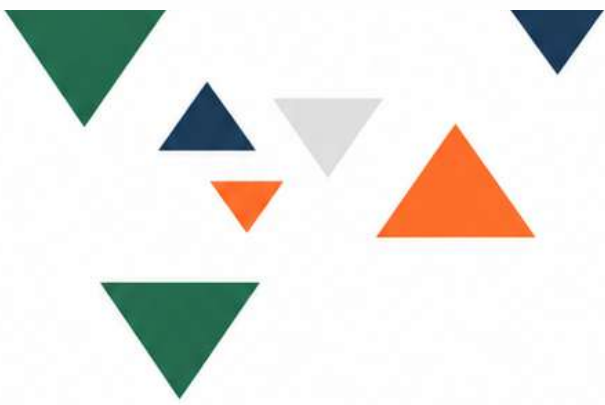




Report on Remedial Learning Programme- Phase -I (Punjab & KP)



Remedial Learning Pilot Programme (Phase-I)

Punjab & KP

Report

October 2024

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List of Abbreviations

A3G	Advancing Action for Adolescent Girls
AEOs	Assistant Education Officers
ASER	Annual Status of Education Report
BTAG	Bridging Technical Assistance for Governments
CAI	Computer Assisted Interventions
COVID	Coronavirus Disease
D&ESE	Directorate of Elementary & Secondary Education
DCTE	Directorate of Curriculum and Teacher Education
DPD	Directorate of Professional Development
E&SED	Elementary and Secondary Education Department
ECCE	Early Childhood and Care Education
ECW	Education Cannot Wait
ESEF	Elementary and Secondary Education Foundation
ESCUP	Educational Support for Children of Underserved Populations
FCDO	Foreign, Commonwealth, and Development Office
FL	Foundational Learning
FLN	Foundational Literacy & Numeracy
GPE	Global Partnership for Education
GPS	Government Primary School
IQR	Interquartile Range
IPA	Innovations for Poverty Action
ITA	Idara-e-Taleem-o-Agahi
JICA	Japan International Cooperation Agency
KAP	Knowledge, Attitudes, and Practices
KP	Khyber Pakhtunkhwa

MoFE&PT	Ministry of Professional and Technical Training
MT	Master Trainer
NAT	National Achievement Test
NEAS	National Education Assessment System
NFE	Non-Formal Education
NGO	Non-Governmental Organisation
OOSC	Out-of-School Children
PEC	Punjab Examination Commission
PIE	Pakistan Institute of Education
PREP	Pacific Resilience Programme
PSLM	Pakistan Social and Living Standards Measurement
RCT	Randomised Control Trial
RISE	Research on Improving Systems of Education
RPDC	Regional Professional Development Centre
RRREP	Response, Recovery, and Resilience in Education Project for Pakistan
SELD	School Education and Literacy Department
SIEF	Strategic Impact Evaluation Fund
SLOs	Student Learning Outcomes
SMRS	Systematic Method for Reading Success
TaRL	Teaching at the Right Level
TALEEM	Transformation in Access, Learning, Equity and Education Management
TCF	The Citizens' Foundation
TIP	Targeted Instruction Programme
TOT	Training of Trainers
UNDP	United Nations Development Programme

UNESCO	United Nations Educational, Scientific and Cultural Organisation
UNICEF	United Nations International Children's Emergency Fund
USAID	United States Agency for International Development
WB	World Bank

Executive Summary

The Remedial Learning Programme, piloted by the Bridging Technical Assistance for Governments (BTAG) in Punjab and Khyber Pakhtunkhwa (KP), aims to enhance foundational literacy and numeracy outcomes among students. This report outlines the entire journey of the pilot programme, from its inception to its outcomes, highlighting key successes, challenges encountered, and actionable recommendations for its future expansion. It serves as a resource for policymakers, educational authorities, and development partners to understand the programme's impact and support needs for broader implementation.

Designed to provide targeted support, the programme enhances students' literacy and numeracy skills through tailored instructional strategies, diagnostic assessments, and targeted remedial lessons. Teachers are trained to conduct diagnostic assessments and create customised remediation packages based on their students' performance. These packages include lesson plans and study materials for both whole-class and selected-student remediation. Whole-class sessions are integrated into regular schedules, while targeted interventions for selected students occur during recess or before/after school.

The initiative focused on Grade 2 students across 200 schools—100 each in Punjab and KP—ensuring gender and geographic representation, reaching approximately 8,000 students. A total of 391 teachers received training in diagnostic assessment, lesson planning, and instructional techniques. Over 97% of teachers expressed satisfaction with the training programme, highlighting its relevance and effectiveness.

A comparison of diagnostic assessment conducted at the start of the pilot and a post-assessment conducted at the end, showed marked improvement. Student learning levels, for all three subjects i.e., English, Urdu, and Mathematics, showed a statistically significant increase in both provinces. On average, the change in marks obtained by students in Punjab were + 5.54 marks for English, + 5.32 marks for Urdu, and + 3.28 for Mathematics. In KP, the improvement was + 6.39 marks for English, + 10.85 marks for Urdu, and + 5.63 for Mathematics.

The teacher perception survey revealed positive feedback on multiple aspects of the Remedial Learning Programme. The majority of teachers (78.9%) found the programme highly effective in improving student learning outcomes. Teachers noted that most students responded positively, with improvements in their participation, motivation, and understanding. Majority of the respondents found the materials relevant, though some faced challenges in applying them due to high student-teacher ratios (STR), multigrade settings, and resource constraints. Teachers highlighted time management and resource availability as key obstacles, but they appreciated provision of teaching & learning materials and peer collaboration opportunities.

Based on lessons learned, the report recommends extending and scaling the pilot programme, integrating remedial training into Continuous Professional Development (CPD) initiatives, and developing support networks for teachers. Implementing these recommendations is crucial for enhancing teaching practices and improving foundational student learning outcomes. It has been established through the pilot that the programme has

the potential to significantly reduce learning poverty in Pakistan, providing children with the foundation they need for academic and lifelong success.

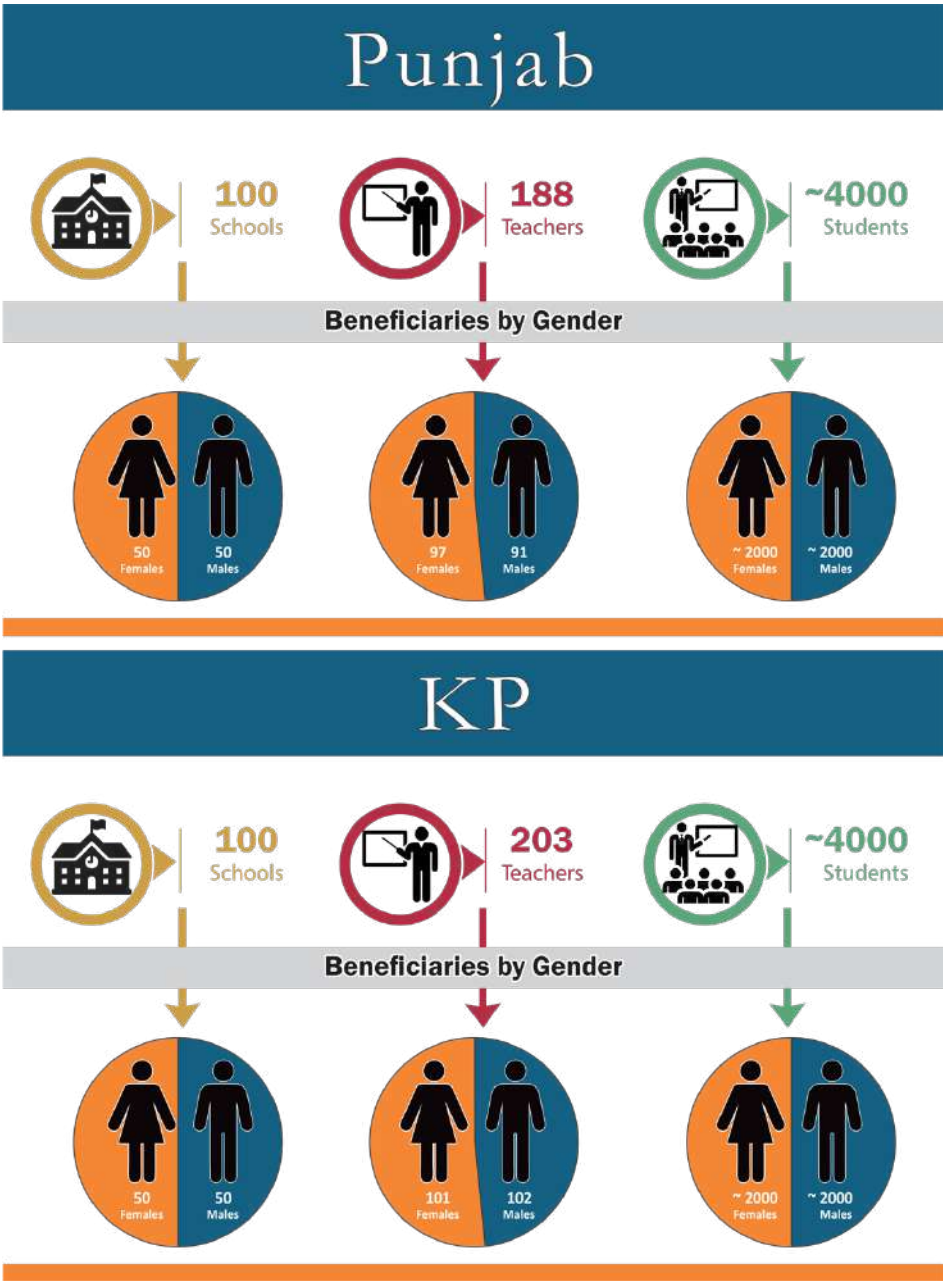


Figure 1: Beneficiaries of the Pilot in both provinces

Purpose of the Report and Intended Audience

This report will provide policymakers and government officials insights into the effectiveness of the Remedial Learning Pilot Programme in addressing foundational learning gaps in public schools across Punjab and KP. The findings will inform policy decisions, enabling the Elementary and Secondary Education Department (E&SED) in KP and the School Education Department (SED) in Punjab to understand the potential benefits and challenges of implementing remedial education interventions within the existing curriculum and educational structures. It will also provide guidance on the necessary support systems—such as teacher training, content adjustments according to learners need, and resource allocation—that are required for successful interventions. Additionally, the report will serve as a valuable resource for development partners, offering opportunities for collaboration and funding to support the expansion and sustainability of remedial learning initiatives.

Section I: Introduction and Background

1.1 Context

According to The World Bank (WB), Policy Note 2 (2023), more than three out of every four (78%) of Pakistan's ten-year old children cannot read and understand a simple text by the age of 10.¹ 'Learning Poverty', as this phenomenon is called, is high in Pakistan for two reasons:² First, about 20 million children remain out of school. With an estimated 73% of children enrolled in school, Pakistan is behind other countries in the region, and even behind the average low- income country. Second, even when enrolled in school, about two-thirds of children do not learn to read with comprehension by the end of primary school. These low levels of learning outcomes are evident in subjects such as science and mathematics as well. In the latest internationally comparable data, Pakistan ranked 57 out of 58 participating countries in these subjects.³ This highlights a critical need to focus on foundational learning, which includes essential skills like reading, writing, and numeracy that form the basis of a child's future academic success.

This learning crisis is further exacerbated by the fact that foundational learning — essential skills such as literacy and numeracy — has only recently entered the policy discourse in provinces like Punjab and Khyber Pakhtunkhwa (KP).⁴ The absence of systematic mechanisms to assess students' proficiency in these foundational skills at the beginning of each grade, along with a lack of remedial support⁵, has made it difficult to ensure that children are achieving the required proficiency for their grade levels. Addressing these foundational gaps is critical if Pakistan is to improve its overall learning outcomes and reduce the high levels of learning poverty.

The Annual Status of Education Report (ASER), 2023 highlights this challenge in detail. In Punjab, Student Learning Outcomes (SLOs) in reading and math saw a significant decline between 2019 and 2021. In 2019, 75% of Grade 5 students could read a story in Urdu, but this number dropped to 68% by 2021. Similarly, the proportion of students able to solve a two-digit division problem fell from 82% in 2019 to 69% in 2021. In KP, by Grade 5, 50% could read a story in Urdu or Pushto, 54% could read a sentence in English, and 50% could solve a two-digit division problem.⁶

Table 1 gives some details as per ASER data, 2023. 27.5% of Grade 1 students could not read anything in Urdu, and 29.8% struggled to read in English. Furthermore, almost 26% of Grade 1 students could not perform basic math tasks such as number recognition, subtraction, or division. Regional disparities are stark, with districts in South Punjab emerging as some of the

¹ The World Bank, Policy Note 2 (2023), Improving learning outcomes: Sustainable and resilient solutions to Pakistan's learning crisis

² Minimum proficiency levels are set globally by the Global Alliance for Monitoring of Learning led by the UNESCO Institute of Statistics. <https://gaml.uis.unesco.org/>

³ Trends in International Mathematics and Science Study, IEA, 2019.

⁴ <https://www.pflhub.com/blog/pakistan-foundational-learning-hubs-provincial-roadshow>

⁵ <https://www.unicef.org/pakistan/documents/evaluability-assessment-khyber-pakhtunkhwa-education-improvement-programme-kp-eip-2021>

⁶ ASER 2023 (a survey conducted by the Pakistan Social and Living Standards Measurement - PSLM programme), Report https://aserpakistan.org/document/2024/aser_national_2023.pdf

most underdeveloped areas in the country. As for KP, 37.9% of Grade 1 students could not read in Urdu, 30.5% struggled with English, and 27% could not perform basic math. The problem worsens in certain districts, especially in the newly merged areas. By Grade 3, these figures improve but remain concerning, particularly in KP (11.2% in Urdu vs. 7.6% in Punjab). Furthermore, boys in KP performed better than girls in all subjects, while in Punjab, performance was more balanced, with girls slightly outperforming boys in mathematics.⁷

Table 1: Annual Status of Education ASER – Pakistan 2023 (Rural)

	Children who cannot read anything (Urdu)		Children who cannot read anything (English)		Children who cannot do (Arithmetic – number recognition, subtraction, division)	
	KP	Punjab	KP	Punjab	KP	Punjab
Grade 1	37.9%	27.5%	30.5%	29.8%	27.1%	25.9%
Grade 2	19.3%	14.0%	19.5%	16.1%	14.4%	13.6%
Grade 3	11.2%	7.6%	13.5%	8.7%	10.7%	7.3%

Table 2 gives statistics as per National Achievement Test (NAT), 2023 conducted by the Pakistan Institute of Education (PIE). As per data, students in Punjab significantly outperformed their counterparts in KP across all subjects. In Urdu, only 0.9% of Punjab students scored 25% or less, compared to 9% in KP. In English, 21.2% of KP students fell below 25%, while Punjab had 5.1%. In mathematics, 25.5% of KP students scored 25% or less, while only 4.8% of Punjab students did.

Table 2: National Achievement Test (NAT) 2023 - Pakistan Institute of Education (PIE)

	Urdu		English		Mathematics	
	KP	Punjab	KP	Punjab	KP	Punjab
% of students achieving 25% or less	9%	0.9%	21.2%	5.1%	25.5%	4.8%
Mean % (items answered correctly out of total items)	56.9%	81.1%	44.5%	71.1%	39.5%	63.7%

These foundational issues underscore the continued learning crisis in both provinces, but with more pronounced challenges in KP.⁸ The learning crises in public sector schools in KP and Punjab result from numerous factors. One major issue is the inability of teachers to gauge student learning outcomes and respond in a timely manner with remedial teaching and customised approaches to enhance learning. Other compounding factors include the

⁷ ASER 2023, Report https://aserpakistan.org/document/2024/aser_national_2023.pdf

⁸ <https://www.pflhub.com/blog/blog-nat-2023> & <https://awarepakistan.com/blog/107228/pakistans-education-progress-insights-from-the-nat-report-2023/>

challenge of learning in a language that is not the child's mother tongue, overloaded syllabi, multigrade and overcrowded classrooms (Ahmed and Khan, 2022).⁹ The learning crises in the early grades in both provinces underscore the importance of a dedicated and structured response to address foundational literacy and numeracy (FLN) deficits.

1.2 Remedial Learning Programme

Remedial learning stands as a beacon of hope in the realm of education, offering tailored support to students who encounter challenges in mastering foundational knowledge and skills. In the journey of academic development, some students may find themselves facing hurdles that hinder their progress, be it due to gaps in understanding, diverse learning styles, or individual learning paces. However, remedial learning steps in with targeted instructional strategies designed to bridge these gaps and pave the way for academic success.

At its core, remedial learning embodies a commitment to equity and inclusivity, recognising that every student deserves the opportunity to thrive academically, regardless of their starting point. By employing a repertoire of instructional techniques such as re-teaching concepts, differentiated instruction, and providing additional support, remedial learning seeks to empower students to reach proficiency levels comparable to their peers.

1.2.1 The Need for Remediation

The need of Remedial Learning Pilot Programme arises because of the following key factors.

- **Learning Outcomes Data:** Data on student learning levels in reading, mathematics, and other subjects, provided by ASER, NAT, and National Education Assessment System (NEAS), highlight that the learning outcomes in Punjab and KP remain subpar. Data also indicates low proficiency levels among students in both provinces, particularly in foundational subjects like literacy and numeracy. This underscores the need for remedial interventions.
- **Educational Disparities:** Educational disparities persist in Punjab and KP, with rural areas often experiencing greater challenges than urban areas. Students in remote and underserved communities face limited access to quality education, qualified teachers, and learning resources, exacerbating learning gaps. Gender disparities are prevalent, particularly in KP, where girls' access to education is limited due to cultural and socio-economic factors. Remedial learning interventions can help address these disparities by providing targeted support to marginalised groups.
- **Infrastructure and Resource Constraints:** Many schools in Punjab and KP lack basic infrastructure and resources necessary for effective teaching and learning. Classrooms are overcrowded, and there is a shortage of trained teachers, textbooks, and educational materials¹⁰. These resource constraints hinder students' ability to learn and succeed academically. Remedial learning programmes can help mitigate the impact of

⁹ Ahmed, S., & Khan, M. (2022). "Challenges and Innovations in Early Childhood Education in Pakistan." *Journal of Education and Social Sciences*, 13(1), pp. 34-45.

¹⁰ Punjab Education Sector Plan (PESP) 2019/20 – 2023/24 and the KP Education Sector Plan (2018-2023)

infrastructure and resource constraints by providing additional support to students who may not receive adequate attention in traditional classroom settings.

- **Teacher Capacity and Training:** Teacher quality and capacity vary widely across schools in Punjab and KP. While some teachers are well-trained and experienced, others may lack the necessary skills and knowledge to effectively address students' learning needs¹¹. Remedial learning initiatives includes teacher training components to equip educators with strategies for identifying and addressing learning gaps. Training programmes focuses on pedagogical approaches, differentiated instruction, and assessment practices tailored to diverse student needs.
- **Policy Imperatives:** Government policies and initiatives in Punjab and KP recognise the importance of remedial education in improving learning outcomes. For example, the Punjab School Reforms Roadmap and the KP Education Sector Plan both emphasise the need for targeted interventions to support struggling students.

However, the translation of policy into effective implementation remains a challenge, highlighting the importance of evidence-based practices and collaboration among stakeholders to ensure the success of remedial learning programmes.

1.2.2 Benefits of Remedial Learning Programmes

Remedial Learning Programmes can offer following advantages:

1. Remedial programmes help struggling students catch up to grade-level expectations, boosting their academic success.
2. These programmes ensure all students, regardless of background or ability, get the support needed to succeed, reducing disparities in education.
3. Students in remedial programmes are more likely to stay in school and graduate on time, helping reduce dropout rates (Brown & Clark, 2019).¹²
4. By improving academic skills, remedial programmes prepare students for better job prospects and contribute to economic growth (Lee, 2021).¹³
5. These programmes often engage local communities, parents, and volunteers, fostering collaboration and strengthening educational efforts (Khan, 2022).¹⁴
6. Early investment in remedial education reduces the need for costly interventions later, saving on healthcare and social services (Greenwood & Harris, 2017).¹⁵

¹¹ Punjab Education Sector Plan (PESP) 2019/20 – 2023/24 and the KP Education Sector Plan (2018-2023)

¹² Brown, S., & Clark, T. (2019). "Impact of Remedial Education on High School Graduation Rates," *Educational Research Quarterly*, vol. 43, no. 1, pp. 22-37.

¹³ Lee, H. (2021). "Education and Employability: Tracing the Outcomes of Remedial Programmes," *Economics of Education Review*, vol. 80, pp. 209-224.

¹⁴ Khan, A. (2022). "Community Involvement in Educational Programmes: A Catalyst for Change," *Journal of Community Engagement and Scholarship*, vol. 15, no. 1, pp. 78-92.

¹⁵ Greenwood, P., & Harris, L. (2017). "Cost-Benefit Analysis of Early Remedial Education Interventions," *Journal of Public Economics*, vol. 156, pp. 104-117.

7. The success of remedial education programmes provides valuable insights for policymakers and educators on effective strategies for addressing learning gaps and improving educational outcomes (National Education Association, 2023).¹⁶ Evaluating the impact of these programmes and sharing best practices can refine policies and practices to better support student learning.

With this in background and supported with the literature review as well global and local best practices, BTAG piloted remedial learning programme in Punjab and KP.

1.3 BTAG's Remedial Learning Pilot Programme

In response to the urgent need for educational improvement in Punjab and KP, the Foreign Commonwealth Development Office (FCDO), through its Bridging Technical Assistance for Governments (BTAG), launched a Remedial Learning Pilot Programme. This initiative aims to address foundational literacy and numeracy gaps through a teacher-led approach. The programme trains teachers to conduct diagnostic assessments and, based on the results, create tailored remediation packages, including lesson plans and study materials. Teachers then deliver targeted interventions, either to the whole class or selected groups, to improve student outcomes in key areas such as reading, writing, and mathematics.

Inspired by successful remedial interventions like those of The Citizens Foundation (TCF), BTAG adapted its model to meet the specific needs of public sector schools. Unlike system-wide interventions that rely on average student scores and adopt a 'one size fits all' approach, this programme empowers teachers to take ownership of their classrooms, delivering student-centred remediation tailored to individual needs.

The pilot was implemented in 100 schools in Charsadda, KP, and 100 schools in Kasur, Punjab.

Pilot Objectives

The BTAG Remedial Learning Pilot Programme was designed to achieve the following objectives:

- Provide targeted support to students struggling with foundational skills in early grades, focusing on helping them reach grade-level proficiency in reading, writing, and mathematics.
- Develop remediation materials, including diagnostic assessments, lesson plans, and study packs, to support teachers in delivering personalised interventions to students.
- Empower teachers through specialised training, equipping them with tools and strategies to diagnose learning gaps, adapt lesson plans, and implement effective remedial instruction.

¹⁶ National Education Association (2023). "Remedial Education: A Key to Closing the Achievement Gap," NEA Policy Brief, no. 2023-01.

- Promote collaboration among teachers by encouraging peer learning and establishing support networks to share best practices, address challenges, and improve remedial teaching strategies.
- Explore the challenges associated with delivering personalised learning to students in diverse classroom settings.
- Generate insights and evidence from the pilot to inform policy decisions and improve future educational strategies.
- Use the pilot's findings and lessons to create recommendations for a scalable model that can be expanded to more schools and regions.

These objectives position the programme as a pivotal step toward improving foundational learning, with the potential to inform broader education reforms and drive long-term progress in remedial education across Pakistan.

1.4 Structure of the Report

This report provides a comprehensive analysis of the programme's design, implementation, and outcomes, with a particular focus on its impact on student learning.

Section I presents an overview of the educational challenges in Pakistan and the rationale for the Remedial Learning Pilot Programme. Section II offers a literature review, exploring both global and local best practices in remedial education, with an emphasis on strategies for adapting instructional content to meet learners' specific needs. In Section III, the report outlines the technical approach and methodology of the intervention, including data collection methods. Section IV details the design and implementation of the pilot, covering content development, teacher training, data collection, and the ongoing support provided throughout the programme. Section V presents the results and analysis, evaluating the programme's impact on foundational literacy and numeracy outcomes, while also exploring teachers' perceptions of the intervention. Section VI reflects on the challenges encountered during the pilot and provides recommendations for scaling and refining the intervention in future iterations. Finally, Section VII concludes by summarising the key lessons learned and outlining a roadmap for improving foundational education outcomes within Pakistan's existing educational system.

Section II: Literature Review

This section reviews existing research and practices in remedial education, highlighting both global and local approaches that inform effective strategies for addressing learning gaps and meeting the diverse needs of students.

2.1 Global Impact of Remedial Education

Remedial learning programmes have demonstrated significant effectiveness in enhancing student outcomes worldwide, particularly in foundational literacy and numeracy. These interventions are especially impactful in low and middle-income countries, where educational disparities are more pronounced. The structured nature of remedial education, tailored to meet the specific needs of underperforming students, leads to marked improvements in academic performance. Below, we provide examples of global interventions and their associated impacts:

Cambodia: The Educational Support for Children of Underserved Populations (ESCUP) Project funded by USAID in Cambodia trained 101 primary teachers (68 females) to implement remedial interventions in regular classrooms. A two-day workshop, led by project staff and experienced remedial educators, equipped teachers with strategies to support students at risk of grade repetition or dropout. The training focused on effective teaching techniques for language and mathematics and identifying children with special learning needs. Remedial classes were then conducted. As a result, 3,108 children received remedial support, with over 80% of those remediated in Year 1 being promoted, indicating significant improvement in educational outcomes (World Education, 2010).

Mali and Niger: In Niger, the Systematic Method for Reading Success (SMRS) provided three months of instruction for Grade 1 students and thirty minutes of daily lessons for those aged 9 to 15 in second-chance schools. In Mali, the programme was implemented over six months, targeting 1,295 students across 22 community schools where instruction was delivered in Bamanankan. A random sampling by the Ministry of Education assessed six SMRS schools (104 students) against six national curriculum or bilingual schools (121 students). After just four months, 49% of SMRS students could read 21 or more letters, compared to only 2% in national schools after a full year. Additionally, 42% of SMRS students could read over 50% of words, while just 2% in national schools could achieve the same. By the end of the study, 89.7% of students in SMRS schools could read fluently with good comprehension, compared to 41.1% in national curriculum schools (Plan, 2008).¹⁷

Chile: In Chile, the NGO Un Techo para Chile, in collaboration with the government, recruits volunteers to provide after-school remedial support in impoverished slum areas. Evaluations indicate that after one year in the programme, participating children showed significant improvements in Spanish and math scores compared to a control group (Contreras & Herrera, 2005). Another national after-school remedial education programme in Chile was associated with a 15% increase in university admission test scores among high school students, particularly benefiting those from lower socio-economic backgrounds. This programme was

¹⁷ Schwartz, A. C. (n.d.). *Remedial education programs to accelerate learning for all*. GPE Working Paper Series on Learning, No. 11. Global Partnership for Education.

crucial in narrowing the achievement gap and expanding college access for disadvantaged students. The outcomes of this intervention were discussed in a comprehensive analysis that highlighted its impact on long-term educational and career prospects (Gonzalez & Martinez, 2018)¹⁸.

India: In India, an evaluation by Banerjee et al. (2007) assessed a remedial education programme that employed young women to teach students struggling with basic literacy and numeracy skills. The findings revealed an increase in test scores for all children in treatment schools, with an overall improvement of 0.28 standard deviations, primarily driven by substantial gains among students at the lower end of the test-score distribution. Additionally, another evaluation of a Computer-Assisted Intervention (CAI) that focused on mathematics resulted in impressive score increases, showing an improvement of 0.35 standard deviations in the first year and 0.47 in the second year.¹⁹

Ghana: An evaluation of ongoing remedial programmes in Ghana, conducted by Innovations for Poverty Action (IPA),²⁰ found significant improvements in both literacy and numeracy, although the quality of implementation varied by region. The study tested four programme variations, revealing that both in-school and after-school remedial lessons had the most substantial impact on student achievement. Despite variations in implementation, three core components consistently emerged across programs: initial assessment of students' learning levels, appropriate grouping, and the use of level-appropriate instructional materials, rather than strict adherence to a national curriculum.

¹⁸ Gonzalez, L., & Martinez, J. (2018). "The Impact of After-School Remedial Education on Chilean Students' University Admission Test Scores," *Chilean Journal of Educational Research*.

¹⁹ Banerjee, A., Cole, S., Duflo, E., & Linden, L. (2007). "Remedying Education: Evidence from Two Randomized Experiments in India," *Quarterly Journal of Economics*.

²⁰ Ghana 2016 National Education Assessment: Report of findings

Case Study: Pratham's Balsakhi Programme, India

The Balsakhi Programme,²¹ initiated in India in 2001 by the Akanksha Foundation in collaboration with the Mumbai Municipal Corporation, aims to remediate learning deficits in primary school children, particularly in mathematics and language for grades 3 and 4. Balsakhis, who are local student volunteers, utilise child-centric and activity-based learning techniques, incorporating games and interactive storytelling. They provide 2-3 hours of additional support daily, ensuring this does not conflict with regular school hours.

Balsakhis receive intensive training in child psychology and innovative teaching methods, supplemented by ongoing workshops to maintain educational standards. The programme measures academic and socio-emotional progress through pre- and post-tests, observational assessments, and surveys involving students, parents, and educators.

Research demonstrates significant improvements among students: a study by Banerjee and Duflo (2003)²² indicated that Balsakhi students experienced an average increase of 14 percentage points in mathematics scores and 10 percentage points in language skills compared to non-participants. Notably, a 40% increase in students reporting "very confident" academic abilities was observed after one year, alongside a 50% rise in classroom participation rates among previously reluctant learners.

Initially launched in Mumbai, the programme has expanded across several Indian states, successfully adapting to regional educational challenges. The Balsakhi Programme has fostered increased community involvement, as evidenced by higher parental attendance at school events and improved student cooperation.

²¹

https://www.google.com/url?sa=t&source=web&rct=j&opi=89978449&url=https://www.povertyactionlab.org/evaluation/balsakhi-remedial-tutoring-vadodara-and-mumbai-india&ved=2ahUKEwib4-PuqpOJAxUsKvsDHcErF1cQFnoECBkQAQ&usg=AOvVaw0i7bVnhfAD8NrB_ydEEGu4

²² Banerjee, A. V., & Duflo, E. (2003). "Addressing Absence," *Journal of Economic Perspectives*, examines the effectiveness of the Balsakhi programme in Indian schools, specifically the impact on test scores and educational engagement.

2.2 Remedial Education Programmes in Pakistan

Remedial education programmes in Pakistan have emerged as a vital response to the country's persistent educational challenges, particularly concerning low literacy and numeracy rates among primary school children. With a significant proportion of students performing below grade level, these programmes aim to provide targeted support to help learners catch up with their peers. Below we give an overview of various initiatives launched across the country.

Chalo Parho Barho

In Sindh, the civil society organisation Idara-e-Taleem o Aagahi (ITA), in collaboration with the School Education and Literacy Department (SELD) Government of Sindh and funded by FCDO, initiated learnings camps. The purpose was to bridge the learning gaps and reintegrate out-of-school children through an accelerated learning programme known as Teaching at the Right Level (TaRL) or Chalo Parho Barho (let's read and grow) in Pakistan. Delivered through 60-day learning camps, this programme aimed to elevate foundational learning levels among primary-age children in flood-affected schools. The programme embraced an innovative approach by assessing and catering to children's learning needs based on their current abilities, rather than adhering strictly to age or grade levels. The programme's focus on improving proficiency in local language, arithmetic, and English showed promising results. At baseline, only 4% of children were at a storytelling level in their local language, compared to an impressive 53% at the end of the programme. Similarly, proficiency in arithmetic and English language skills exhibited significant improvements.

Foundational Literacy & Numeracy (FLN) camps in Punjab

In Punjab, the School Education Department (SED) strategically envisioned addressing learning deficiencies among children by introducing Foundational Literacy & Numeracy (FLN) camps. These camps were introduced in five southern Punjab districts during the 2023 summer break through the TALEEM initiative. The FLN camps targeted over 81,000 children in Grades 1-3, including those out of school, delivering 100 hours of instruction over 40 days. These camps served as a platform for students to revisit and consolidate their fundamental concepts in language and mathematics, with a primary focus on fostering improved learning outcomes within a supportive environment. The Learning Camps focused on reinforcing the foundational Student Learning Outcomes (SLOs) for students aged 5 to 9, particularly those in grades 1 to 3. The camps aim to enhance learning outcomes in core subjects such as Mathematics, Urdu, and English. Additionally, they strive to equip students with the skills and knowledge necessary for success in higher grades. An overarching goal is to instil a culture of learning, improve attendance, retain students in public schools, and facilitate the transition of Out-of-School Children (OOSC) into mainstream education.

The effectiveness of these camps was underscored by significant improvements in student skills, as the end line results demonstrated notable advancements compared to baseline measurements. Encouraged by the positive outcomes, the initiative is set to expand in 2024, aiming to reach 150,000 children (Malik, 2023).²³

²³ Malik, R. (2023). "Innovating Education in South Punjab: A Look at the Taleem Initiative." Dawn Newspaper.

Siyani Sahelian Programme

The Siyani Sahelian programme, also known as Advancing Action for Adolescent Girls (A3G), is a transformative educational initiative developed to address the educational and empowerment gaps faced by out-of-school adolescent girls in rural Punjab, Pakistan. This programme is a collaborative effort involving the FCDO, ITA, and the government of Punjab, designed to reintegrate girls aged 9 to 19 into the educational system through a culturally sensitive and accessible alternative schooling model. The methodology employed by A3G involves two distinct educational tracks tailored to the previous schooling experience of the participants: a six-month remedial track for girls with some formal education and a three-month functional literacy track for those with minimal schooling. Classes are held in central locations to ensure safety and ease of access, utilising active, student-centred teaching methods delivered by female teachers. This approach not only aims to improve literacy and numeracy skills but also seeks to empower girls by enhancing their educational and career aspirations and increasing their decision-making capabilities within their households. The impact of the programme is measured through a randomised evaluation across 300 villages, with preliminary results indicating significant improvements in literacy, numeracy, and empowerment outcomes, highlighting the potential of targeted educational interventions to transform lives and communities.²⁴

Targeted Instruction Programme (TIP)

In KP, the Targeted Instruction Programme (TIP) is a strategic educational initiative designed to remediate foundational skills among primary students, especially in the aftermath of COVID-related disruptions. Implemented across Peshawar and Mardan—Khyber Pakhtunkhwa's largest districts—the programme serves 250,000 students and involves about 7,000 teachers and headteachers. TIP leverages technology-supported, teacher-led methodologies that utilise specialised software accessible on various digital devices for efficient administration and grading. This approach facilitates the delivery of targeted instruction in Urdu, Math, and English, helping students catch up to grade-level expectations. Two cycles of the programme pre-pilot in 8 NGO schools have demonstrated significant impacts, with early results showing substantial improvements in student test scores. Implementing partners include KP E&SED, KP D&ESE, KP DPD, KP DCTE, and MoFE&PT, with funding from international entities like JICA, the Marshall Foundation, RISE (FCDO), SIEF (WB), RRREP (WB), and PREP (WB). These efforts reflect a robust collaboration aimed at bolstering student learning outcomes and addressing educational inequalities exacerbated by the pandemic²⁵.

Enhancing Early Childhood Education in Khyber Pakhtunkhwa

²⁴ Centre for Economic Research in Pakistan & Abdul Latif Jameel Poverty Action Lab (J-PAL). (Year). Learning beyond school: The impact of a remedial learning and literacy programme on out-of-school girls in Pakistan. Retrieved from <https://www.povertyactionlab.org/evaluation/learning-beyond-school-impact-remedial-learning-and-literacy-program-out-school-girls>

²⁵ Qureshi, Z., Andrabi, T., Baron, J., & MacDonald, I. (2021). Targeted Instruction Program: Remedial education to address learning gaps in Khyber Pakhtunkhwa. [White paper]. Khyber Pakhtunkhwa Education Department. Retrieved from <https://www.cerp.org.pk/targeted-instruction-program/>

The collaborative initiative between UNICEF, the Hashoo Foundation, and the Elementary and Secondary Education Department (E&SED) of Khyber Pakhtunkhwa focuses on a transformative approach to Early Childhood and Care Education (ECCE) across the region. This ambitious project targets the inauguration and refurbishment of over 13,000 primary school classrooms into modern ECCE centres distributed across 23 districts. Supported by substantial funding from the Global Partnership for Education (GPE) and Education Cannot Wait (ECW), the initiative aims to impact over 96,000 children by providing high-quality foundational learning opportunities. Aligned with the Khyber Pakhtunkhwa Education Sector Plan 2020-2025, this effort underscores the region's prioritization of early childhood education as a cornerstone for future academic success and societal advancement²⁶.

Other collaborative efforts from various international organisations, aimed at improving foundational learning include:

UNICEF Partnership: In 2022, Directorate of Curriculum and Teacher Education (DCTE) signed a significant Memorandum of Understanding with UNICEF. This agreement focuses on providing foundational literacy orientation to teachers in two districts of KP. This collaboration aims to enhance early childhood educational practices by equipping educators with targeted training and resources.

UNDP Support: The United Nations Development Programme (UNDP) is contributing to foundational literacy in two districts as part of the Merged Area Development Programme, aimed at integrating and uplifting previously autonomous tribal areas into the provincial framework.

World Bank Assistance: The World Bank, in collaboration with the Directorate of Professional Development (DPD), is supporting foundational literacy projects in ten economically lagging districts in KP. This support is critical in addressing educational disparities and promoting equitable educational opportunities.

GPE and UNICEF Accelerated Learning: With funding from the Global Partnership for Education (GPE), UNICEF is implementing an accelerated learning programme for out-of-school children. This initiative, managed in partnership with the Elementary and Secondary Education Foundation (ESEF), focuses on rapidly improving literacy and numeracy skills to reintegrate children into formal schooling.

2.3 The Citizens' Foundation's Remedial Programme

The Citizens' Foundation (TCF) is a prominent non-profit organisation based in Pakistan, dedicated to providing quality education to underprivileged children across the country. Founded in 1995, TCF has grown significantly and now operates over 1,500 schools nationwide, serving approximately 220,000 students. This makes it one of the largest non-governmental organisations focused on education in Pakistan.

²⁶ Lead Pakistan. (2023). Classrooms under early childhood education in girls' & boys' primary schools inaugurated. Retrieved from <https://leadpakistan.com.pk/news/classrooms-under-early-childhood-education-in-girls-boys-primary-schools-inaugurated/>

TCF's schools are designed to provide a supportive and comprehensive educational environment, emphasising not only academic learning but also character building. The foundation ensures that its schools are accessible to children from the poorest households, thereby addressing the educational disparities that exist across different socioeconomic groups in Pakistan.

TCF's remedial programme in Pakistan has a rich history of success in significantly improving student learning outcomes. Its structured approach encompasses comprehensive diagnostics, remediation planning, and assessment, all of which are adaptable to various regional educational contexts.

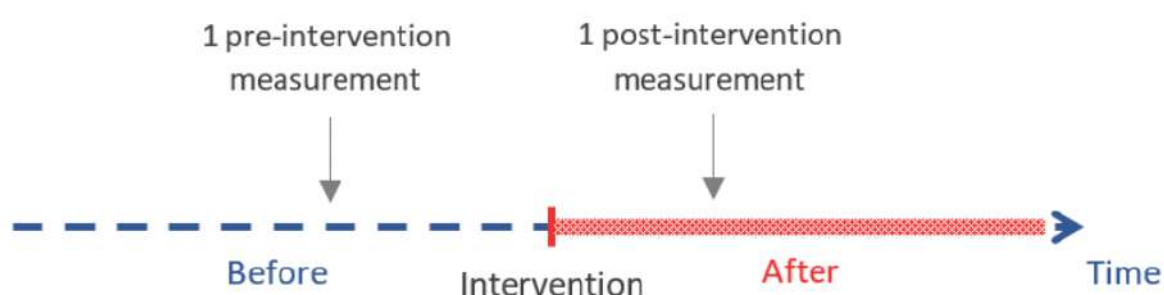
- **Comprehensive Diagnostics:** TCF's remedial programme begins with thorough diagnostics to identify students' specific learning needs and challenges. Through assessments and evaluations, educators gain insights into each student's academic strengths and weaknesses, enabling them to tailor interventions accordingly.
- **Remediation Planning:** Based on the diagnostic assessments, TCF's remedial educators develop individualised remediation plans for each student. These plans outline specific learning objectives, strategies, and resources to address the identified areas of difficulty effectively.
- **Monitoring & Assessment:** TCF's remedial programme incorporates ongoing assessment and monitoring to track student progress and evaluate the effectiveness of interventions. Regular assessments help educators gauge the effectiveness of remediation efforts, adjust as needed, and celebrate students' achievements along the way.
- **Adaptability to Regional Contexts:** Recognising the diverse educational landscapes across Pakistan, TCF's remedial programme is designed to be adaptable to various regional contexts. Whether in urban or rural settings, educators leverage local resources, cultural sensitivities, and community partnerships to ensure that interventions are relevant and accessible to all students.
- **Success and Impact:** Over the years, TCF's remedial programme has demonstrated remarkable success in boosting student learning outcomes across its network of schools. By addressing learning gaps and providing targeted support to underprivileged children, the programme has empowered countless students to overcome academic challenges and excel in their studies.

TCF's remedial education programmes in Pakistan have significantly improved literacy and numeracy among underperforming students, particularly in rural and underserved areas. These programmes help reduce dropout rates by offering targeted support to struggling students, boosting their confidence and academic participation. Students from marginalised communities get a fair chance to succeed academically. The broader impact includes enhanced socioeconomic prospects for students and long-term community development through better educational outcomes.

Section III: Technical Approach and Methodology

BTAG's remedial learning programme was implemented in 200 schools across Punjab & KP (100 in each province). The programme utilised a One Group Pre-test – Post-test Repeated Measurement Design²⁷, allowing for the comparison of student performance before and after the intervention, as shown in Figure 2.²⁸ This design involved administering a pre-intervention measurement (diagnostic assessment) to assess students' baseline knowledge and skills, followed by the implementation of the remedial learning programme (the intervention). After completing the intervention, a post-intervention measurement (post-assessment) was conducted to evaluate the progress and learning gains made by the students.

Figure 2: One Group Pretest – Post-test Design



3.1 Variables of Interest

Following primary and secondary variables of Interest were focused on:

3.1.1 Primary Variables

- Diagnostic Assessment and Post-assessment Score (English)
- Diagnostic Assessment and Post-assessment Score (Urdu)
- Diagnostic Assessment and Post-assessment Score (Mathematics)

3.1.2 Secondary Variables of Interest

- School Region (Rural/Urban)
- School Type (Male/Female)
- Number of Grade 1 Teacher per School

²⁷ <https://www.statisticssolutions.com/matching-pre-and-post-data/>

²⁸ <https://quantifyinghealth.com/one-group-pretest-posttest-design/>

- Previous Training of Grade 1 Teachers
- Grade 1 Teacher-Student Ratio
- Avg. number of years of Teacher Experience
- Avg. number of years of education of Teacher

3.2 Sampling Plan

The sampling plan²⁹ for the BTAG Remedial Learning Pilot Programme was designed to ensure a representative and balanced selection of schools, teachers, and students across both Punjab and KP.

- Stage 1 – 100 schools in each of the selected district in both provinces were selected based on a purposive sampling method.
- Stage 2 – All Grade 2 teachers in selected schools were a part of the programme.
- Stage 3 – All Grade 2 students in selected schools were a part of the programme for the Diagnostic and Post-Assessment.

Note(s): While sampling for schools (stage 1), balance of rural/urban and school type (male, female) was incorporated to ensure we get the most representative sample.

Table 3: Sample Size Overview

Province	No. of Participating Schools	Total Grade 2 Participating Teachers	No. of Participating Students
KP	100	200	4000
Punjab	100	200	4000

3.3 Data Collection

This sub-section outlines the data collection methods that were used to gather data on the variables of interest identified in section 3.1.

- A. Pre and Post - Test** – Diagnostic assessment (pre-test) and post-Assessment (post-test) was used to collect data on student scores both at the start and the end of the program. Three tests were conducted at both start and end stages based on the number of subjects i.e., English, Urdu and Mathematics.
- B. School Level Survey** – A school level survey was administered in targeted schools. Among other things the survey captured information on: School Name, Region,

²⁹ This Sampling Plan was implemented in each of the two provinces. (KP and Punjab)

Enrolment, Teacher-Student Ratio, No. of Teachers, Teacher Attendance and Teacher-level variables.

- C. Perception Survey of Teachers** – A perception survey of teachers was conducted after the programme in the targeted schools.

3.4 Implementation Plan

The following steps summarise the programme activities spread throughout the life cycle of the programme.³⁰

Note: This is a province level programme design. This plan was followed in both provinces.

Step 1 – Identification of Target Schools

- 100 schools were identified for the programme in the selected district.

Step 2 – Training of Teachers

- Grade 2 teachers for Urdu, English and Mathematics in all target schools (estimated 200) were trained on the key aspects pertaining to the implementation of the programme, including conduct of diagnostic tests and post-assessments, adapting lesson plans and study packs as per students' needs and monitoring & evaluation during the remediation phase.

Step 3 – Design and Conduct of Pre-test

- The assessment tools were designed by BTAG team and shared with the teachers. Training on how to conduct tests was provided by BTAG team during the teacher training phase.
- Diagnostic tests were administered in Grade 2 for all students in the 100 targeted schools for each of the three subjects: English, Urdu & Mathematics.

Step 4 – Analysis of Diagnostic Assessment Data

- The diagnostic assessment scores from all the schools were collated and standardised.

Step 6 – Remedial Learning Programme

- Based on the results, teachers and students started remedial learning programme. The duration of this remedial programme lasted 4 weeks.

Step 7 –Conduct of Post-Tests & Perception Survey

- The teachers conducted post-tests using the same tool at the conclusion of the remedial learning pilot.
- The data was recorded and standardised.

³⁰ This is a province level programme design. This plan was followed in both provinces.

- A perception survey of teachers in targeted schools was conducted. The survey was designed and implemented by the BTAG team.

3.5 Analysis

3.5.1 Pre-test & Post-test Scores Comparison

During the analysis phase, both pre and post-test data was analysed to see the movement on the scores across the three subjects. The process involved comparing pre-test and post-test scores for students who underwent the remedial learning programme. This was done through comparing means of pre-test and post-test scores for each of the three subjects.³¹

3.5.2 Analysis of Teacher Perception Survey

The teacher perception survey results were collated and standardised and an analysis was carried out to see teachers' perception regarding Knowledge, Attitudes and Practices that are relevant to the programme.

³¹ <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6331475/>

Section IV: Pilot Implementation

The BTAG's Remedial Learning Pilot Programme aimed to close foundational literacy and numeracy gaps in public sector schools across Punjab and KP through a structured intervention. This teacher-led approach involved training educators to conduct diagnostic assessments, develop tailored remediation packages, and deliver student-centred instruction. Several key steps were undertaken to ensure the effective implementation of this pilot.

4.1 Remedial Learning Programme Design

The BTAG Remedial Learning Pilot Programme was modelled after The Citizens Foundation's (TCF)³² successful Remedial Learning Programme, which has proven effective in reinforcing foundational literacy and numeracy skills. To tailor this model for the specific context of public schools in Punjab and KP, the team made several key adaptations. These modifications included adjusting the programme design, assessments, and learning materials to ensure alignment with teachers' and students' needs as well as educational standards.

4.1.1 Diagnostic Assessment

The first step in adapting TCF's model was revising the Diagnostic Assessment Tools for English, Urdu, and Mathematics to align with the Student Learning Outcomes (SLOs) required for Grade 2 in Punjab and KP. BTAG expanded these tools to include topics and skills from Kindergarten (KG) and Grade 1, which are essential for progression to Grade 2.

The final diagnostic tools comprised:

- **English:** 10 written assessment items on various aspects of language skills such as grammar, vocabulary, reading comprehension, and writing ability and 8 oral assessment items focused on verbal communication skills, pronunciation, and fluency in English.
- **Urdu:** 11 written assessment items on reading comprehension, writing skills, and understanding of grammar and vocabulary and 10 oral assessment items focused on verbal communication, pronunciation, and fluency.
- **Mathematics:** 16 written assessment items designed to evaluate numerical skills, problem-solving abilities, and understanding of basic mathematical concepts such as addition, subtraction, multiplication, and division.

These assessments were designed to provide a comprehensive evaluation of student proficiency and help identify learning gaps for remediation. A marking rubric and answer keys were developed to assist teachers with accurate grading.

³² <https://www.tcf.org.pk/publications/annual-report-2021/> & <https://www.tcfusa.org/annual-report-2020/>

4.1.2 Topic-wise Monitoring and Evaluation Form

To track student progress, TCF uses a Topic-wise Monitoring and Evaluation Form, which helps teachers assess students' proficiency in specific SLOs across the core subjects. BTAG adapted this tool for the pilot, incorporating essential topics from KG and Grade 1 to monitor students' readiness for Grade 2 more effectively.

Teachers were required to document each student's performance on every topic assessed. Based on these results, teachers could apply the following approaches:

- **Whole-Class Remediation (Push-In Intervention):** Used when 70% or more students scored below 40% in a particular topic.
- **Selected Students Remediation (Pull-Out Intervention):** Used when fewer than 70% of students scored below 40% in a topic.

To calculate the percentage of students scoring below 40% in each topic, the following formula is employed:

$$\text{Avg. percentage for each topic (\%)} = \frac{\text{No. of students that scored below 40\% in a particular topic}}{\text{Total no. of students}} \times 100$$

This approach ensured that interventions were tailored to students' specific learning needs.

4.1.3 Teaching Guides and Study Packs

BTAG adapted TCF's Teaching Guides and Study Packs for English, Urdu, and Mathematics to align with the National Curriculum, Academic Calendars, and textbooks used in Punjab and KP. The content was enriched with interactive activities and additional materials covering key topics from Kindergarten and Grade 1.

Finalised materials included:

- **English:** 56 lesson plans across 18 topics.
- **Urdu:** 33 lesson plans covering 13 topics.
- **Mathematics:** 24 lesson plans on 15 topics.
- **Study Packs:** 101 worksheets across all three subjects.

These materials provided structured support for teachers to deliver remedial lessons.

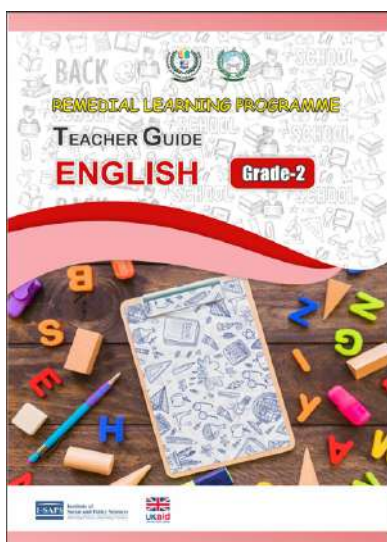


Figure 5: English Teacher Guide - KP

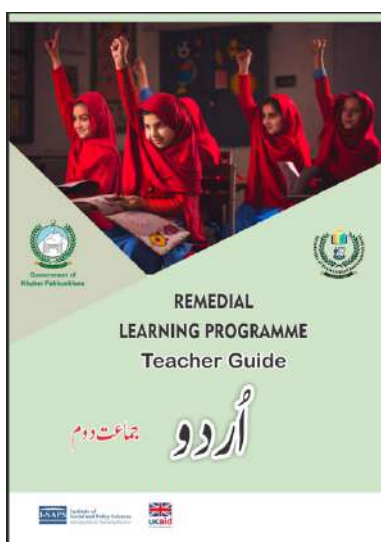


Figure 4: Urdu Teacher Guide - KP

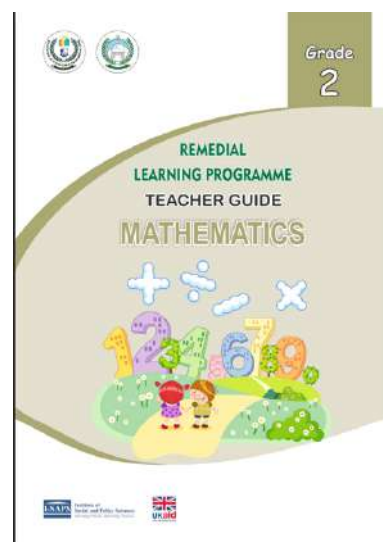


Figure 3: Math Teacher Guide - KP

4.1.4 Classroom Culture Setting and Student Profile Form

BTAG adapted TCF's approach to creating a positive classroom culture, integral to effective remedial learning. The Student Profile Form gathered detailed information on each student's background, learning preferences, strengths, and weaknesses. This form allowed teachers to tailor support based on individual needs, helping to personalise the learning experience and foster student engagement.

4.1.5 Training Material for Remedial Learning Programme

To ensure effective implementation of the Remedial Learning Programme, BTAG developed comprehensive training materials, including a **Trainer Manual** and **Trainee Manual**:

- **Trainer Manual:** A 3-day module was designed to guide facilitators in training teachers. It covers the programme's objectives, diagnostic assessments, push-in/pull-out interventions, lesson plan implementation, and strategies for tracking student progress. The manual also emphasises fostering a positive classroom culture, micro-teaching practices, and reflective discussions for effective teacher preparation.
- **Trainee Manual:** A supplementary guide for participating teachers, this manual outlines the programme's goals, diagnostic assessment processes, and individualized lesson plans. It also provides teaching strategies, time management tips, and guidance on overcoming challenges, empowering teachers to engage effectively in the remedial programme.

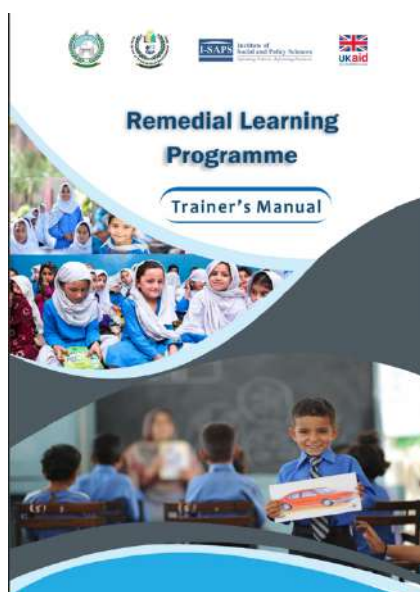


Figure 7: Trainer's Manual - Punjab

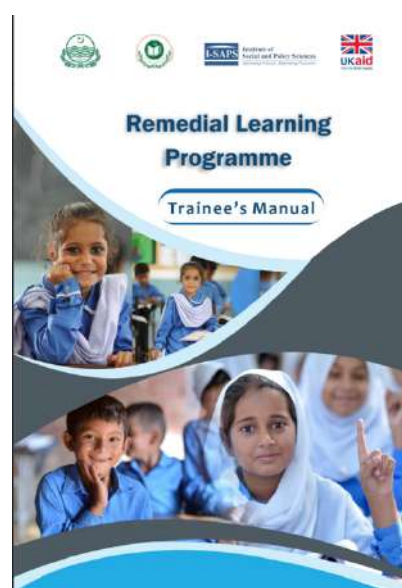


Figure 6: Trainee's Manual - Punjab

4.2 Identification of Schools for the Pilot

The BTAG Remedial Learning Pilot Programme was implemented in a total of 200 schools, comprising 100 schools in Kasur, Punjab, and 100 schools in Charsadda, KP in consultations with QAED in Punjab and DPD in KP. A purposive sampling method was employed to ensure a balanced representation of gender, with an equal number of boys' and girls' schools included.

4.3 Review of the Programme's Material

A comprehensive review of materials developed for the BTAG Remedial Learning Pilot Programme was planned. The review aimed to ensure that the diagnostic tools, lesson plans, and study packs were relevant and compliant with the national curriculum. Additionally, the review focused on assessing the overall quality of these materials.

To facilitate this process, collaborative sessions were organised with the DPD and DCTE in KP and QAED and PEC in Punjab. These sessions allowed subject specialists to provide valuable feedback, aimed to enhance the practicality and effectiveness of the developed resources.

4.3.1 Review by DPD and DCTE, KP

The review in KP took place on **February 14 and 15, 2024**, and involved a panel of eight experts, including senior officials and subject specialists from the DPD and DCTE. The reviewers were selected based on their expertise in foundational literacy and numeracy, as well as their extensive experience in content development.

During the review, the experts evaluated the alignment of the assessment tools, lesson plans and training materials with the specific challenges faced by schools in KP, particularly in terms

of language instruction and resource availability. Their insights ensured a rigorous examination of the developed materials.

Key revisions based on this feedback included adjustments to the total marks and time allocated for the diagnostic assessments to conform with the KP E&SED paper format. Additionally, modifications to the Topic-wise Monitoring and Evaluation form made it more effective and user-friendly. In response to feedback regarding the medium of instruction, the teaching materials for Mathematics were adjusted to be bilingual (English and Urdu). Furthermore, the training material was enhanced to be more interactive and engaging.



Figure 9: Review workshop at ISAPS Peshawar - Day 1



Figure 8: Review Workshop at ISAPS Peshawar - Day 2

4.3.2 Review by QAED and PEC, Punjab

The review in Punjab occurred from **March 6 to March 8, 2024**, and was conducted by a panel of 15 experts, including subject specialists from QAED and PEC, and experts from private sector recommended by QAED.

These specialists focused on assessing the developed materials for Grade 2 to ensure they were aligned with the National Curriculum, teaching practices, and programme's objectives. They evaluated the content for accuracy, applicability, and overall effectiveness of the remedial learning materials. All suggestions made during this review were carefully noted and incorporated into the final materials.



Figure 11: Content Review Workshop in QAED- Day 1



Figure 10: Content Review Workshop at QAED - day 2

4.4 Training of Trainers (TOT)

To effectively reach 400 teachers across Punjab and KP, a cascade model was implemented through the Training-of-Trainers (TOT) programme for selected Master Trainers (MTs). This training aimed to equip MTs with the necessary knowledge and tools to subsequently train Grade 2 teachers, ensuring a smooth rollout of the BTAG Remedial Learning Pilot Programme. The aim was to empower the MTs to support teachers in implementing remedial strategies that address the foundational literacy and numeracy gaps among students.

The TOT had two primary objectives: **first**, to provide MTs with a thorough understanding of the programme's key components, and **second**, to develop their skills in delivering effective training to teachers implementing remedial learning methods in classrooms. Master Trainers were carefully selected based on their expertise in early-grade education and prior training experience with foundational literacy and numeracy content.

4.4.1 TOT at DPD Peshawar

The TOT session held at the ISAPS Office in Peshawar on **March 1st and 2nd, 2024**, was facilitated by BTAG's consultant alongside DPD subject specialists. This two-day intensive programme was specifically tailored for **12 Master Trainers** and focused on equipping them with the skills and strategies necessary to guide Grade 2 teachers in implementing remedial learning intervention effectively.

Day 1: The first day emphasised on foundational knowledge of remedial teaching, including conduct of diagnostic assessment, and development of remediation packages.

Day 2: The second day focused on the practical applications of the concepts. Participants engaged in hands-on activities on conducting diagnostic assessments and implementing the push-in and pull-out methods for remedial teaching.

By the end of the session, MTs were expected to have a comprehensive understanding of the remedial learning programme and possess the necessary skills to effectively cascade their learning to Grade 2 teachers. This included being well-versed in the programme's framework, tools, and teaching methods, ensuring a seamless transition of knowledge for practical application in classrooms.

Testimonial from a Master Trainer

"The two-day training on remedial learning was incredibly fruitful. It significantly enhanced my teaching skills and encouraged me to explore different methodologies tailored to students who need support in specific subjects. For the first time, I encountered the 'push-in' and 'pull-out' interventions, which can be vital in remedial learning contexts.

I also learned about diagnostic tests and how to group class for remediation based on the scores. The trainers, Mr. Ziaudin and Madam Hina, demonstrated exceptional command over the subject matter, facilitating our learning and clarifying any ambiguities through practical demonstrations.

There were 12 trainees in total, and the collaborative environment allowed us to share our experiences and knowledge. I now feel equipped to impart the same training to primary teachers, empowering them to assist students requiring additional support. I feel blessed and honoured to have been part of such an informative platform.”

— Ms. Ayesha Noreen, Instructor, RPDC(F) Charsadda, KP

4.4.2 TOT at District QAED Kasur

TOT programme in Punjab was conducted at the district QAED Kasur from **March 18th to 20th, 2024**. This training session aimed to prepare **18 Master Trainers** to train teachers to implement the remedial learning pilot programme across selected schools in Kasur.

Led jointly by BTAG and QAED facilitators, this three-day programme ensured that participants were well-versed in remedial teaching methods and diagnostic assessment tools.

The **first day** of training set the stage by outlining expectations and exploring the necessity of remedial interventions. The **second day** delved into practical applications, allowing participants to gain hands-on experience in conducting assessments and collaborating on lesson plans. Finally, the **third day** provided opportunities for mock teaching sessions, enabling participants to apply their newly acquired skills in a simulated classroom setting. Reflective discussions concluded each day, promoting continuous learning and adaptation among the Master Trainers.



Figure 13: TOT in progress at district QAED Kasur



Figure 12: Group photo with trainers, trainees and principal QAED

4.5 Distribution and Conduct of Diagnostic Assessment

In Punjab, the diagnostic assessment tools for Mathematics, Urdu, and English were disseminated to teachers, accompanied by specific instructions on their implementation with students. To facilitate a smooth rollout, an orientation session was conducted for Assistant Education Officers (AEOs), equipping them with the knowledge and resources needed to support teachers effectively during this process. This comprehensive session, held on **March 22, 2024**, covered essential aspects of the remedial learning programme, emphasising how

the diagnostic tools should be administered in classrooms and the types of support they were expected to offer teachers throughout the implementation phase. Additionally, a video outlining assessment guideline was developed and shared with teachers to support the implementation of the diagnostic assessments. However, some teachers reported challenges in understanding the assessments, primarily due to a lack of knowledge about their purpose and intended use, along with the absence of prior training. Additionally, logistical issues, such as the timely and complete distribution of assessment tools by the AEOs, hindered the process.

In response to these issues, particularly noted in Punjab, and considering the concurrent annual examinations and a scheduled week-long break in KP, the decision was made to postpone the diagnostic assessments until after the teacher training was completed. This approach aimed to ensure that teachers were adequately prepared and confident in using the diagnostic tools to effectively assess their students.

4.6 Training of Teachers

Following the TOT session, the next phase focused on equipping Grade 2 teachers with the knowledge and skills necessary to implement the remedial learning pilot programme in their classrooms. This phase aimed to ensure that the methodologies and insights imparted to the MTs were effectively cascaded down to classroom teachers, enhancing their capacity to conduct diagnostic assessments, compile results, and create tailored remedial lessons based on student needs.

4.6.1 Training of Teachers at RPDC Charsadda

The three-day training programme at the Regional Professional Development Centre (RPDC) in Charsadda, held from **April 6th to 8th, 2024**, aimed to equip Grade 2 teachers with the essential skills needed to successfully implement the programme in KP. By the end of the training, 12 Master Trainers had successfully trained **203 primary school teachers** from 100 schools, consisting of **102 female** and **103 male** participants.

The training focused on several critical areas. Participants were trained to conduct diagnostic assessments, use topic-wise Monitoring & Evaluation Forms, and complete result compilation forms in both digital and hard copy formats to identify areas requiring remediation. Informed by these diagnostic results, participants practiced developing customised remediation packages using the lesson plans and study packs provided. Additionally, the training introduced effective remediation strategies, including the push-in and pull-out methods, along with lesson delivery and classroom management techniques. The final day of the training featured micro-teaching sessions, allowing participants to apply what they had learned, followed by reflection and feedback.

By the end of the programme, participants felt confident in conducting diagnostic assessments and delivering tailored remediation to meet the needs of their students. They were instructed to conduct the diagnostic assessments of their students in all three subjects and submit the results to the project team using the Monitoring & Evaluation and result compilation forms, which would guide the planning and implementation of the six-week remediation phase.

The training at RPDC Charsadda successfully provided teachers with the necessary skills and knowledge, establishing a strong foundation for the effective implementation of remedial learning interventions. A participant survey conducted at the end of the training revealed that approximately 97.6% of respondents in KP found the training to be effective and expressed satisfaction. A small percentage of participants expressed dissatisfaction, with 1.3% strongly disagreeing and 1.1% disagreeing about the training's effectiveness, as shown in the figure 14.

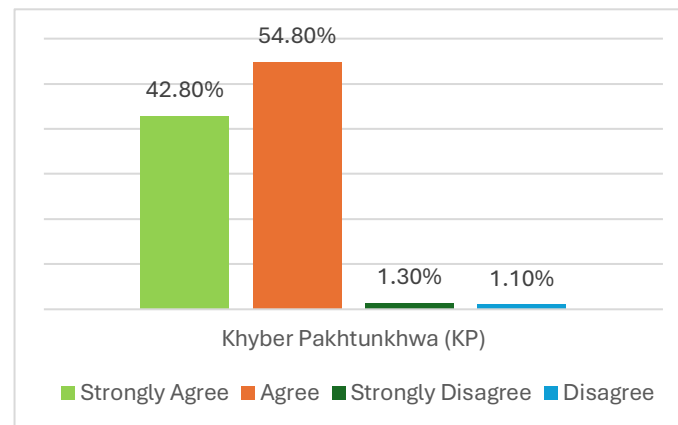


Figure 14: Participants' Satisfaction with the training - KP

A more detailed analysis of the survey indicators showed that overall training quality and opportunities for collaboration were rated the highest, with 99% satisfaction. Meanwhile, the appropriateness of infrastructure and facilities received the lowest rating, though still scoring 96%, as reflected in the figure 15.

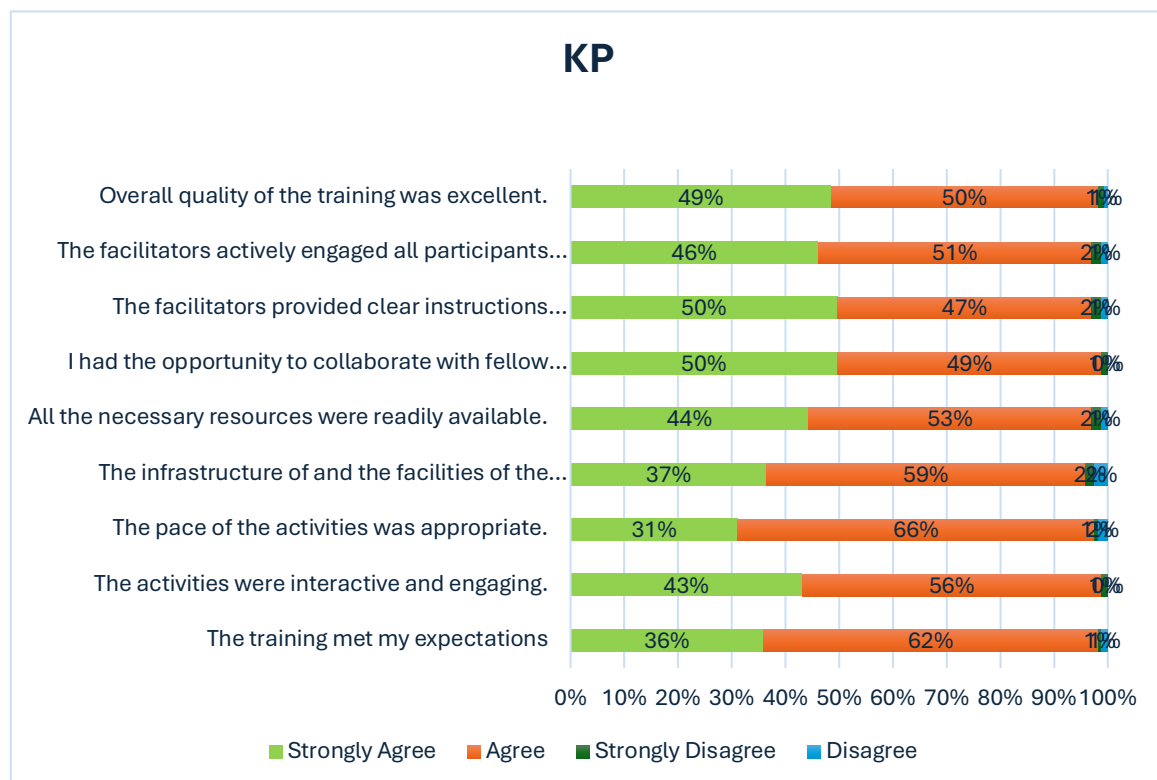


Figure 15: Breakdown of Participants' Satisfaction with the training - KP

4.6.2 Training of teachers at district QAED Kasur

Similar to the programme in KP, a three-day remedial training programme was conducted at QAED Kasur from **March 28th to 30th, 2024** to equip Grade 2 teachers with the necessary skills required for effectively implementing the programme. By the conclusion of the training, 18 MTs had successfully trained **188 primary school teachers** from 100 schools, including **91 male** and **97 female** participants.

The training covered key components of the remedial learning programme, such as conducting diagnostic assessments, developing remediation packages, monitoring the progress of students and delivering targeted interventions using push-out and pull-in methods. Participants also practiced using Monitoring & Evaluation and Result Compilation forms to identify areas in need of improvement. Teachers who had already conducted diagnostic assessments with their students worked in groups to develop remediation packages based on their findings. The training also focused on the use of structured lesson plans tailored to address learning gaps, alongside strategies for classroom management and effective teaching.

The final day was dedicated to consolidating the teachers' learning through micro-teaching sessions, followed by reflection and feedback. Teachers who had completed diagnostic assessments were instructed to implement their remediation packages, while those who had not done it or conducted it incorrectly, were asked to reconduct the assessments. All participants were directed to use the Topic-wise Monitoring and Evaluation Forms and result compilation forms to submit student scores to the project team.

The training highlighted the importance of effective lesson planning, informed by the diagnostic assessment results, and the use of tailored teaching materials to achieve SLOs. As a result, teachers left the training with increased confidence in their ability to address specific learning gaps, a critical factor in improving educational outcomes for their students.



Figure 16: Teacher Training Session at district QAED Kasur

A participant satisfaction survey conducted at the conclusion of the training revealed that the majority of participants expressed high levels of satisfaction. In Punjab, nearly 97% of participants reported a positive experience, as illustrated in the figure 17.

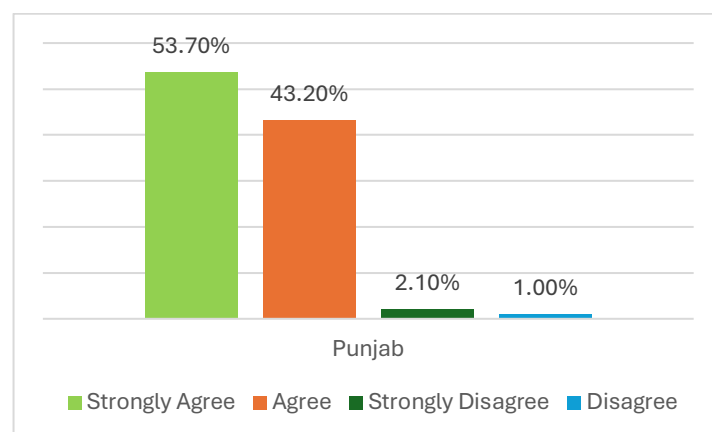


Figure 17: Participants' Satisfaction with the training - Punjab

Further analysis of the survey indicators shows consistently high satisfaction levels across all areas. Participants gave the highest scores for opportunities for collaboration and clear facilitation. While the lowest scores were for indicators such as having all necessary resources readily available and activities being interactive and engaging, these still received satisfaction ratings above 95%, as shown in figure 18.

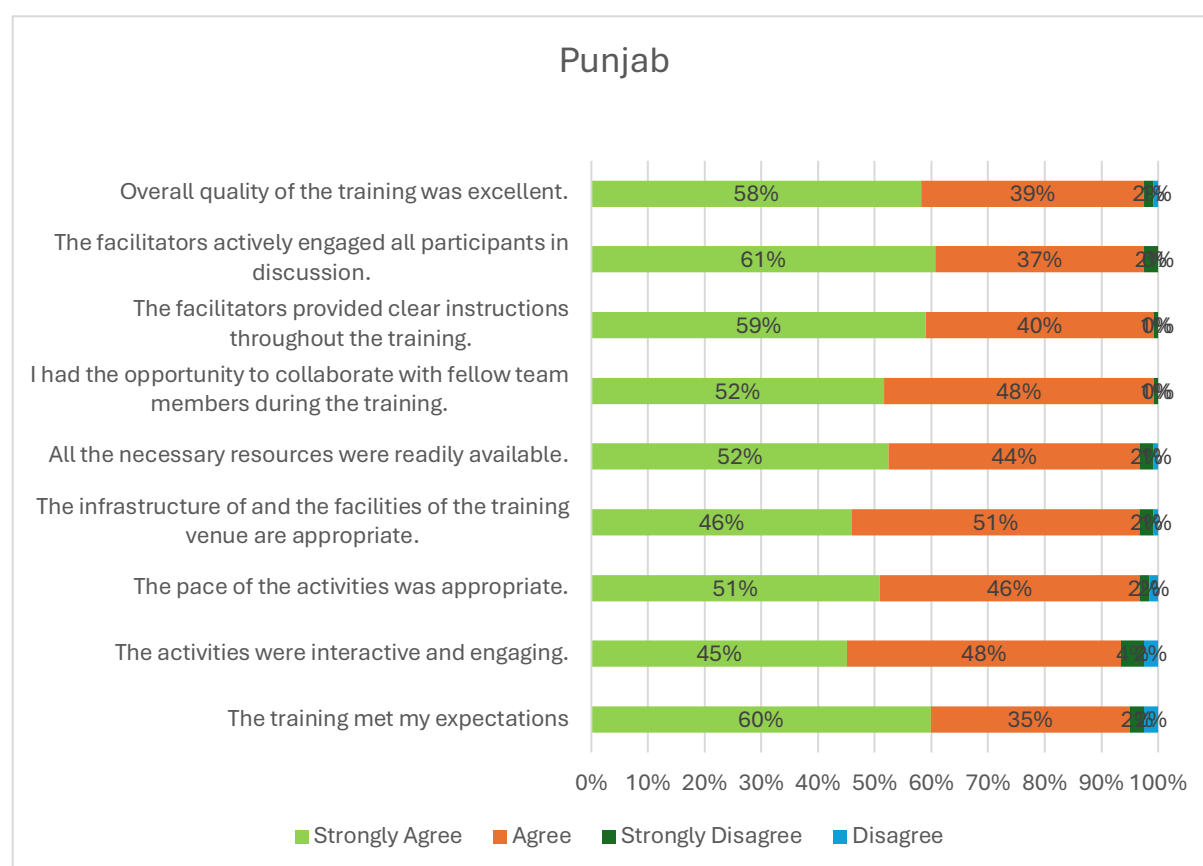


Figure 18: Breakdown of Participants' Satisfaction with the training - Punjab

4.7 Compilation and Reporting of Diagnostic Assessment Results

Following the training sessions, diagnostic assessments were conducted between **April 9th to 13th** in KP, and from **March 26th to April 3rd** in the remaining schools in Punjab. The results

of the pre-remedial diagnostic assessments were compiled by teachers across all schools and subsequently shared through the following forms:

1. **Monitoring and Evaluation Forms:** Topic-wise Monitoring and Evaluation Forms for English, Urdu, and Mathematics were developed by the project team through Google Forms and distributed to teachers. These forms, introduced during the training, enabled teachers to document and analyse student performance in each diagnostic assessment against each SLO. The forms were self-analysing, providing immediate insights into student progress and highlighting areas that needed remediation. This tool proved invaluable in assisting teachers to track and address learning gaps effectively.
2. **Result Compilation Form:** A standardised result compilation form was used to aggregate the scores across all assessment items for each school, offering teachers a comprehensive overview of the diagnostic results.

Throughout the process, MTs provided continuous support, organising briefings with teachers and school administrators to address any emerging issues. MTs maintained regular contact with teachers, both individually and via WhatsApp groups, to ensure smooth communication. Teachers shared their assessment results with MTs, who then forwarded the data to the project team. Multiple platforms, including email, Google Drive, and WhatsApp groups, were established to facilitate the timely and efficient submission of results, ensuring prompt analysis and planning for the remediation phase.

4.8 Implementation of Remedial Learning Programme

Following the successful training of teachers and the completion of pre-remedial diagnostic assessments in KP and Punjab, the remedial learning programme commenced on **April 22, 2024**. Teachers utilised the results from the diagnostic assessments to develop customised remediation packages, including lesson plans and study materials tailored for both whole-class instruction and targeted interventions for selected students. Whole-class remediation sessions were designed to engage all students and were integrated into regular class periods, while targeted interventions focused on smaller groups of students and were conducted during recess or occasionally before or after school.

Throughout the pilot, teachers received ongoing support through WhatsApp groups moderated by QAED's Master Trainers. This platform proved invaluable for making important announcements, discussing challenges, and collaboratively finding solutions. However, an unexpected heatwave led to early school closures, prompting the post-diagnostic assessment to be rescheduled from June 4-5 to May 23-25, which reduced the pilot duration to four weeks instead of the planned six.

Several practices were identified as critical to the success of the remedial programme:

1. **Planning Remediation:** Teachers effectively planned their lessons using the teaching guide and study packs provided. They determined the number of teaching periods required for each SLO and organised lessons to address specific learning gaps. For pull-

out interventions, teachers conducted additional sessions during recess, before school (zero period), and sometimes after school.

2. **Monitoring and Continuous Evaluation:** Regular monitoring and tracking of students' progress were facilitated through ongoing assessment integrated into lesson plans. This approach allowed teachers to adjust their teaching strategies in real time, ensuring that all students received the necessary support.
3. **Student-Centred Learning:** The programme emphasised interactive and student-centred teaching methods. Activities included group work, hands-on learning experiences, and the incorporation of educational games, making learning more engaging and effective.
4. **Teaching and Learning Resources:** Teachers expressed appreciation for the high-quality lesson plans and study packs, which saved time in lesson planning and provided opportunities for additional student tasks. These resources contributed to improved SLOs by allowing students to practice and reinforce their learning.
5. **Challenges Faced:** Teachers encountered several challenges, including difficulties in managing multigrade classrooms, and coping with increased workloads due to high student-teacher ratios (STRs). Additionally, some teachers struggled to encourage students to arrive early or stay after school for additional support. In some areas of Kasur, student attendance rates were significantly impacted during the wheat harvest season, as many students were required to assist their families.
6. **Peer Support:** Regular support was provided to teachers through District QAED in Punjab and RPDC in KP. WhatsApp groups were developed for this purpose. MTs and the BTAG team offered hands-on information and guidance on effective remedial teaching strategies, classroom management, and utilising assessment data to inform instruction. In Punjab, AEOs were also briefed on how to support teachers during their regular school visits. Additionally, the programme trained two teachers from each school allowing peer collaboration among teachers to discuss and resolve issues together, fostering a supportive learning community.

Testimonial from a Primary School Teacher

"The Remedial Learning Programme has proven to be an invaluable tool in supporting students who are struggling academically. By providing tailored interventions that directly address their unique learning needs, the programme has helped these students make significant progress, especially in foundational literacy and numeracy. As a participant in the pilot programme being tested across 100 schools, I have seen first-hand the positive impact it can have on student performance.

However, I firmly believe that this initiative should not be limited to just a few schools. It should be expanded to all primary schools in Punjab to ensure that every student has the opportunity to benefit from targeted remedial support. Additionally, regular teacher training is critical—not only for my own professional development but also for ensuring that I am

equipped with the latest strategies to help my students achieve their Student Learning Outcomes (SLOs). Continuous learning keeps us teachers prepared to better address the evolving challenges in the classroom."

— Sidra Tahir, Primary School Teacher (PST), GPS Mustafabad, Kasur

4.9 Conduct of Post-Assessment and Reporting

The pilot programme was prematurely concluded on May 23 due to an unexpected heatwave, which led to early school closures for summer vacation. Teachers in the pilot schools across both provinces were instructed to conduct the same diagnostic assessment as a post-assessment from May 23 to 25.

The results of the post-assessment were compiled and shared using the same structured forms and channels as those employed for the pre-remedial diagnostic assessment. This approach aimed to measure the effectiveness of the remedial learning programme by comparing student performance before and after the intervention.

A challenge identified in conducting the post-assessment was the limited time available to teachers due to early school closures for the summer break. Additionally, student attendance was impacted by the heatwave, resulting in lower participation rates. Logistical issues, such as the timely and complete distribution of assessment tools within this constrained timeframe, further complicated the process. Consequently, these factors contributed to incomplete data submission from some schools and students, which was ultimately excluded from the analysis.

Section V: Results & Analysis

To assess the effectiveness of the intervention, various strategies were employed throughout the duration of the pilot. This section presents the results from the diagnostic assessment conducted at the start of the intervention and the post-assessment conducted at the end. Additionally, a teacher perception survey was administered to gather insights into teaching practices. The collected data were systematically recorded and analysed, leading to a comprehensive understanding of the programme's impact. The subsequent section provides an analysis of the findings.

5.1 Diagnostic Assessment and Post-Assessment Results

The effectiveness of educational interventions, particularly in remedial learning, relies heavily on the ability to measure changes in student performance. In this section, we present the results of the diagnostic assessments conducted prior to the implementation of the remedial learning programme and the subsequent post-assessments administered after its completion. By comparing pre- and post-test results, we can better understand the intervention's impact on student learning outcomes.

5.1.1 Overall Summary

Results show that student learning levels, for all three subjects i.e., English, Urdu, and Mathematics, have seen a statistically significant increase in both provinces.

Specifically, the results from the paired t-test³³ show that on average, the change in scores obtained by students:

- In Punjab is:
 - +5.54 marks for English,
 - +5.32 marks for Urdu,
 - +3.28 for Mathematics
- In KP is:
 - +6.39 marks for English,
 - +10.85 marks for Urdu,
 - +5.63 for Mathematics

Overall, we see higher differences for all three subjects in Khyber Pakhtunkhwa. However, it does not necessarily indicate higher effectiveness of the intervention in the KP province as compared to Punjab. A deeper look at the data indicates that the average scores in KP were

³³ Paired t a statistical method used to compare the means of two measurements (pre and post) to assess whether there is a significant difference between the two sets of measurements

below the average scores in Punjab for all three subjects, hence having higher scope of improvement. Figure 19 summarises the impact for each subject for both provinces.

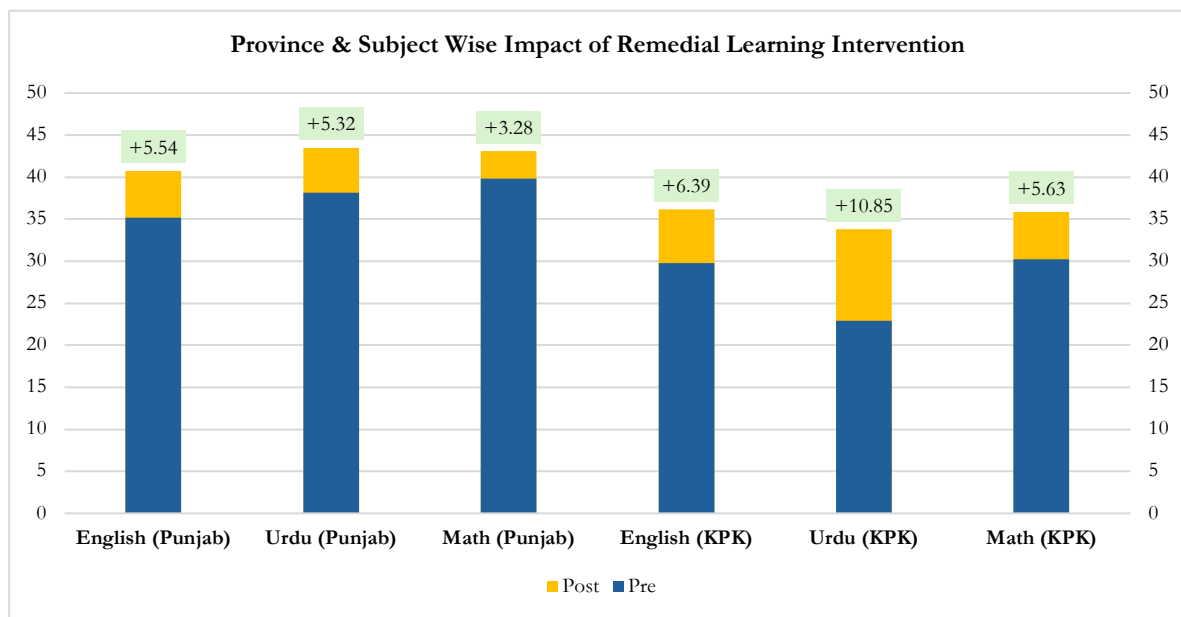


Figure 19: Impact of Remedial Learning Pilot Programme for each subject in KP and Punjab

5.1.2 Detailed Analysis of Results

This subsection presents a detailed analysis of results to understand the impact of remedial learning intervention on learning levels of students in English, Urdu, and Mathematics in both the provinces: Punjab and KP.

To evaluate the impact, paired t-test is used. The paired t-test compared before and after measurements for the same students for all three subjects separately. The test results provide the overall difference in learning levels before and after the intervention while the p-value indicates if the difference in mean scores is statistically significant.

We also look at the distribution of scores before and after the intervention for all three subjects. To visually analyse the changes in distribution of scores, box plots are made by subject to compare the distribution as well as median of student scores by subject. Box plots are particularly useful to visualise data along with paired t-tests because they provide a clear and concise graphical representation of the distribution of both groups being compared, student scores before and after the intervention in this case.

Box plot has following elements:

- **Box** (interquartile range, IQR) showing the middle 50% of the data.
- **Median** (a line within the box) representing the middle value of the data.
- **Whiskers:** Lines extending from the box to the smallest and largest values within 1.5 times the IQR from Q1 and Q3, respectively to show the spread of the data.

- **Outliers** (if any) are individual data points beyond the whiskers, indicating values that are unusually high or low.

5.1.3 Findings from Punjab

This section presents the subject wise results of t-test on mean scores, before and after the intervention, from Punjab.

Results for English

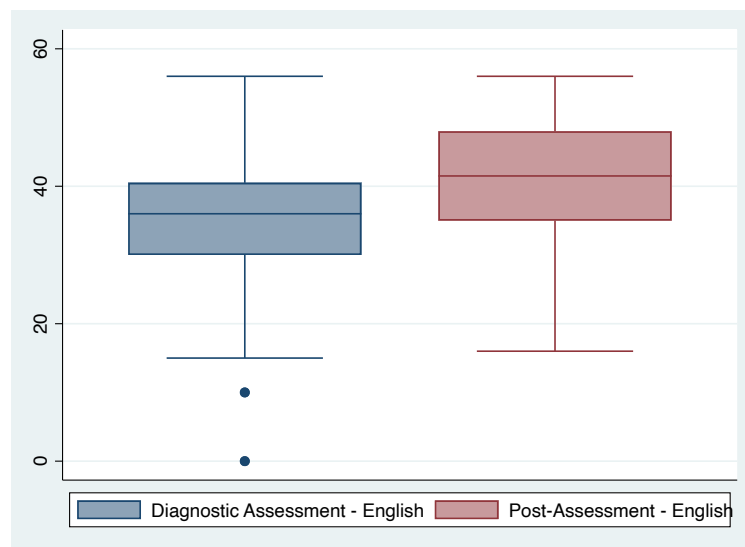


Figure 20: Pre and post-test results in English

The box plot in the figure 19 indicates that distribution of scores for English has higher median in the post assessment, indicating a positive shift in learning levels for English in Punjab.

The results of the paired t-test for scores obtained by students in English are shown in table 4 below:

<i>Variable</i>	<i>Obs.</i>	<i>Mean</i>	<i>SD</i>	<i>t</i>	<i>df</i>	<i>p-value</i>	<i>[95%Conf. Interval]</i>	
<i>English_Post</i>	175	40.73	8.31					
<i>English_Pre</i>	175	35.19	8.58					
<i>Diff.</i>	175	5.54	9.99	7.34	174	0.00	4.05	7.03

The t-test results show that average marks obtained by students for English in Punjab before intervention was 35.19 which increased to 40.73 after the intervention. The difference between the mean scores, before and after the intervention, is +5.54 which is statistically significant with a p-value of 0.00 and t-statistic of 7.34. The confidence interval values show that we are 95% confident of the true average difference to be in the range of +4.05 and +7.03.

Results for Urdu

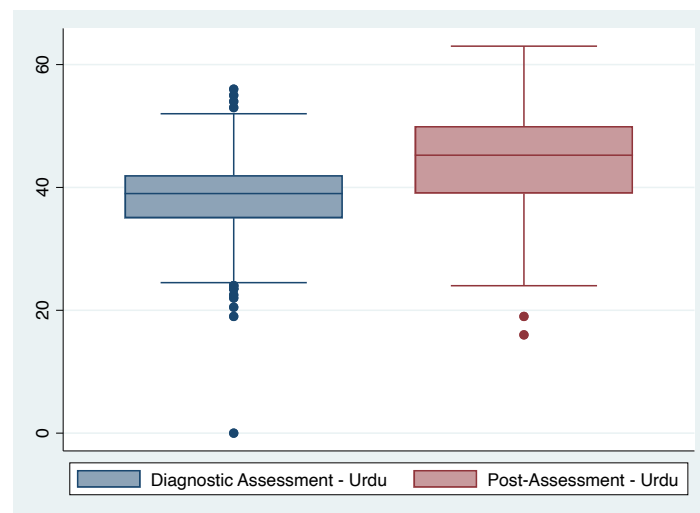


Figure 21: Pre and post-test results in Urdu

We observe a similar change for Urdu as for English. The box plot indicates that the median of students' scores has increased after the intervention in comparison to before.

The results of the paired t-test are shown in table 5 below:

Table 5: Paired t-test for scores obtained by students in Urdu

<i>Variable</i>	<i>Obs.</i>	<i>Mean</i>	<i>SD</i>	<i>t</i>	<i>df</i>	<i>p-value</i>	<i>[95%Conf. Interval]</i>	
<i>Urdu_Post</i>	190	43.48	7.95					
<i>Urdu_Pre</i>	190	38.16	7.18					
<i>Diff.</i>	190	5.32	7.88	9.31	189	0.00	4.19	6.45

The average marks obtained by students for Urdu in Punjab before intervention was 38.16 which increased to an average value of 43.48 after the intervention.

The difference between the mean scores, before and after the intervention, is +5.32 which is statistically significant with a p-value of 0.00 and t-statistic of 9.31.

The confidence interval values also indicate with 95% confident that the true average of pre-post difference lies in the range of +4.19 and +6.45.

Results for Mathematics

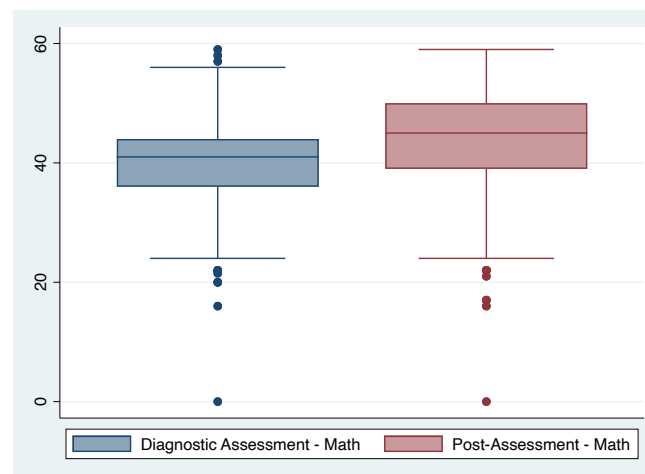


Figure 22: Pre and post-test results in Math

Similar to other two subjects, the box plot indicates a positive shift in median of students' scores for Mathematics.

The results of the paired t-test for Mathematics are shown in table below:

Table 6: Paired t-test for scores obtained by students in Mathematics

<i>Variable</i>	<i>Obs.</i>	<i>Mean</i>	<i>SD</i>	<i>t</i>	<i>df</i>	<i>p-value</i>	<i>[95%Conf. Interval]</i>	
<i>Math_Post</i>	175	43.09	8.97					
<i>Math_Pre</i>	175	39.81	8.09					
<i>Diff.</i>	175	3.28	9.46	4.59	174	0.00	1.87	4.69

The average marks for Mathematics have increased from 39.81 before the intervention to 43.09 after the intervention with a positive change of 3.28.

This difference between the mean scores i.e., +3.28 is statistically significant with a p-value of 0.00 and t-statistic of 4.59.

The confidence interval indicates that with 95% confidence, it can be concluded that the true average of pre-post difference for Math lies between the range of +1.87 and +4.69.

5.1.4 Findings from Khyber Pakhtunkhwa

This section presents the subject wise results from Khyber Pakhtunkhwa.

Results for English

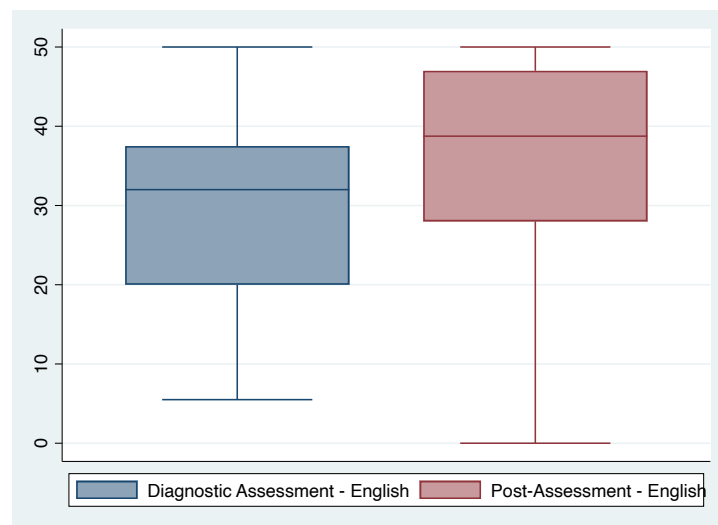


Figure 23: Pre and post-test results in English

The distribution in scores obtained by students for English has seen an upward shift with increased median score before and after the intervention.

The results of the paired t-test for scores obtained by students in English are shown in table and explained below:

Table 7: Paired t-test for scores obtained by students in English

<i>Variable</i>	<i>Obs.</i>	<i>Mean</i>	<i>SD</i>	<i>t</i>	<i>df</i>	<i>p-value</i>	<i>[95%Conf. Interval]</i>	
<i>English_Post</i>	294	36.12	12.31					
<i>English_Pre</i>	294	29.74	11.08					
<i>Diff.</i>	294	6.39	12.65	8.65	293	0.00	4.93	7.84

The t-test results show that average marks obtained by students for English in KP before intervention was 29.74 which increased to 36.12 after the intervention. The difference between the mean scores, before and after the intervention, is +6.39 which is statistically significant with a p-value of 0.00 and t-statistic of 8.65. The confidence interval values indicate that the true average difference lies in the range of +4.93 and +7.84.

Results for Urdu

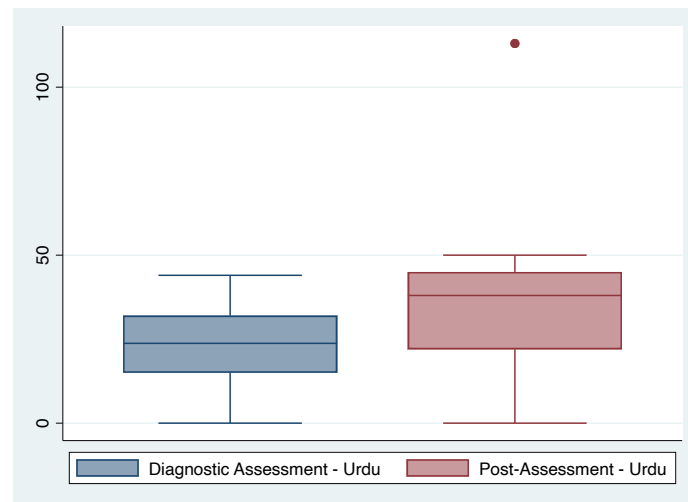


Figure 24: Pre and post-test results in Urdu

Similar change is seen for marks obtained in Urdu. The box plot indicates that the median of students' scores has increased after the intervention in comparison to before intervention.

The results of the paired t-test are shown in table below:

Table 8: Paired t-test for scores obtained by students in Urdu

<i>Variable</i>	<i>Obs.</i>	<i>Mean</i>	<i>SD</i>	<i>t</i>	<i>df</i>	<i>p-value</i>	<i>[95%Conf. Interval]</i>	
<i>Urdu_Post</i>	294	33.76	14.86					
<i>Urdu_Pre</i>	294	22.92	10.93					
<i>Diff.</i>	294	10.85	11.57	16.07	293	0.00	9.52	12.17

The average marks obtained by students for Urdu in KP before intervention was 22.92 which significantly increased to an average value of 33.76 after the intervention.

The difference between the mean scores, before and after the intervention, is +10.85 which is statistically significant with a p-value of 0.00 and t-statistic of 16.07.

The confidence interval values also indicate with 95% confident that the true average of pre-post difference lies in the range of +9.52 and +12.17.

Results for Mathematics

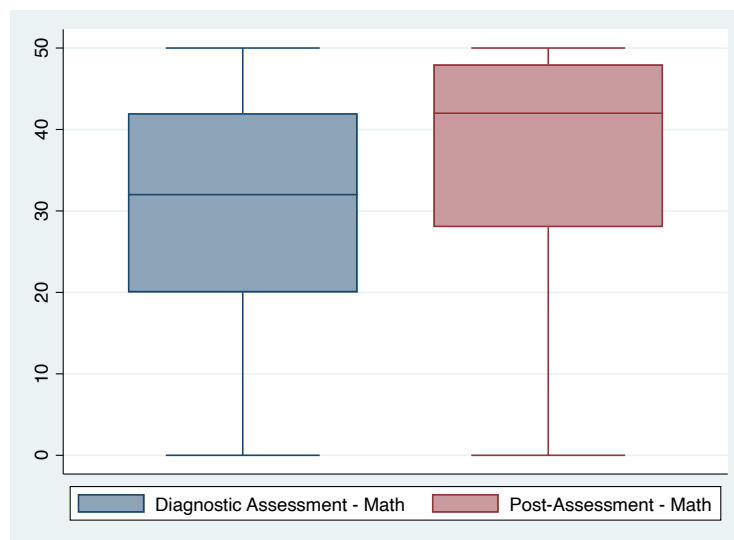


Figure 25: Pre and post-test results in Math

The box plot for distribution of scores on Mathematics before and after the intervention indicates a positive shift in median of students' scores.

The results of the paired t-test for Mathematics are shown in table below:

Table 9: Paired t-test for scores obtained by students in Mathematics

Variable	Obs.	Mean	SD	t	df	p-value	[95%Conf. Interval]	
Math_Post	294	35.86	15.05					
Math_Pre	294	30.23	13.31					
Diff.	294	5.63	16.84	5.73	293	0.00	3.70	7.56

The average marks for Mathematics have increased from 30.23 before the intervention to 35.86 after the intervention with a positive average change of 5.63.

This difference between the mean scores i.e., +5.63 is statistically significant with a p-value of 0.00 and t-statistic of 5.73.

The confidence interval indicates that with 95% confidence, it can be concluded that the true average of pre-post difference for Math lies between the range of +3.70 and +7.56.

5.2 Teacher Perception Survey

Following the post-diagnostic assessment phase of the programme, a teacher perception survey was conducted to gather qualitative feedback on the programme's effectiveness. This survey aimed to capture insights into teachers' experiences, motivation levels, and classroom practices related to the implementation of remedial learning strategies.

The data collected through the survey provided valuable information for evaluating the programme's impact on teachers' instructional practices and students' learning levels. Key areas explored included teachers' perceptions of the training they received, the usefulness of

the materials provided, their confidence in implementing remedial programme, challenges they faced and their overall satisfaction with the intervention.

The findings from the survey are highlighted below:

5.2.1 Remedial Programme Knowledge

When asked about their understanding of the remedial programme, the majority of participants indicated a significant improvement, with 21.1% reporting that their understanding had "somewhat improved," suggesting that the training and resources provided effectively enhanced teachers' knowledge about the programme and its implementation strategies, as shown in figure 26.

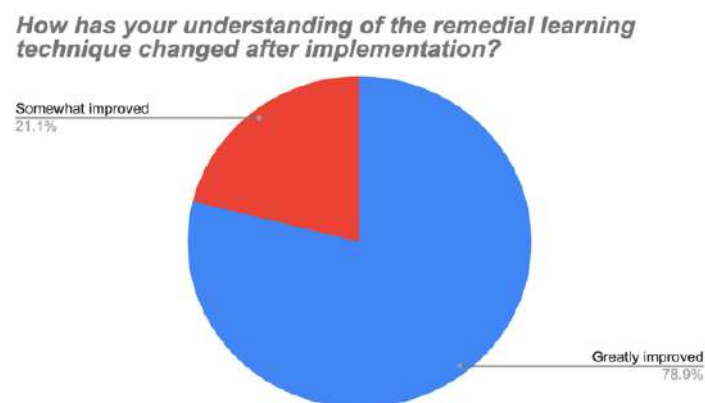


Figure 26: Teachers' knowledge and understanding of remediation

5.2.2 Remedial Learning Programme Material

Regarding the materials used in the remedial learning programme, including diagnostic assessments, lesson plans, and study packs, 78.9% of participants found them to be extremely relevant. Additionally, 15.8% indicated that they found the materials somewhat relevant, while only 5.3% deemed them somewhat irrelevant. Further analysis highlighted that the participants who found the materials somewhat irrelevant reported difficulties in applying them effectively in their classrooms, particularly in contexts with high STR, multigrade classrooms, and resource constraints.

Additionally, while 15.8% of respondents expressed that they found the materials overwhelming and challenging to implement, an encouraging 84.2% felt confident that the materials adequately addressed their students' needs. This feedback suggests that while the materials were generally well-received, additional support and modifications can help ensure effective implementation across diverse classroom settings.

Was the remedial learning material (diagnostic assessments, lesson plans, study packs) relevant to you...

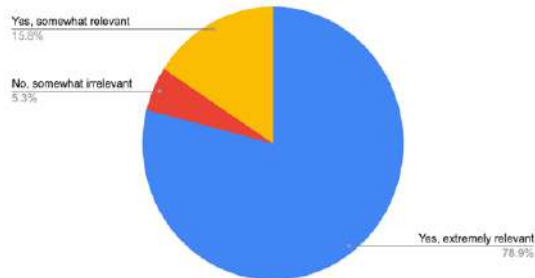


Figure 28: Relevance of the material

Was the diagnostic assessment and lesson plans easy to conduct?

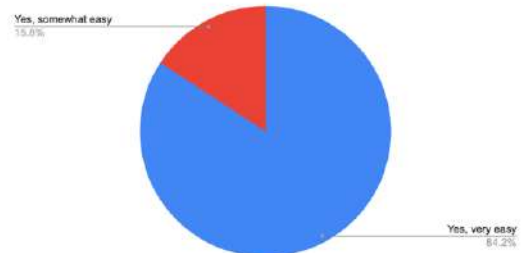


Figure 27: Ease of Materials Implementation

Did the remedial learning material respond to the needs of both teachers and students?

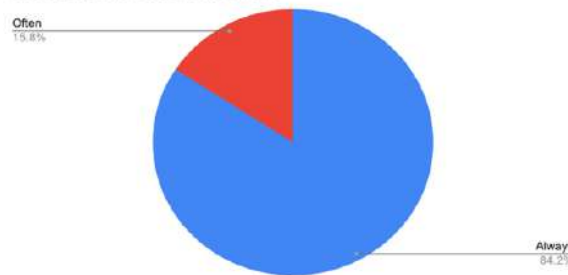


Figure 29: Responding to the needs of teachers and students

5.2.3 Classroom Practices

When asked about their classroom practices, the majority of teachers indicated that they planned and conducted remedial classes once or several times a day, with only a few opting for once or twice a week. Specifically, 78.9% of teachers conducted these sessions during regular class time. Additional scheduling included after school hours, during recess, and occasionally before school as shown by figure 30.

What was the frequency of remedial classes you conducted?

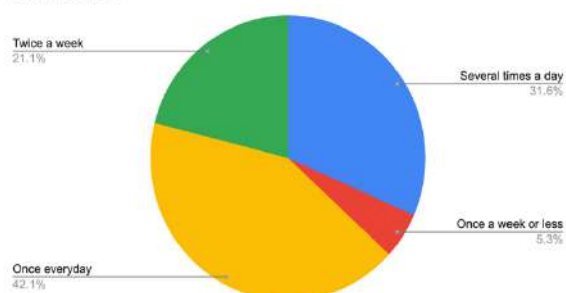


Figure 31: Frequency of Remedial Classes

When did you conduct remedial classes?

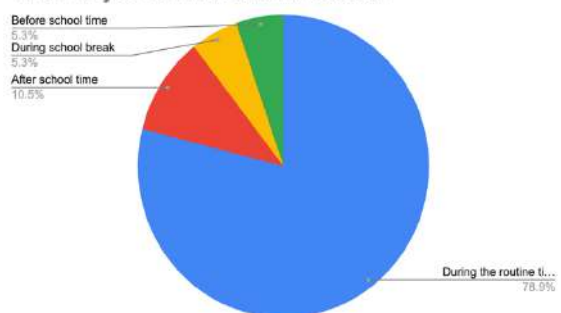


Figure 30: Conduct of Remedial Classes

Specific remedial teaching techniques that teachers used in classroom included small group remediation by at least half of the respondents with 26.3 % conducting individual remediation and 15.8 % doing whole class remediation. A minor 5.3 % also did peer-assisted learning as per figure 32.

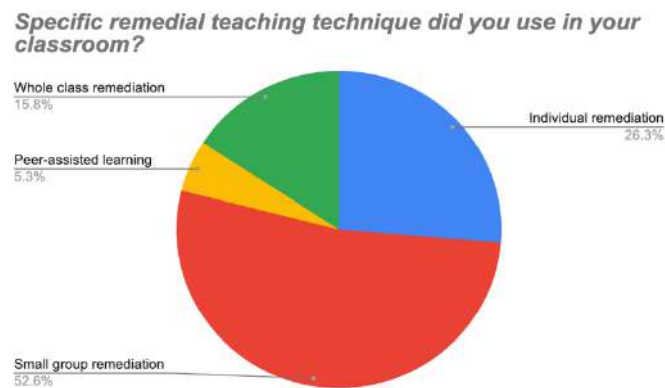


Figure 32: Remedial Teaching Techniques used in Classroom

Teachers faced a variety of challenges during the implementation of the remedial learning programme. Key among these was time management, as they had to juggle additional classes for remedial instruction alongside their regular teaching responsibilities. Some teachers reported limited classroom space for conducting activities, which made it difficult to implement interactive, activity-based teaching methods. Additionally, the large class sizes hindered the ability to provide individual or small group attention, further complicating efforts to support struggling students effectively.

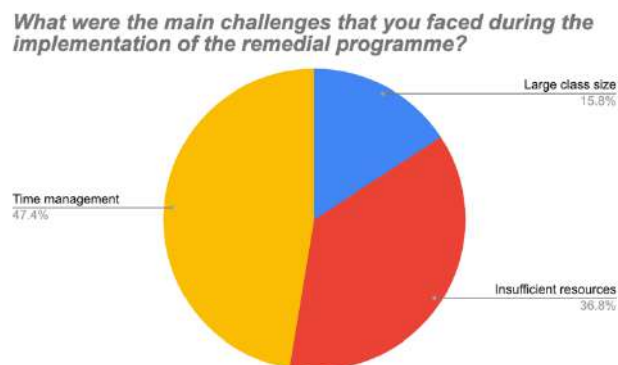


Figure 33: Challenges faced during classroom implementation

5.2.4 Peer Collaboration

The programme emphasised peer collaboration, encouraging teachers to discuss their challenges with their fellow teachers. The teachers primarily collaborated with their fellow trained teachers and occasionally with their headteachers. Most participants reported feeling strongly supported by their peers during this process. This collaborative environment fostered open communication, allowing teachers to share best practices, discuss effective strategies for remediation, and troubleshoot common issues encountered in the classroom.

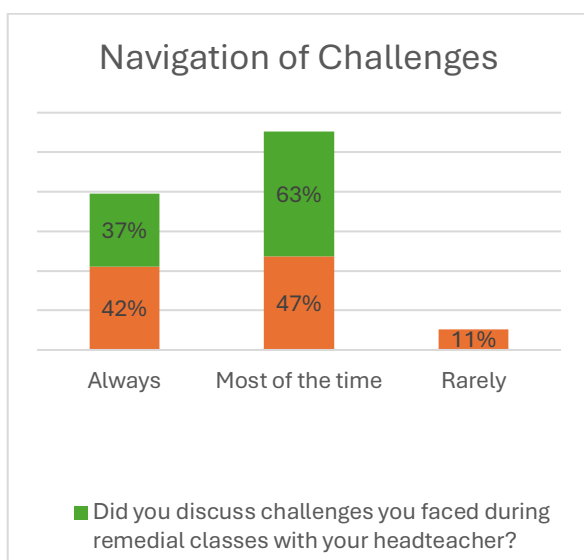


Figure 35: Headteachers Support

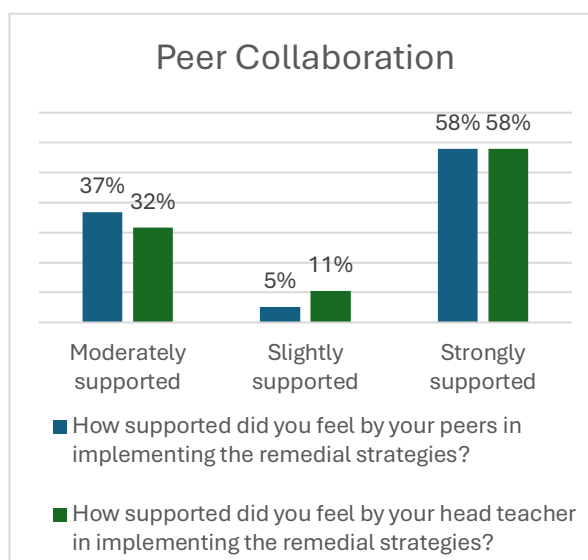


Figure 34: Peer support and collaboration

Face-to-face support and WhatsApp emerged as the primary channels for teachers to discuss challenges and seek feedback regarding specific questions related to the remedial programme.

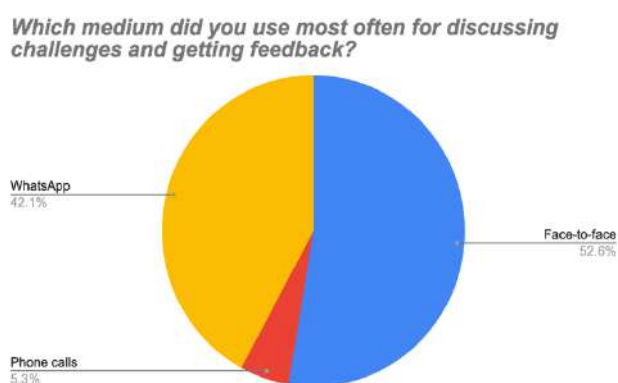


Figure 36: Medium of collaboration and sharing

5.2.5 Impact of the Programme

Regarding the programme's impact, 78.9% of the participants reported it to be very effective in enhancing student learning outcomes, and 57.9% expressed confidence in their ability to implement a remedial programme effectively. Additionally, teachers noted that the majority of their students responded positively to the programme. Almost all respondents agreed that the remedial learning pilot programme contributed to improvements in their teaching practices, as well as in students' understanding, classroom participation, motivation to learn, and overall confidence, albeit to varying degrees.

How effective do you believe remedial programme is in improving student learning outcomes?

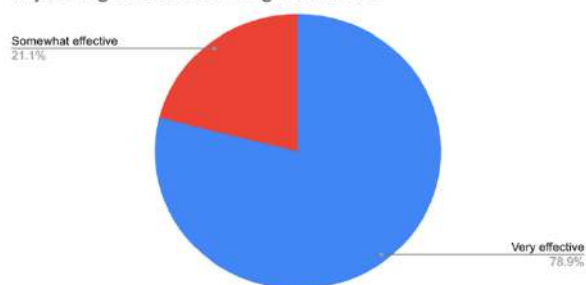


Figure 38: Impact on Student Learning Outcomes

What is your level of confidence in providing need-based support to students through remedial learning program...

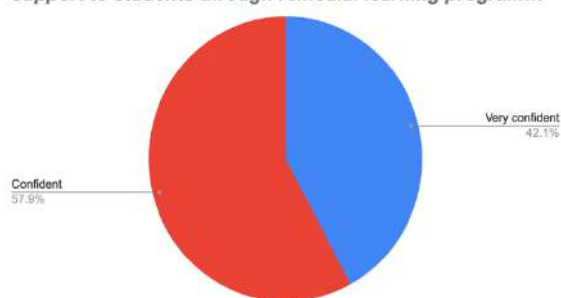


Figure 37: Impact on teachers' confidence

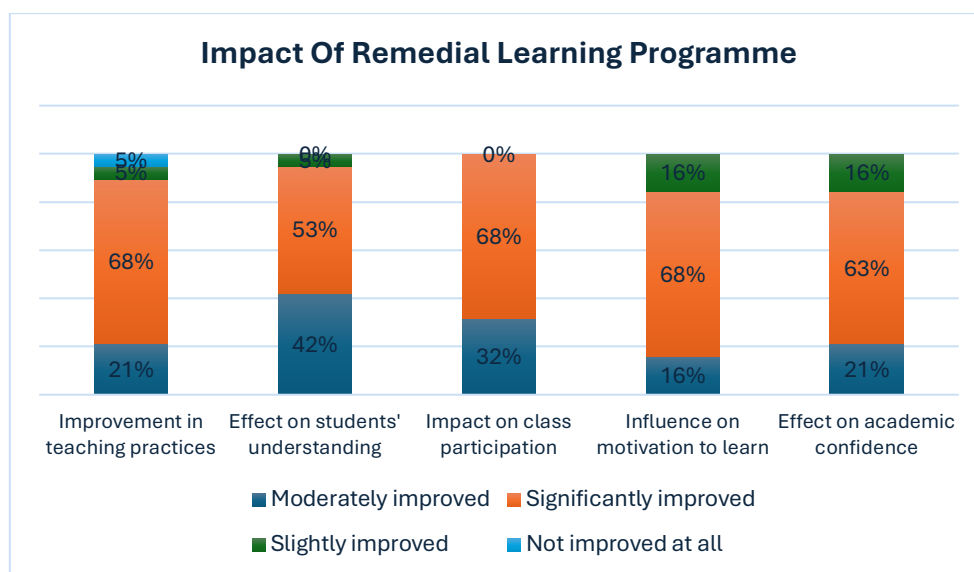


Figure 39: Impact of Remedial Learning Pilot Programme

How have your students responded to the changes in your teaching practices due to the remedial programme?

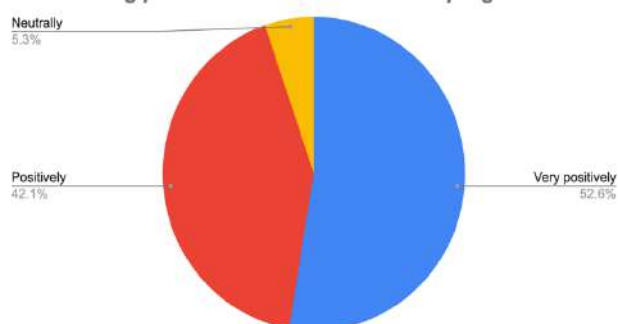


Figure 40: Students' Response

5.2.6 Ongoing Support

For ongoing support, a significant number of teachers indicated a need for additional resources and materials, highlighting their importance and effectiveness in enhancing the remedial learning process. Additionally, many teachers expressed a desire for more

professional development workshops to better equip them for implementing such programmes effectively. An impressive 84.2% of respondents reported feeling motivated to participate in any future remedial programmes, reflecting a strong commitment to continuous improvement in their teaching practices.

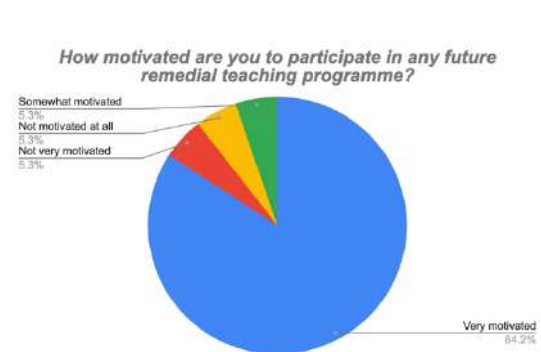


Figure 42: Teachers' Motivation

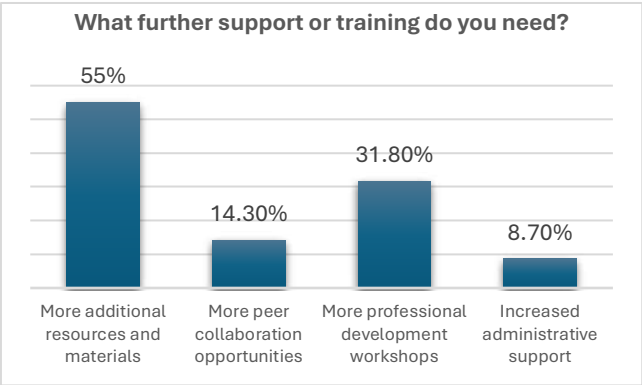


Figure 41: Ongoing Training Needs

Section VI: Lessons Learned & Recommendations

This section outlines the key insights gained from the implementation of the pilot programme, highlighting both the successes and challenges encountered. The lessons learned reflect analysis of the data, practical experiences of teachers and observations that can inform future initiatives. Based on these findings, a set of recommendations has been developed to guide improvements in programme design and develop a way forward.

6.1 Lessons Learned

The remedial learning pilot programme provided valuable insights into both the successes and challenges of implementing targeted instructional interventions aimed at improving foundational literacy and numeracy in primary schools. Some of the key lessons learned including the limitations during the programme's implementation have been detailed below:

1. Improved Student Learning Outcomes (SLOs)

The pilot demonstrated that remedial learning programmes can significantly enhance foundational literacy and numeracy skills among students. The intervention led to a statistically significant improvement in student performance across all three subjects in both KP and Punjab, showing the potential of tailored remediation to effectively reduce learning poverty in Pakistan. The use of customised remediation packages, specifically designed to address identified learning gaps, played a crucial role in this success.

2. Effectiveness of Teaching & Learning Materials, Teacher Training and Peer Support

The pilot underscored the critical role that high-quality teaching and learning materials, along with teacher training and peer support, play in the success of remedial programmes. Teachers reported that the provided materials—diagnostic assessments, lesson plans, and study packs—were highly effective, with 78.9% finding them extremely relevant to their classroom needs. These resources were essential in helping teachers create tailored remediation packages that addressed specific learning gaps. Coupled with this, teacher training significantly boosted confidence, with over 97% of teachers expressing high satisfaction in their ability to conduct assessments and deliver remedial lessons. While training ensured that teachers were well-prepared, continuous support through WhatsApp groups and direct face-to-face interactions helped address implementation challenges. Peer collaboration, facilitated through these platforms, emerged as a valuable tool, allowing teachers to exchange ideas, share best practices, and problem-solve together, further enhancing the programme's effectiveness in improving student outcomes.

3. Implementation Challenges

Some teachers struggled to effectively implement the remedial learning programme in classrooms with high STRs, multigrade settings, or resource-constrained environments. Managing both regular and remedial classes, particularly offering individual or small group attention increased teacher workloads, creating additional strain in some schools. Moreover, the pilot was impacted by challenges like low student attendance during the wheat harvest

season in Kasur, during which students assisted their parents, and school disruptions due to extreme weather conditions in both provinces.

To address these issues, teachers should be empowered and trained to adapt the materials according to their specific classroom needs, with flexible scheduling and greater community engagement to ensure that learning continues despite disruptions. Additionally, to alleviate the burden on teachers, community volunteers should be engaged as teaching assistants to better manage classroom dynamics.

4. Pilot Duration and its Impact on Data Collection

The pilot programme faced disruption due to an unexpected heatwave, which led to early school closures and cut the planned six-week intervention down to just four weeks. This time constraint limited the teachers' ability to fully conduct the remediation sessions as planned. Additionally, student absenteeism caused by the extreme weather further hindered consistent implementation. The reduced timeline also impacted the post-assessment phase, where some schools were unable to fully submit their assessment data on time. Logistical challenges in distributing and collecting assessment tools in a short time also compounded these issues, leading to incomplete data submission in some cases.

6.2 Recommendations and Next Steps

Based on the lessons learned from the pilot, several recommendations have been formulated which aim to address the identified challenges and propose a way forward.

1. BTAG will implement a **second phase of the programme** targeting the same 100 schools in Punjab and 100 schools in KP. This Phase-II will focus on Grade 2 students and will run for an additional 6 weeks during October and November 2024. An independent assessment of all Grade 2 children from the 200 treatment and 40 control schools—20 from each province—will be conducted at the start of the intervention. Student assessment data from treatment schools will be provided to teachers to plan and deliver effective remediation. To ensure continued progress, Phase-II will include refresher training sessions for teachers and the development and distribution of teaching and learning materials that align with the academic calendar. Upon completion, a post-assessment will be conducted independently in the same schools, and results will be analysed for a more robust and reliable analysis of the programme's effectiveness and support the development of a scale-up plan.
2. Informed by the outcomes of this extended phase, BTAG will **scale up the remedial learning programme** to an additional 400 schools in Punjab and 400 in KP, between December 2024 and March 2025. This expansion will reach 1600 teachers and approximately 32,000 students. To evaluate the programme's larger impact, pre- and post-tests will be conducted in 800 treatment schools and 160 control schools, allowing a comprehensive assessment of its effectiveness. This scaling up builds on the lessons learned from the pilot, ensuring that the programme's strategies and approaches are adapted to reach a broader audience effectively.

3. QAED in Punjab and DPD in KP should work towards **integrating remedial learning training into the CPD programmes** for all primary school teachers by the start of the 2025–2026 academic year. This integration will ensure that the methods and tools introduced during the pilot become standard practice in classrooms across both provinces. In addition, the training should incorporate techniques for using low-cost or no-cost materials and managing large or multigrade classrooms—areas where teachers expressed challenges during the pilot.

A phased approach to the training should be adopted. In the first phase, DPD and DCTE in KP, and QAED and Punjab Examination Commission (PEC) in Punjab should collaborate to develop high-quality teaching and learning materials, including diagnostic assessments, lesson plans and worksheets. In the second phase, the training should focus on equipping teachers with the skills to develop their own materials, customised to their unique classroom contexts. This approach ensures that teachers are not only equipped with ready-to-use resources but are also empowered to adapt their teaching strategies and materials to better meet the needs of their students in diverse environments. This will provide sustained professional development, ensuring that teachers are well-equipped to implement remedial learning strategies and improve student outcomes consistently.

4. In line with best global and local practices, Education Departments in both provinces should **engage community volunteers** on a monthly stipend basis to support classroom teaching especially in schools with STR higher than 40:1 by the end of financial year 2025-26. Given the financial constraints associated with hiring additional teachers, engaging community volunteers presents a cost-effective alternative. Providing a stipend ensures that volunteers are motivated and valued, while still being a more affordable solution compared to hiring full-time teachers. This approach not only alleviates budgetary pressures but also improves teaching quality by supplementing the efforts of existing educators.

These recommendations aim to build on the initial successes of the pilot, address the challenges identified, and provide a structured plan for scaling and enhancing the programme's long-term impact. Once implemented, these will contribute significantly to bridge the gaps in foundational learning outcomes in children in Punjab & KP.

Section VII: Conclusion

The BTAG Remedial Learning Pilot Programme has demonstrated the potential of targeted interventions to address foundational literacy and numeracy gaps in early-grade education across Punjab and KP. By adapting and implementing a structured approach that included diagnostic assessments, targeted teaching strategies, and continuous monitoring, the programme has laid a solid foundation for improving student learning outcomes.

The pre and post assessment analysis reveals promising improvements in student learning outcomes. Feedback from participants highlighted high satisfaction rates, reflecting the effectiveness of the training, materials and their relevance to classroom needs.

Based on the insights gathered, several recommendations have been developed to refine and scale up the programme. These include extending the duration of the pilot in current schools, expanding the intervention to additional schools, and integrating remedial learning programme into the CPD programmes in Punjab and KP. By addressing these challenges and building on the successes observed, the programme can be scaled effectively to create lasting, positive changes in the education landscape of Pakistan.

List of Annexures

Annexure – 1: Review Workshop Notification by DPD, KP



Directorate of Professional Development, Khyber Pakhtunkhwa
Charsadda Road Peshawar.

Phone & Fax No. 091-9224783

Email: directordpdkp@gmail.com

OFFICE ORDER

No. 5373 /B-TAG/2024 Dated February 12, 2024. This Directorate has been pleased to nominate the following Senior Instructors, Subject Specialist and Instructors to attend one day workshop for review of material for “**Remedial Learning Programme**”, arranged in collaboration with B-TAG as per the given schedule.

Date: February 14, 2024 at 10AM.

Venue: B-TAG Office Shami Road Peshawar

S#	Name	Designation	School/Institution
1.	Munir Ali Shah	Senior Instructor	DPD Peshawar
2.	Shahid Aziz	Senior Instructor	DPD Peshawar
3.	Nazish Farid	Senior Instructor	DPD Peshawar
4.	Umar Farooq	Subject Specialist	DPD Peshawar
5.	Aneesa Bibi	Instructor	DPD Peshawar
6.	Memoona Safdar	Instructor	DPD Peshawar
7.	Asia Begum	Instructor	DPD Peshawar

DIRECTOR

Endst: Even No and Date:

Copy for information to the:

1. Secretary to the Govt. of KP Elementary and Secondary Education Department Peshawar.
2. Additional Director Admn Local Directorate
3. P.S to Director Local Directorate.
4. Project Director B-TAG in reference to his email dated February 12, 2024

Additional Director (Acad)

Annexure – 2: Review Workshop Notification by QAED, Punjab



QUAID-E-AZAM ACADEMY FOR EDUCATIONAL
DEVELOPMENT, GOVT. OF THE PUNJAB,
WAHDAT ROAD, LAHORE
Dated: March 05, 2024



To,

All Concerned

Subject: INVITATION FOR 3-DAY REVIEW WORKSHOP TO REVIEW MATERIAL REGARDING PILOT OF REMEDIAL CLASSES

Kindly refer to the subject cited above.

2. Building on a remediation model developed by the TCF, QAED with Collaboration of B-TAG plans to pilot teacher-led remediation in 100 schools, in which grade 2 teachers will be trained and provided resources to conduct a diagnostic of students and based on that determine whether whole class or only selected students need remediation. Teachers will then plan and implement their lessons accordingly based on the resources provided to them.

3. In this regard, Educational Research & Material Development Wing of QAED Punjab is going to conduct 3-day Workshop to Review Material regarding Pilot of Remedial Classes. List of participants is attached with this letter. The Detail is as under:

- Diagnostic Tools in Three Subjects (English, Urdu, Math)
- Grade 2 Lesson Plans in Three Subjects (English, Urdu, Math)
- Study Packs for Grade 2 Students
- Teacher Training Material

Date: 06-08 February 2024

Venue: Resource Room of Material Development, QAED Punjab,
Lahore

Timing 9:30 am to 04:30 pm

*Note: Please bring your Laptops.

Ms. Zaria Amber
Course Coordinator (ER&MD)

CC:

1. PS to Director General, QAED Punjab
2. PA to Additional Director General, QAED Punjab
3. Office file

Annexure – 3: TOT Notification by DPD, KP



Directorate of Professional Development, Khyber Pakhtunkhwa
Charsadda Road Peshawar.

Phone & Fax No. 091-9224783

Email: directordpdkp@gmail.com

OFFICE ORDER

No. 5428 /B-TAG/2024 Dated February 26, 2024. This Directorate has been pleased to nominate the following Instructors of RPDC F Charsadda and Teachers (M&F) of District Charsadda to attend two days' Training of Trainers (ToT) on "Adoption of TCF's model of Remedial Learning for Public Sector Schools in KP (Grade - 2)", organized in collaboration with B-TAG as per the given schedule.

Date: March 1-2, 2024 (9:00AM to 4:00 PM)

Venue: B-TAG Office, House No: 107, New Shami Road Peshawar

S#	Name	Designation	School/Institution
1.	Safia Bano	Instructor	RPDC F Charsadda
2.	Farhat Akhtar	Instructor	RPDC F Charsadda
3.	Shazia Sadiq	Instructor	RPDC F Charsadda
4.	Noreen Anwar	Instructor	RPDC F Charsadda
5.	Aysha Noreen	Instructor	RPDC F Charsadda
6.	Aysha Nawaz	SST	GGHS Kaptan Killi Charsadda
7.	Dr. Kifayat Ullah	SST	GMS Sheikh Abad Rajjar Charsadda
8.	Atta Ullah Jan	SST	GHS Ibrahim Zai Charsadda
9.	Sohail Ahmad	SST	GHS Bahlola Charsadda
10.	Bakht Zada	SST	GHSS Nisatta Charsadda
11.	Khisro	SST	GHSS Utmanzai Charsadda
12.	Sardar Ali	DM	GMS Utmanzai Charsadda

DIRECTOR

Endst: Even No and Date:

Copy for information to the:

1. Secretary to the Govt. of Khyber Pakhtunkhwa Elementary and Secondary Education Department Peshawar.
2. Principal RPDC (F) Charsadda.
3. DEOs (M&F) Charsadda with the request to release the nominated teachers to attend the subject training.
4. Additional Director Admn Local Directorate
5. P.S to Director Local Directorate.
6. Project Director B-TAG in reference to his email dated February 22, 2024

Additional Director (Acad)

Annexure – 4: TOT and Teacher Training Notification by QAED, Punjab



No. QAED/KSR/ 1437

Dated 20-03-2024

**QUAID-E-AZAM ACADEMY FOR EDUCATIONAL
DEVELOPMENT, GOVT. OF THE PUNJAB, KASUR**
Phone: 049-9250023, E-mail: qaedkasur@gmail.com



To

1. The Honorable Chief Executive Officer (DEA),
Kasur.
2. The District Education Officer (SE) Kasur
3. The District Education Officer (M-EE) Kasur
4. The District Education Officer (W-EE) Kasur
5. All Dy.DEOs Kasur

**Subject: RELIEVING & INTIMATION OF MASTER TRAINERS & TEACHERS FOR
3-DAYS FACE TO FACE TRAINING ON BTAG BATCH-I (25-03-2024 TO
27-03-2024) & BATCH-II 28-03-2024 TO 30-03-2024.**

Kindly refer to the subject captioned above.

Quaid-E-Azam Academy For Educational Development Punjab is going to conduct 03 Days Face to Face training of teachers on Remedial Learning Program by Bridging Technical Assistance to Government (BTAG) for Grade-2 students from selected schools of District Kasur.

The teachers (Preferably teaching the Grade-I & II) from selected schools will attend the said training in Two Batches. One Teacher in Batch-I w.e.f 25-03-2024 to 27-03-2024 and the second teacher in Batch-II w.e.f 28-03-2024 to 30-03-2024 will attend the training.

It is therefore requested to please intimate & relieve the Master Trainers and concerned school teachers to attend the said training as per given schedule and center. The list of selected schools and Master Trainers is attached herewith.

Principal,
*Quaid-e Azam Academy for Educational
Development, Kasur.*

CC:

- i. The Regional Programme Manager (RPM), Gujranwala Division, QAED, Punjab, Wahdat Road,
Lahore..
- ii. Office File

Annexure – 4: Teacher Perception Survey

Remedial Learning Pilot Programme - Feedback Survey

Dear Teachers,

Thank you for participating in Remedial Learning Pilot Programme!

Your feedback is valuable in helping us improve the programme.

Personal Information

Name _____

Gender

- ☐ Male
- ☐ Female

School Name _____

School EMIS code

School Region

- ☐ Urban
- ☐ Rural

School Type

- ☐ Male
- ☐ Female

Remedial Programme Knowledge

1. What was the objective of remedial learning programme?
 - To teach advanced concepts to high-achieving students
 - To provide additional support to students who have fallen behind
 - To replace regular classroom instruction with digital learning tools
 - To shift the focus of classroom instruction to test preparation
2. What is differentiated instruction?
 - Instruction that focuses only on advanced students
 - Providing the same instruction to all students
 - Tailoring instruction to meet individual student needs
 - Teaching subjects in isolation without integration
3. What is push-in intervention?

- Support a struggling student inside the classroom through peers
 - Pulling out a student to a separate setting for one-on-one tutoring
 - Providing in-class support to struggling students with a specialist
 - Removing students from mainstream for individualised instruction
4. How has your understanding of the remedial learning technique changed after implementation?
- Greatly improved
 - Somewhat improved
 - Not changed
 - Became more confusing

Classroom Practices

5. What was the frequency of remedial classes you conducted?
- Several times a day
 - Once everyday
 - Twice a week
 - Once a week or less
6. When did you conduct remedial classes?
- During the routine time of classes
 - Before school time
 - During school break
 - After school time
7. What specific remedial teaching technique did you use in your classroom?
- Individual remediation
 - Small group remediation
 - Whole class remediation
 - Peer-assisted learning
 - Any other (please specify) _____
8. What were the main challenges that you faced during the implementation of the remedial programme?
- Time management
 - Insufficient resources
 - Lack of administrative support
 - Large class size
 - Any other (please specify) _____

Peer collaboration

9. Did you discuss challenges you faced during remedial classes with your fellow teacher who received training?
- Always
 - Most of the time
 - Rarely
 - Never
10. Did you discuss challenges you faced during remedial classes with your headteacher?
- Always
 - Most of the times
 - Rarely
 - Never
11. How supported did you feel by your peers in implementing the remedial strategies?
- Strongly supported
 - Moderately supported
 - Slightly supported
 - Not supported at all
12. How supported did you feel by your head teacher in implementing the remedial strategies?
- Strongly supported
 - Moderately supported
 - Slightly supported
 - Not supported at all
13. Which medium did you use most often for discussing challenges and getting feedback?
- WhatsApp
 - Face-to-face
 - Phone calls
 - Other (please specify) _____

Remedial learning material

14. Was the remedial learning material (diagnostic assessments, lesson plans, study packs) relevant to your teaching needs?
- Yes, extremely relevant
 - Yes, somewhat relevant
 - No, somewhat irrelevant
 - No, extremely irrelevant
15. How would you rate the quality of the remedial learning material?
- Excellent
 - Satisfactory
 - Fair

- Poor

16. Did the remedial learning material respond to the needs of both teachers and students?

- Always
- Often
- Rarely
- Never

17. Was the diagnostic assessment and lesson plans easy to conduct?

- Yes, very easy
- Yes, somewhat easy
- No, somewhat difficult
- No, very difficult

If you faced any issues, please specify: _____

Impact of the programme

18. How effective do you believe remedial programme is in improving student learning outcomes?

- Very effective
- Somewhat effective
- Not very effective
- Not effective at all

19. What is your level of confidence in providing need-based support to students through remedial learning programme?

- Very confident
- Confident
- Somewhat confident
- Not confident

20. To what extent remedial learning pilot programme improved your teaching practices?

- Significantly improved
- Moderately improved
- Slightly improved
- Not improved at all

Impact on students

21. How has the remedial learning pilot programme affected your students' understanding of the subject matter?

- Significantly improved

- Moderately improved
- Slightly improved
- Not improved at all

22. How has the remedial learning pilot programme impacted students' participation in class activities?

- Significantly increased
- Moderately increased
- Slightly increased
- No change

23. How has the remedial learning pilot programme influenced your students' overall motivation to learn?

- Significantly increased
- Moderately increased
- Slightly increased
- No change

24. How has the remedial learning pilot programme affected your students' confidence in their academic abilities?

- Significantly increased
- Moderately increased
- Slightly increased
- No change

25. How have your students responded to the changes in your teaching practices due to the remedial programme?

- Very positively
- Positively
- Neutrally
- Negatively

Future programmes

26. How motivated are you to participate in any future remedial teaching programme?

- Very motivated
- Somewhat motivated
- Not very motivated
- Not motivated at all

27. What further support or training do you need to continue improving your remedial teaching practices? (rank in order of preference)

- More professional development workshops

- More additional resources and materials
- Increased administrative support
- More peer collaboration opportunities

Open ended

28. What aspects did you like about the remedial teaching programme?
29. What improvements do you suggest to make remedial teaching programme more meaningful?