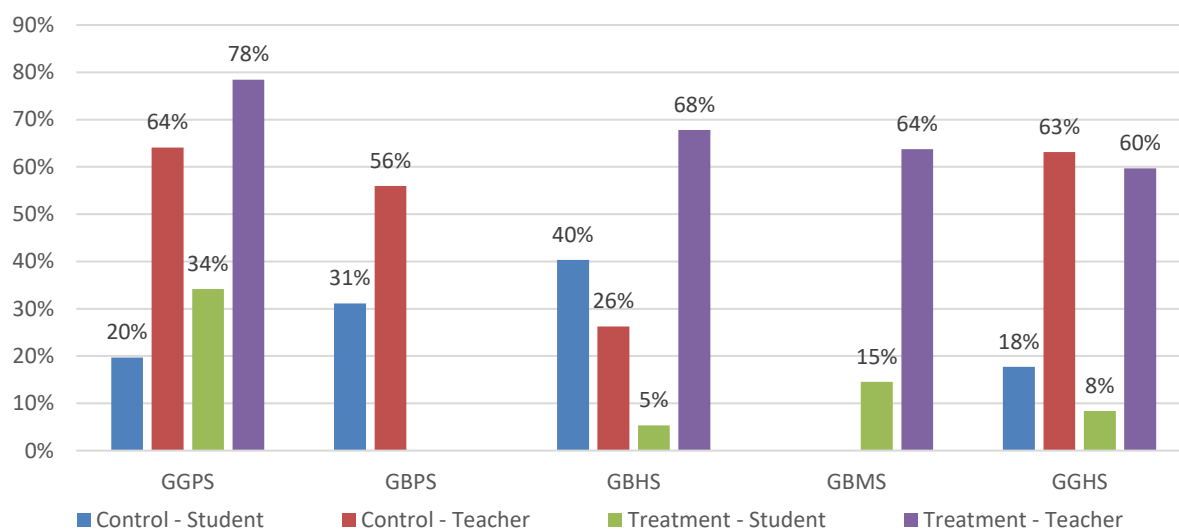


FIGURE 51: OVERALL AND SUBJECT-WISE MEAN SCORE OF PERFORMANCE BY SCHOOL TYPE- MATHEMATICS - BALOCHISTAN

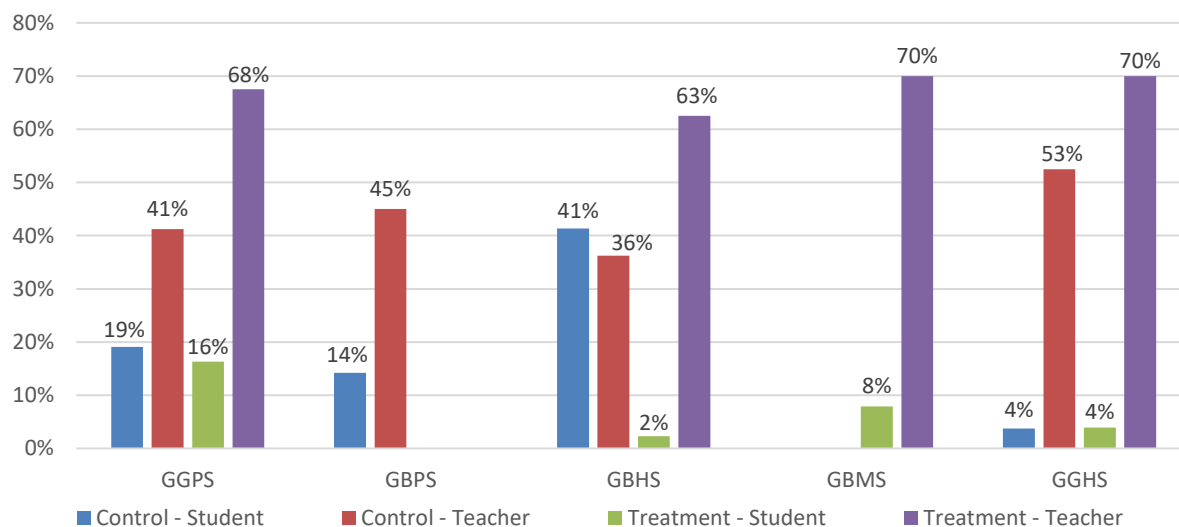


FIGURE 52: OVERALL AND SUBJECT-WISE MEAN SCORE OF PERFORMANCE BY SCHOOL TYPE- ENGLISH - BALOCHISTAN

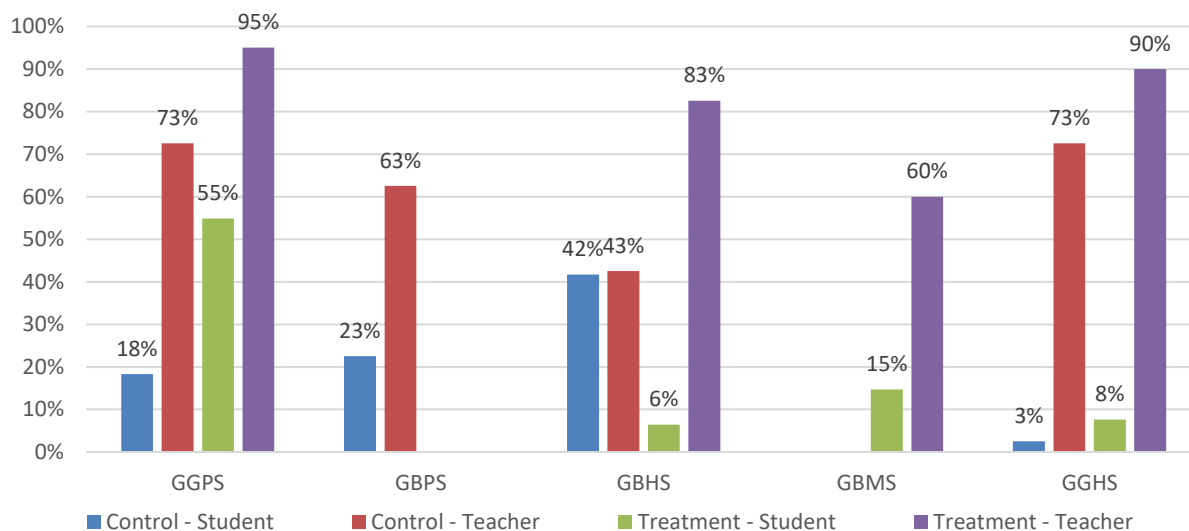


FIGURE 53: OVERALL AND SUBJECT-WISE MEAN SCORE OF PERFORMANCE BY SCHOOL TYPE- URDU - BALOCHISTAN

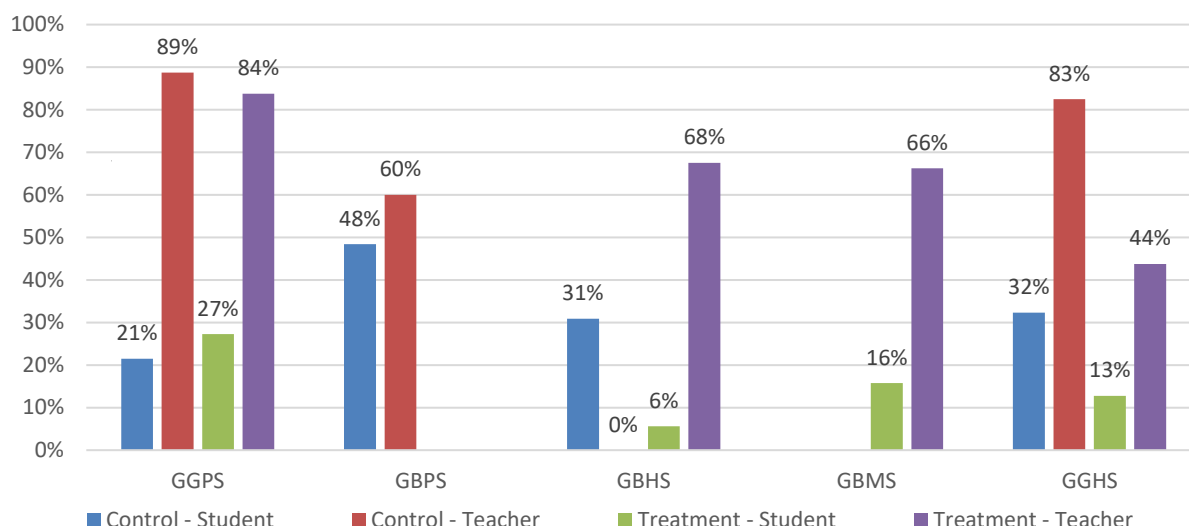
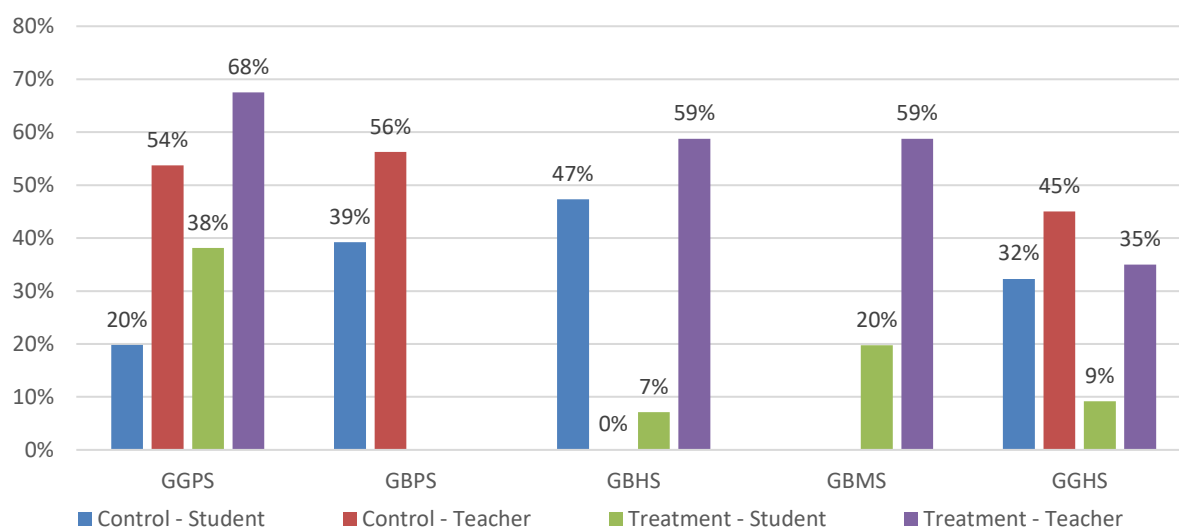


FIGURE 54: OVERALL AND SUBJECT-WISE MEAN SCORE OF PERFORMANCE BY SCHOOL TYPE- SCIENCE - BALOCHISTAN



5.5 Gender Wise Performance Analysis

Both the male and female teachers in the treatment group displayed equal performance levels in all the subjects. Female teachers have scored 69% and male teachers scored 66% in all the subjects, in the treatment group. In the control group, female teachers have performed better than their male counterparts in each subject with the difference of overall 26% between them. Female teachers from the control group have displayed particularly better results from their male counterparts in Urdu, where the performance gap between them is more than 50%. Female teachers in the treatment group performed better than their male counterparts in Mathematics and English subjects, and slightly less than their male counterparts in Urdu and Science.

Overall male students from the control group have performed better than their female counterparts in the same group. In the treatment group, female students performed better than their male counterparts in the same group.

5.5.1 Gender Distribution- Subject Wise Mean

FIGURE 55: OVERALL & SUBJECT WISE PERFORMANCE SEGREGATED INTO GENDER - BALOCHISTAN

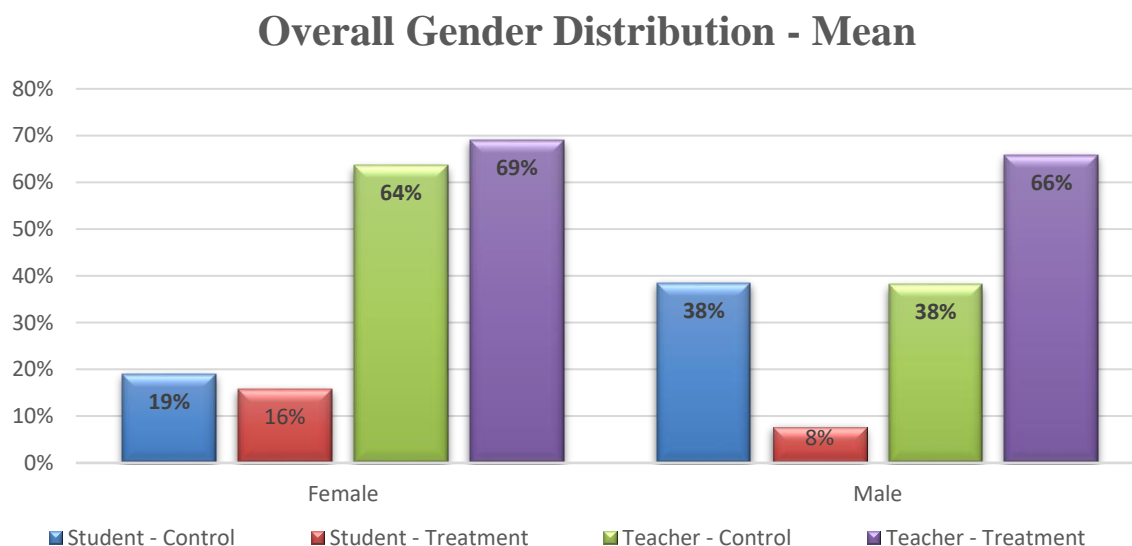
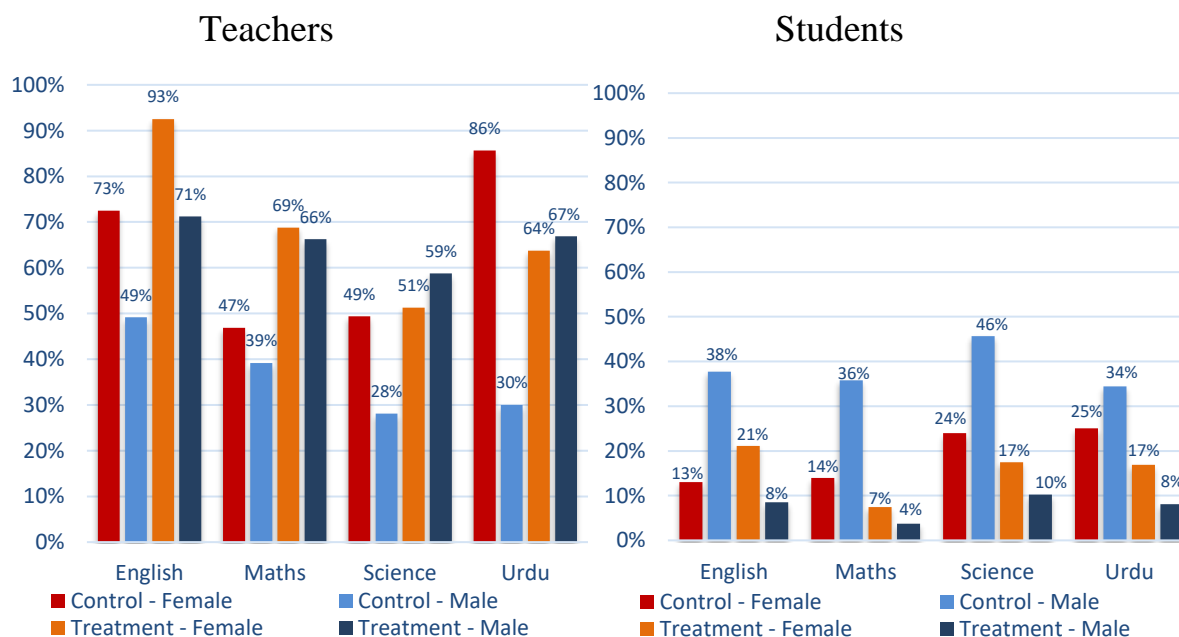


FIGURE 56: OVERALL & SUBJECT WISE PERFORMANCE SEGREGATED INTO GENDER – BALOCHISTAN



Chapter 6. PPR INTERVENTIONS

6.1 Focus Group Discussion Outcomes

Focus group discussions were undertaken at two levels: to assess the use of resources in determining learning outcomes, FGD of High School students and their teachers for IT Resources and Library, and the other with school management committee (SMC) and community members to assess needs of the community in terms of the effect of the provision of resources to schools and their views on it.



High school students in Upper Dir and Chitral of grades 9 and 10 were asked to participate in the focus group related to the provision of IT and library resources in their respective schools through PPR interventions. The coeducational high school in Chitral had a fully functioning IT lab but no library. However, there was no qualified or trained teacher to enable the students to use the lab at its optimal level. The students were helped by other teachers familiar with computers to make presentations and excel sheets. They were not being taught computer studies as a subject. The students were desperate to have an actual teacher teaching them. The

girls and boys fully participated in the discussions. They opined that one of the reasons for attending school was to use the IT lab. The students were troubled that they did not have a fully functional library at their school which would have enabled them to read books on various subjects and increase their knowledge.

In contrast to the Chitral school, the selected girl's high school in Upper Dir had all the equipment to set up a functioning IT lab but it was lying under covers and had not been used since it's the receipt in 2016 due to lack of a trained teacher who could make use of the lab and teach the students. The students lamented the fact that they were unable to make use of computers and learn how to utilise them. There was a library present in the school which had very few books and the students thought that the number of books needed to be increased as there was the desire to read books on different subjects by the students.



Students strongly recommended bigger playgrounds for extracurricular activities, awareness-raising campaigns for parents, especially mothers, so that they can take a greater interest in the schooling activities of their children. Children also requested heaters to combat extreme weather conditions that impeded coming to schools. The focus group discussions with school management committees and community members were performed in Chitral and

Upper Dir each. The results from both the FGDs were very similar. The SMC members thought that interventions in the schools (although they were not specifically aware of who actually made the interventions; the government, the partner organisation or PPR) had a good impact on student retention and in increasing the learning outcomes of the students. The most cited intervention was the increase in the number of teachers (volunteer teachers on contracts) who were able to teach a greater number of students. They also wanted awareness-raising campaigns to be held for parents, particularly mothers since most of the men had jobs in other parts of the country or abroad, to make them realise the benefits of schooling as well as to train them in taking a greater interest in the actual schooling of their children.



The FGD participants were happy over the cementing of playgrounds which they felt was responsible for keeping uniforms clean and was one of the reasons for sending the children to school daily. However, they lamented the fact that the playgrounds were too small for any meaningful sports / extracurricular activity to take place. The lack of classrooms to accommodate all the students in the school (e.g. 4 classrooms for 200 students in Upper Dir and a similar situation in Chitral) lead to students sitting outside classrooms and with the extreme weather conditions that can prevail in these areas, it becomes difficult for the students. The

participants recommended building more classrooms as they felt these respective schools had ample space for the construction of more classrooms (double story).

The participants felt that the interventions related to improvement in sanitation facilities was a big improvement in the condition of the school and encouraged the parents to send their children to school. They also cited the provision of stationary as a positive measure towards school retention since parents are usually unable to provide stationary to the children, especially girls. In Balochistan, focus group discussions were held in GBMS Pishukan and GGHSS Surbandar. There were 8 participants in each FGD. In Pishukan, the participants were all male comprising of 3 parents, 3 SMC members and 2 teachers. In Surbandar, there was female participation from SMC members, including the Head Teacher and 5 male participants including the Chairperson the SMC and 4 parents. The community in Gwadar consists primarily of fishermen families where the men go out to sea for 4-7 days at a stretch and return for 2 days. They also take their male children with them at times to learn the ropes. The children's schooling thus gets negatively affected due to absenteeism.

There was a serious lack of teaching staff in both schools. In Pishukan, the 3 primary school teachers were teaching up to grade 8. This meant that a lot of children had free periods since all the classes cannot be accommodated at one time by the teachers present. The onus of the parenting and schooling was on the women since their men were out at sea for days on end. The education level in the adult fishing community is very low and there is scant emphasis on female education, although this trend now appears to be changing. There is also wide-ranging poverty in the area and an inability to spend on uniforms, stationery and books etc for school. The main concern of the participants in this session was the lack of drinking water facility in the school as well as sanitation and hygiene issues. The drinking water facility was not enough to cater to all the students.



In the girl's school at Surbandar, the participants were well aware of the interventions initiated by PPR which included the construction of an ECE classroom, additional toilet facility



and construction of additional classrooms. The participants believed that these interventions were responsible for raising the attendance level and retention of students. The main issue identified by the participants was the lack of teaching staff. There were no qualified teachers for classes above primary, up to higher secondary. The primary school teachers were also teaching students at all higher levels. There were no IT classes and no specific science teacher. This,

they believed, was resulting in a decrease in the quality of education offered to the higher school children and had increased the burden on the teaching staff.

Other issues pointed out in the discussion was the lack of proper toilets as the few they had could not accommodate the whole school, a lack of drinking water facility and no proper playground. The ground was a dusty stretch of land filled with gravel making it unsuitable for playing.

Since there were no IT labs or IT equipment provided in the Union Councils of Gwadar, two focus group discussions with students using the science labs that were a PPR intervention were undertaken. The schools chosen were GGHSS Surbandar and GHBS Pishukan. It was apparent from the equipment present in the science labs that they were not in use. However,



the students said that they were being utilised and were a welcome addition. The field team had also learned that there were no specific science teachers in both the schools hence, the chances of them being utilised were slim.

6.2 Impact of PPR Interventions

Various interventions have been performed in the target treatment schools by PPR. The interventions ranged from repair and renovation of school buildings and playgrounds to the provision of school furniture and sports kits and teaching kits. The following table shows the interventions made in each school against the subject wise overall SLOs obtained as a result of the assessment tests.

TABLE 19: IMPACT OF PPR INTERVENTIONS

School Name	English	Math	Science	Urdu	Total	Interventions made
GGPS Barawal Bandi	22%	16%	23%	20%	20%	<ul style="list-style-type: none"> • Teacher Training • Repair and renovation • Teaching Kits • Students chairs, • SMC training • Students competitions • Sports kits • Schools bags & Geometry boxes provision
GKPS Rumboor	40%	41%	42%	45%	42%	<ul style="list-style-type: none"> • Repair and renovation • Teacher Training • Teaching Kits • Class room Carpeting • Students chairs, • Sports kits
GPS Barawal No 1	48%	38%	46%	29%	40%	<ul style="list-style-type: none"> • Teacher Training • SMC training • Repair and renovation • Class room Carpeting • Teaching Kits • Environmental Club formation • Students competitions
GPS Gambak	46%	59%	65%	53%	56%	<ul style="list-style-type: none"> • Repair and renovation • Class room Carpeting • Teacher Training • Teaching Kits • School • School bags & Geometry boxes • Support teacher
GPS Ishkoonlasht	45%	27%	32%	26%	33%	<ul style="list-style-type: none"> • Repair and renovation • Class room Carpeting • Teacher Training • Teaching Kits • Environmental Club formation • SMC training • Support teacher
GPS Nowra	56%	33%	40%	34%	41%	<ul style="list-style-type: none"> • Teacher training • Repair and renovation • Teaching Kits • ICT Material • Students Uniforms / shoes • Student learning bags • PTMSC formation/training • Environment club • Student events • Library books • Plants

GPS Tikar Kot No. 1	33%	35%	37%	28%	33%	<ul style="list-style-type: none"> • Teacher Training • Repair and renovation • Class room Carpeting • Teaching Kits • School bags & Geometry boxes • SMC training • School competitions
GGHSS Surbandar	8%	4%	9%	13%	8%	<ul style="list-style-type: none"> • Teachers Training • Toilet Tank repairing • Doors and windows repair • Black board color • 2 white board • 6 chairs for staff • 50 benches • Sports stuff • White Wash • Construction of 1 New latrine • Water Tank • Construction of 2 New Class rooms • Formation of Child Clubs • PTSMC Training • Provision of ICT equipment • Science Lab
GBHS Surbandar	6%	2%	7%	6%	5%	<ul style="list-style-type: none"> • Teachers training • PTSMC training • Doors and windows ren. • Table, Chair and Furniture • toilet repairing • Fans working cable • 3 new wardrobes • 15 new white boards • sports stuff • White Wash • Construction of stage in examination hall • 200 Bench for examination hall • Repair and renovation of classroom • Formation of Child Clubs • Science Lab
GGPS Bresi Ward	55%	16%	38%	27%	34%	<ul style="list-style-type: none"> • Teachers Training • PTSMC training • Construction of toilets • Teaching learning materials • Students incentives • Sports Items • Carpet, Charts etc • Wall Drawing/Educational Messages • Ramp • Sign Board
GBMS Rehmani	15%	8%	20%	16%	15%	<ul style="list-style-type: none"> • Teachers training • PTSMC training • Students incentives • Shade • White Wash • Mats • Wall Drawing • Teaching learning materials • Water connection
Grand Total	39%	31%	37%	30%	35%	

GGPS Barawal Bandi, GPS Ishkoonlasht and GPS Tikar Kot No. 1 performed poorly in almost all the subjects. There appears to be no or little effect of the interventions on the mastery level of the students. However, in the absence of a baseline, it is difficult to determine that the students have improved or not. This would require a comparison of students' results from the current exercise, with the results before the interventions. It would be prudent to have a subsequent study taking this as a baseline study to determine the impact of the interventions in the future.

It is to be considered that many of the interventions made in these schools, would not have a direct impact on the student level SLOs but could result in a decrease in the dropout rates. This suggestion is a result of the outcome of the focus group discussions where the participants seemed to agree that carpeting of playgrounds, provision of sports kits etc motivated them to send their children to school regularly. It is entirely possible that some interventions like provision of co-curricular clubs, student events and IT Labs would have indirectly impacted the proficiency level of children.



Judging by the aptitude level of the teachers who were assessed, it appears that teachers' training may have resulted in improved results since most of the teachers scored 80% or above in all the subjects. However, there seems to be a big gap between the competence level of children and the competence level of teachers from this school. The overall average means value of 35% obtained by the students less than half of the overall average means value of 85% that the teachers attained in comparison. It clearly shows that teachers from these schools need more training in terms of transferring their knowledge to their students.

It is also to be noted that few of the interventions were directed towards improving facilities for Middle and High School Students, i.e. Science and Computer Labs etc., and provision of these facilities cannot be attributed to the results of the children from the primary section. Provision of these facilities needs to be further examined in terms of their objectives. If the interventions were not designed to improve the learning abilities of primary grade students, then they will not be comparable with the outcomes of this study.

However, on the positive note provision of these facilities has resulted in greater confidence by the parents and renewed interest in the students especially due to the provision of IT Labs and Libraries that has further resulted in improved retention in these schools.

It is worthy to note here that PPR selected those schools for intervention that were in far worse condition or situation that others in the chosen districts and union councils. For example, the school in UC Ayun, GKPS Rambore, had been severely affected by flooding in

2015 as a result of which there was no building to house the school. The children were forced to take classes in the open under inclement weather conditions as a result attendance was also adversely affected since on rainy or snowy days, they avoided coming to school for understandable reasons. At times, their classes were held in the Kalash traditional burial chamber called “Pushkin”. Similarly, in GGPS Barawal Bandi in Upper Dir, there was a lack of teaching staff and any teaching material as well as non-availability of toilets. It is safe to assume that PPR interventions did result in reviving the school infrastructure and education facilities which resulted in enhanced confidence from the community/parents and hence, improved retention in these schools. In terms of learning outcomes as compared with average results from the rest of KP, it does not. However, the difference is not that great (or disappointing) to be alarming, especially because most of the schools in treatment groups were virtually deemed non-functional before the PPR interventions. It could very well be the case that the learning outcomes would have been much lower than the average 34% had there been no interventions.

The schools in Balochistan generally performed quite poorly with the average mean scores ranging from 5% (GBHS Surbandar) to 34% (GGPS Bressi Ward Pishukan). GGPS Bressi Ward performed better among all the schools.

The school buildings in Peshukan were in bad condition and there was a lack of water management facilities. Professional staff training was also badly required. The girl’s school in Surbandar had no proper toilet blocks, the school building was a safety hazard and furniture and teaching material were missing. The SMC was also inactive before the intervention.

6.3 Attendance Monitoring Mechanism and Tracking

6.3.1 Current Mechanism

The current Attendance Monitoring Mechanism or tracking system in the targeted schools comprised of recording attendance once, usually in the morning. Based on this attendance, teachers can identify children that are repeatedly or constantly absent from the class for more than 15 days and mark them for further follow-up. To follow-up, the teacher usually calls the parents directly through the phone, to inform them of their child’s absenteeism and further requests them to take care of the situation. Sometimes, teachers also inquire about absentees from their peers to determine the gravity of the situation. This system is not very effective due lack of follow-up from the teachers as they are already over-burdened with responsibilities, mainly due to the high student-teacher ratio in the classrooms.

6.3.2 Issues

One of the major reasons identified for the absenteeism and further drop-outs, is lack of follow-up and monitoring from the parents. Most of the families living in these northern areas are poor and most of the men, who are traditionally considered the head of the family, are working and living outside their native areas and usually return to their homes on occasional basis (national holidays and due vacation time). Due to traditional and cultural norms, by default it is expected from the males to monitor the activities of their children outside the

premises of their homes, as women are generally not encouraged to leave their homes. Therefore, in the absence of the male head of the family, it is very difficult for females/mothers alone, to track and monitor the activities outside the premises of their homes.

6.4.3 Proposed Mechanism

There is a need for a system that would keep parents (in particular, mothers) informed on the progress and attendance of their children on regular basis. For this purpose, it is recommended that existing School Management Committees (SMC) should be mobilized to follow-up on the absentee children that further communicate with the parents on regular basis. Teachers need to follow attendance procedures on regular basis, at least twice a day, i.e. once in the morning and once after the recess. Based on the records from the attendance, a warning system should be established in order to identify absentees and drop-outs on a weekly or biweekly basis.

The system should determine when to flag the issue with the SMC for further follow-up and communication with the parents. In addition, the SMC also need to explore and identify the reasons behind absenteeism/drop-out and facilitate the parents in resolving these issues for the prevention of future absenteeism and drop-outs scenarios. Furthermore, communication between the school and the parents can also be improved through regular communication either by electronic means or by having monthly parent-teacher meetings. Regular communication can also be established through ICT services.

Venues like informing parents through SMS or WhatsApp should also be explored. WhatsApp messaging and/or regular network messaging can be used to inform parents if the child's attendance is irregular. SMC and/or teachers will not only need to keep a record of all the parents for this purpose, they also need to keep it up to date. It is suggested that information collection should be done on a quarterly basis to keep up to date record of students' current address and contact numbers of their parents. For this purpose, a specific form can be circulated through students to their parents to be filled and return within a few days.

Utilizing technology-based solutions like SMS and WhatsApp does include a small cost of services charged by the service provider which can be easily covered by the funds available in the schools. However, in case school(s) that are not able to cover this small cost or where people do not have access to any kind of network, regular mail system and /or in a personal visit from a member of the SMC or by the teacher can be done to inform parents of their children's regular absences. It is also recognisable that in areas of the selected districts in KP and Balochistan, there are connectivity issues which may hamper timely communications.

Another option that can be explored is of requesting a meeting with parents by making announcements through local mosques. The SMC can request the Imam of the local mosque to make announcements for a meeting with a single or group of parents to discuss issues around attendance and absenteeism. The feasibility of this method needs to be further investigated as there might be some social stigmas attached to the use of this method and may be viewed as a

breach of privacy by the households. However, this method can prove to be effective as it will create social pressure around both the children and parents to attend the school on regular basis.

There would not be a one-fit-for-all solution. It is suggested that one or a combination of more than one method and approaches mentioned above should be selected, depending on the circumstances resources and infrastructure available in different areas. At the least, teachers should regularly mark attendance and absentees in the attendance register and perform regular follow-up with the parents either through telephone or through visiting them in person.

In addition, a better school environment and engaging teaching methodologies will encourage children to attend the schools on regular basis. Overcrowding, leading to taking classes on the floor and outside in the extreme weather conditions that these areas experience will result in students avoiding attending school. There was a recurrent suggest for increasing the number of classrooms in the schools and provision of a heater to keep students interested in attending school.

CHAPTER 7: FINDINGS & RECOMMENDATIONS

7.1 Main Findings and Recommendations as per Scope of Work

S#.	Scope of Work	Findings	Recommendations
1	Assess whether community schools established and PPR supported government schools are providing educational services in line with the educational needs of the target beneficiaries in terms of learning and quality of education	Assessing the quality of education by the results from this study, it has emerged that teachers at the primary level were unable to transfer their knowledge to their students, as students in the PPR schools have performed below average in most of the subjects. Covid -19 had also affected the assessment results of the students due to prolonged school closure,	It is recommended that teachers should further be engaged in capacity building exercises, especially on the teaching methodologies that would help them transfer their knowledge to the students. Teachers especially in Balochistan had been unable to pass on their knowledge. Hence, pedagogy skills enhancement is a dire need if students' subject understanding is to be built. A study to understand the effects of the pandemic on students and their learning outcomes is also highly recommended to enable determination of methods of overcoming this lapse in time.
2	Through a robust analytical framework and statistical analysis, assess how far the learning resources provided for students (including teaching facilities, library and IT resources etc.) supported the achievement of the learning goals	Interventions made in the PPR schools have resulted in greater confidence by the parents and renewed interest in the students especially due to the provision of IT and Science Labs, Libraries and ECE classrooms. These interventions have helped in improving the overall retention rate of these schools.	It is suggested that a separate exercise for assessing the impact of PPR interventions of secondary levels should be carried out since the availability of resources have direct influence on these levels.

		<p>Many of these interventions, like provision of Science and IT Labs, were directed towards improving quality of education at the Secondary levels; therefore, their impact on the learning outcomes of the primary students cannot be assessed. Assessing the quality of education at the elementary and high levels does not fall under the purview of this study, hence, it is not possible to assess the impact of PPR interventions on these grades.</p> <p>However, at the primary level, as explained earlier, interventions like the capacity building / training of teachers have had little or no effect on the learning outcomes of the students as is evident from their low scores. In the absence of an SLO baseline, it is difficult to determine whether there is an improvement in the overall learning outcomes of the students, as compared to pre-PPR-interventions or not. It can be pointed out that the condition and the state of the schools pre-intervention were</p>	
--	--	--	--

		quite dismal so the current situation may be an improvement.	
3	The analysis should take into account how much the diverse factors (ethnic, religious and geographical) have positively or negatively complemented the given resources in the attainment of learning outcomes	Assessing by the students' scores from the assessment of their learning outcomes, it has emerged that ethnic, religious and geographical factors have little effect on the learning outcomes of the students. There are some instances where students from Chitral have performed low under some of the SLOs or subjects, but that cannot be attributed to these factors alone.	N/A
4	Assess and document the learning outcomes achieved by students in PPR supported community schools and identify gaps and challenges towards quality implementation. Also, recommend a methodology to overcome the challenges and gaps	<p>One of the two most prominent outcomes apparent in the current study is that both teachers and students from the control group have shown better results compared with the treatment groups in KP where extra initiatives had been introduced to improve the quality of education. Conversely, teachers in the treatment group schools in Balochistan had much better scores than their control group counterparts. However, the treatment group students had the lowest scores among all the groups.</p> <p>Secondly, despite good knowledge levels displayed by the teachers from both the sides, their students have generally</p>	Teachers in treatment group need to strive hard for students with learning needs. For that purpose, capacity building of teachers can be the focus of future interventions as teachers need guidance and training for adopting diverse educational techniques and pedagogical methods.

		<p>displayed relatively average or below average results in contrast. Except in GGPS schools where teachers have performed comparatively lower as compared to GPS and GKPS teachers. The scores cannot be labelled as poor in general terms since their mean score was above 70%. However, there seems to be a correlation between the performance of teachers and students in GGPS, as the students in these schools have also performed comparatively poorly.</p>	
5	<p>Assess the learning outcomes of students enrolled in similar schools supported by programmes other than PPR as well as provincial/national level learning outcomes and share a viable and successful model to guide the education component in ensuring quality programme delivery, the achievement of desired results and ensure the sustainability of community schools and government schools. Recommend what works and what does not in PPR programme areas</p>	<p>Comparing the results from this study with the NEAS-NAT 2016 results, it can be said that students from the PPR schools have overall performed lower than their counterparts in both KP and Balochistan. In contrast, students from the control group, where no interventions were made, have scored almost comparable results, concerning their counterparts.</p>	<p>Not only more focus needs to be placed on improving the teaching methodologies of teachers at the primary level, there is also a need for the provision of other interventions like teaching aids, innovative classroom practices and use of technology at the primary level to increase pedagogy skills.</p> <p><i>For detailed subject wise recommendations, please see section 4.2 and 4.3 below</i></p>

6	<p>Recommend a community-managed regular monitoring and assessment system to carry out attendance monitoring and student assessment on the learning outcomes mentioned in the national or provincial curriculum and accordingly provide feedback to respective stakeholders</p>	<p>It has emerged during the study that most of the children are supervised by the mothers alone, due to the absence of most of the fathers in the target areas. Most of the men work outside their native lands, mostly in other cities of Pakistan or abroad in KP whereas, the fishing community in Balochistan sees the men folk off at seas for days on end.</p>	<p>Therefore, in the absence of appropriate supervision from their fathers, it is suggested that other community members like SMC members and teachers should have a more robust role in monitoring the attendance and follow-up support on dropouts. <i>Detailed findings and recommendations are given in section 3.6 above.</i></p>
7	<p>Assess the contribution outcomes under PPR education component towards PPAF education strategy</p>	<p>PPAF’s education strategy seems to have sound rationale as they implemented interventions according to the requirements from these schools; However, there seems to be a gap between planning and implementation. Provision of interventions required in these schools was the right thing to do, however;</p> <p>1) Impact of some of the interventions like provision of IT and Science Labs cannot be assessed by only assessing the learning outcomes of primary students, as they are directed towards elementary and secondary grades. These interventions did have a positive outcome for the secondary students.</p>	<p>It is recommended that PPAF should devise a robust Teachers’ Capacity Building strategy to improve the overall learning outcomes of students.</p> <p>A separate study needs to be undertaken at the secondary level to assess the outcomes of provision of IT and Science labs since this study does not cover the secondary levels.</p>

		2) Teachers' training seems to have little or no effect on the overall learning outcomes of the students.	
--	--	---	--

7.2 Assessment of Learning Levels

In light of the results extracted from the study, following are some of the recommendations in order to improve the overall quality of education.

7.2.1 Teaching Methodologies

It has emerged that despite small deficiencies in one or two areas under few SLOs, teachers' knowledge in both the groups is at par with the requirements at the primary level. However, it appears that there is a lack of ability in transferring knowledge from teachers to the students. Therefore, the current teaching methodologies need to be reviewed to determine why teachers are not so successful in transferring knowledge to their students. Further capacity building of these teachers is also suggested to improve their pedagogy skills.

7.2.2 Language of Instruction

Other reason may lie in students and the teacher's ability to communicate with each other or the language of syllabus and instruction used to communicate the contents of their books. It is apparent in the study that the students from both the groups have scored lowest mean score in Urdu (which is the language of instruction in most of the schools), as compared to the other three subjects. Although the mean value in English is below average, it is interesting to see that student's results are comparatively higher in English than in Urdu, which is generally observed inversely in other areas of Pakistan. Though the low score in Urdu does not come with the surprise as it is not generally practiced in the households in the areas of KP and Balochistan where these tests were administered.

Therefore, it is strongly recommended that extra focus and energy should be invested in improving the language comprehension of students on a priority basis, especially in the language that is used as the medium of instruction in these areas. Urdu, being the national language, has to be taught as a compulsory subject, however, the administrators of these schools need to decide which language they want to use as a medium of instruction for the students. This is doable, especially when both the syllabus and the permission from the government are present. For this purpose, it is recommended that schools perform a need-assessment in their schools which should involve teachers, children and their parents, especially looking at capacities of their teachers and the interest level of most of the children in the schools. This will also lead to the improvement in learning levels of students in other subjects as they will be better equipped to understand the concepts presented in all the subjects.

7.2.3 Gender Disparity

During the analysis, it is observed that both female teachers and students have performed slightly poorer as compared to the males in all the groups and schools. This is apparent especially in the GGPS schools, where there are only female teachers and students, as both the teachers and students from these schools have performed relatively lower as compared to other types of schools. This demonstrates a need for teachers' professional development primarily in pedagogy since their content knowledge is comparatively high.

7.3 Subject/SLO Wise Recommendations

7.3.1 Mathematics

- Overall students from both the groups need to improve their learning abilities in almost all of the SLOs in Mathematics, except for few in the control group.
- Learning abilities of students from both groups need to be improved in understanding 'simple bar graph' under geometry.
- Learning abilities of students from both the groups in most of the SLOs under the measurement category need attention, except SLOs related to 'converting units of time' where they performed better.
- Although students from control group performed well under one or two SLOs, overall learning abilities of the students from both the groups under the Numbers and Operations category needs major attention as most of the students under both categories performed below average in most of the SLOs in this category.

7.3.2 English

- There is an immense room for improvements under some of the SLOs, for students from both the groups.
- Teachers from the treatment group need to improve their understanding and explanation of graphical features/ picture description.
- Students from the treatment group need attention to improve their overall reading abilities.
- Students from both groups need attention to improving their overall writing abilities.
- Children from the treatment group performed average under the lexical SLO category of the curriculum. Attention in improving most of the SLOs in under lexical is required. Although students from the control group have performed exceptionally well in few of the SLO, there is scope for improvement in their understating of quite a few SLOs under this category.

7.3.3 Urdu

- Children from both groups need to improve their understanding of drawing activities from poetry, sentence making and the difference between synonyms and antonyms. Other areas that both groups need to focus on are preposition in fill in the blanks and identification of Masculine Feminine. Besides, more than half of the children from both groups need to improve their learning of use of punctuations.
- Around half of the children from the treatment, the group need to improve their mastery in reading skills, proper and improper nouns, drawing activities from the lesson, making simple sentences and proper use of active/inactive signs.
- Although teachers from both the groups have shown outstanding performance in most of the SLOs, however, performance from teachers of both the group, especially teachers from treatment group is poor in the use of punctuations.

7.3.4 Science

- Children from both the groups need to improve their learning levels in understanding how day and nights are formed due to earth's rotation, as poorest results have been observed under one strand of this SLO from both the sides.
- Children from control group need to improve their learning level in physical characteristics of animals, major parts of the human body and life cycle of plants and animals. Similarly, students from treatment group need to improve their learning levels in almost half of the SLOs in Life Sciences.
- Students from both the groups need to improve their learning level in understanding Electric Circuits, as control group and treatment group scored merely 6% and 3% respectively in this SLO.
- Low learning achievements from students of the treatment group in identifying State of matter, insulators and conductors and effects of force, while average results observed in noise and other sounds, heat and temperature and definition of matter.

7.4 Recommendations from SMC / Community Focus Group Discussions

- Awareness-raising campaigns to be initiated by schools at the time of admissions to enable parents to know when admissions are taking place as well as highlighting the benefits of sending children to school.
- Training/awareness programmes specifically targeted towards mothers were recommended since most of the fathers worked abroad or in other parts of the country and the burden of schooling was on the mothers.
- The number of classrooms in schools should be increased to accommodate more students.
- The SMC members in Chitral wanted the number of grades to be increased from up to Grade 5 to Grade 8.
- Lack of playgrounds was highlighted in the FGD discussion in Upper Dir and in Surbandar. In KP, it was recommended that children be provided with a bigger playground to undertake extracurricular activities which were presently lacking in the school as well as to utilize the sports kits that had been provided under the PPR initiatives. PPR had also cemented the ground that prevented the school uniform from getting consistently dirty and this seemed to lead to an increase in willingness to send children to school on part of the parents. The interventions in Balochistan as well had a positive effect on retention and attendance rates. In Gwadar, there was a large ground covered in stones and pebbles which made it unsuitable for sporting or play activities.
- Stationary to be provided especially for girl students as most parents were not willing to spend money on it. The school in Upper Dir provided stationary on loan to students which served as an incentive for them to attend school.
- Lack of teaching staff for high school students was a main point of grief for the Balochistan schools. Scarcity of teachers meant the few that were there were responsible for all the classes taught in the school.

7.5 Recommendations from School Focus Group Discussions on IT Resources, Library and Science Labs

- There was no dedicated teacher in either of the 2 schools where there was an IT lab set up through a PPR intervention. All the hardware was present but there was no qualified teacher. It is a recommendation that teacher training in IT should be included in any intervention in the future which includes the supply of equipment for an IT lab.
- The IT lab in UC Ayun was being under-utilized as students got to use it once a week only. They also did not have a qualified teacher but they were helped out by other teachers who knew how to use computers. It is suggested that if there is a qualified staff than the students would benefit greatly through the proper utilization of resources.
- In the high school in Barawal Bandi, the fully equipped IT lab was not being utilized at all due to lack of a qualified and trained teacher.
- The science lab in the Balochistan schools did not have specialized science teachers. In fact, the same teachers were teaching at the secondary and higher secondary levels who were mainly primary school teachers. There was an urgent need for subject science teachers in both schools where the science lab and equipment had been provided as a PPR initiative. It did appear to be unused due to being packed in boxes and still wrapped as well as because of the dust coverage in the science lab. However, no student suggested so and it could be due to the fact that schools had opened up after nearly 9 months and maybe the lab had not been used by the current crop of students.
- Need for a functioning library was expressed by the students.
- Provision of heaters and first aid kits was also recommended.

7.6 Proposed Viable Model for Improvement in PPR Supported Schools

Proposed Viable Model for Improvement of the Education Sector

Treatment Group				Control Group			
Stake-Factor	Findings	Reasons	Suggested Actions/ Recommendation	Stake factor	Findings	Reasons	Conclusive Remarks
Teachers	<p>Teachers are of same qualification in both treatment and control group as they are hired according to recruitment policy of the Provincial Education Department.</p> <p>Teachers in the Treatment Group have performed well, scoring more than 80% marks in all the subjects.</p> <p>The treatment school teachers performed better in Balochistan than in KP where the control group teachers had a better performance (91% against 86%). A Teachers Need Assessment was carried out in KP by Directorate of Curriculum and</p>	<p>The treatment group teachers in general had good scores which may be due to the teacher training provided under the programme. The performance of treatment school teachers in Balochistan was much higher than the control school teachers, who had very average scores of about 50% overall. This strongly suggests teacher training had contributed to the better results. Teacher trainings are primarily concentrated on</p>	<p>It is recommended that in future whenever a project is initiated teachers content knowledge and competency level be assessed as baseline of the project. This helps to track the performance of the teachers over the project period. The absence of the baseline limits the research's analysis and reliance on external reports has to be done.</p> <p>Teachers' observation should also be done in the evaluation studies to check teachers' competency levels.</p>	Teachers	<p>Teachers are of same qualification in both treatment and control group as they are hired according to recruitment policy of the Provincial Education Department.</p> <p>Overall, the control group performance of teachers was lower than treatment group teachers. The average score of treatment group teachers was 81% compared to 66% for the control group one. This showed that teachers in the treatment group</p>	<p>It is not possible to ascertain the reason for the better performance of the control group teachers in the absence of further investigation. However, provision of teacher training as part of the interventions may have played a part for the better overall results.</p>	<p>The control group schools have had no intervention from either the government or any other organization.</p>

	<p>Teacher Education (DCTE) and Provincial Institute of Teacher Education (PITE) to develop teachers training program. These assessment was carried out for 3 consecutive years 2016, 2017 and 2018. The objective of this test was to design teacher training program. According to the report (not published and not available publically) the teachers performed 47% in 2017 and 49% in 2018 on a grade 5 level test. Comparing to these results the teachers in treatment group have performed very well. This refers that teachers content knowledge has improved substantially by 2019. A similar study for Balochistan was not conducted.</p>	<p>improving teaching skills and not on increasing content knowledge, which is the case here as the results of the students demonstrates.</p> <p>A limitation of the study was that although teachers' content knowledge was assessed, their competency level to deliver the content was not part of the study.</p>			<p>have high level of content knowledge. However, the results were averaged when KP and Balochistan were combined. Teachers of control group schools in KP had performed better at 91% whereas, they had performed at about an average score of 50% in Balochistan.</p>		
Students	The average score of the students from the	Based on the data analysis, it	It is recommended that teachers from the Treatment	Students	The students from Control	It is not possible to	It is entirely possible that these

<p>treatment group is around 40% in Urdu and Maths. Comparing these results with the NEAS-NAT 2016 KPK results (45%) in Urdu and Maths, it can be said that students from the Treatment Group have overall performed lower than their counterparts in the rest of KPK. The students in Balochistan performed very poorly. The data reflects that despite the high level of mastery displayed by the teachers in Treatment Group, their students have scored less than 5% and 8% in mathematics and Urdu Writing against the provincial average of 49% which reflects that teachers lack in teaching children or transforming knowledge to their children.</p>	<p>can be inferred that there is a big gap between the teachers' mastery level and students' mastery level in the Treatment Group which means that teachers from the Treatment Group were not able to transfer their knowledge to the students. There seem to be gaps in the classroom practices and teaching methodologies in these schools.</p> <p>It should be considered the fact that the schools handed over to PPAF were categorised in the low performing schools the children have significantly performed much better in these schools which is</p>	<p>Group need to be trained on classroom teaching methodologies and activity based teaching strategies that can help them in transferring knowledge to their students.</p> <p>Moreover, a continuous assessment mechanism should be in placed in the treatment schools as it helps to track the performance of the children on regular basis.</p> <p>It is also strongly suggested that PPAF monitors it's interventions diligently, particularly when resources such as provision of IT and Science labs are concerned to ensure their proper utilization.</p> <p>A study for understanding the effects of COVID-19 on students is also highly recommended in order to determine ways and means of overcoming the time lost due to school closures.</p>	<p>Group had an average score of 53% in Urdu and Math which is higher than the NEAS-NAT 2016 results of 45% for KPK. In Balochistan, they had scores of 35% and 29% against the provincial average of around 49%.</p>	<p>ascertain the reason for the comparatively better performance of the control group schools. It would require further investigation.</p>	<p>schools were well performing since we do not have any data to serve as a baseline from which to determine the trend of performance of children from these control group schools.</p>
---	---	--	---	--	---

		the result of the Project interventions.					
Parents	<p>There appears to be little or no support from the parents to improve the learning outcomes of their children. Most of the families are being managed by mothers-only on day-to-day basis as fathers of most of the children are working away from home in other cities due to better economic opportunities or out fishing for days on end. Children belong to poor families and home school relations are not as strong as they should be. This is beyond the control of the project staff.</p>	<p>Even in cases where fathers are present in their homes, there appears to be little support from them, especially considering the traditional family setup and average education level of the people in the target areas.</p> <p>The study has not explored the education level of parents and therefore, it is difficult to determine whether they can support their children in improving their learning levels or not.</p>	<p>Parents need to be well aware of the educational needs of their children. Once they are well aware of the needs, they can further leverage support from community members and teachers in order to address these needs.</p> <p>Most of the parents might not be able to improve the content knowledge of their children due to their low education levels, however, they can be pivotal in ensuring that their children are at least dedicating time for their homework at home. Teachers need to establish regular communication with the parents and members of SMC to leverage support in these terms. Regular communication with teachers will help them in tracking the learning level of their children and communication with the SMC members will ensure regular attendance of their children.</p> <p>Training / awareness programmes specifically targeted towards mothers</p>	Parents	<p>Parents of control group students were not part of the study. However, it should be noted that the selected schools had students of similar background and were located in the same areas as those in the treatment group.</p>		

			are recommended since most of the fathers are not home most of the time and the burden of schooling is on the mothers.				
Curriculum/ Textbooks	Same curriculum is being followed in all schools in the province i.e. National Curriculum 2006. All the textbooks developed on the National Curriculum are being followed by all the schools in control or treatment. KP has revised its textbooks in 2016-17 which is being used in all government schools.		There is not much to change in the content material of the textbooks however, in future the supplementary material such as lesson plans and worksheets can be provided to the teachers to enforce the learning in classroom. DCTE and PITE has developed lesson plans for all subjects which are used in the trainings being imparted by the PITE under CPD program.		Curriculum/ Textbooks	Same curriculum is being followed in all schools in the province i.e. National Curriculum 2006. All the textbooks developed on the National Curriculum are being followed by all the schools in control or treatment. KP has revised its textbooks in 2016-17 which are being used in all government schools.	There is not much to change in the content material of the textbooks however, in future the supplementary material such as lesson plans and worksheets can be provided to the teachers to enforce the learning in classroom. DCTE and PITE has developed lesson plans for all subjects which are used in the trainings being imparted by the PITE under CPD program.
School - infrastructure	Provision of PPR interventions has resulted in greater confidence by the parents and renewed interest in the students especially due to the provision of IT Labs and Libraries that has	Of all the interventions made in these schools, teacher training is the most critical intervention to improve the learning levels of both the	In addition to the infrastructure improvement in the schools which no doubt play an important role in the enrolment and retention of the children especially girls, equal effort needs to be put in to		School	The control group schools chosen were similar to the treatment group schools and located in the same general area. There had been no interventions of	

<p>further resulted in improved retention in these schools. However, these interventions have little effect on the learning level of the primary grade students.</p> <p>The schools that were performing low in the learning outcomes were handed over to PPAF for further improvements. Considering the weak state of learning outcome at the time when PPR interventions were introduced, the student results from this study show overall improvement in the learning outcomes of the students in these schools. However, in the absence of baseline data, the level of improvement is difficult to determine at this point of time.</p>	<p>teachers and students. Although teachers' trainings were given in these schools, they appear to have little or no impact on the learning levels of the students.</p> <p>Many other interventions like infrastructure improvements and other provisions mostly contributed in reducing drop-out rates and increased regular attendance. Other interventions would have contributed in the learning outcomes of the students, but most of them were more relevant for the students of</p>	<p>improve the quality of teaching and learning.</p> <p>In addition to the teachers training, an assessment system (both formative and summative) should be introduced in these school which is able to track the learning outcomes on regular intervals. These assessments should be SLO based and not textbook based which can help to assess the children learning outcome.</p> <p>In KP, PITE is implementing a CPD program for teachers which has given better results. CPD for teachers is indispensable to prepare teachers to adapt with the changing demands of the current educational systems, their school settings and locale and to their unique set of pupils.</p>	<p>any kind undertaken by any organization or the government itself in these schools.</p>		
---	--	---	---	--	--

		higher grades, who were not assessed in this study.					
Methodology / Teaching	Teaching methodology was not covered under this study				Methodology	Teaching methodology was not covered under this study	
Evaluations	All the schools (both control and treatment) are practicing assessment system prescribed by the ESED. In KP there is an automatic promotion to next grades. Assessments/ exams are not observed at the terminal of each grade. Only tests at grade 5 are observed by the elementary/ high schools for admissions in the grade 6. As per policy of each district the elementary schools take admission even if the children perform 10% in the test. District Education Officer	N/A	Schools need to introduce continuous (<i>both formative and summative</i>) student assessment mechanism for improved quality of education. As described above, the assessment system should be linked with the CPD program for improved results in the schools.		Evaluations	All the schools (both control and treatment) are practicing assessment system prescribed by the ESED. In KP there is an automatic promotion to next grades. Assessments/ exams are not observed at the terminal of each grade. Only tests at grade 5 are observed by the elementary/ high schools for admissions in the grade 6. As per policy of each district the elementary schools take admission even	N/A Schools need to introduce continuous (<i>both formative and summative</i>) student assessment mechanism for improved quality of education. As described above, the assessment system should be linked with the CPD program for improved results in the schools.

decided the policy for each year.
Comparing to this the children in the tests have performed much better

if the children perform 10% in the test. District Education Officer decided the policy for each year.
Comparing to this the children in the tests have performed much better