

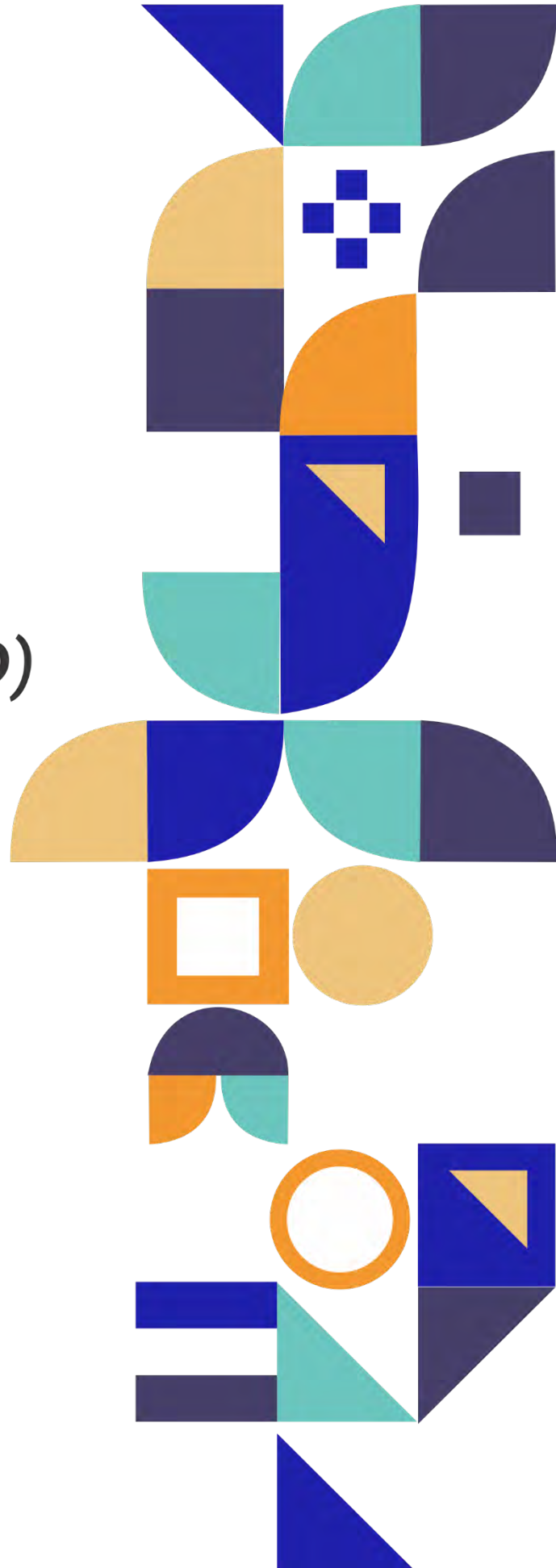
PROJECT **REPORT**

PUNJAB

CONTINUOUS PROFESSIONAL DEVELOPMENT (CPD)

For Elementary School
Teachers (ESTs)

June
2025



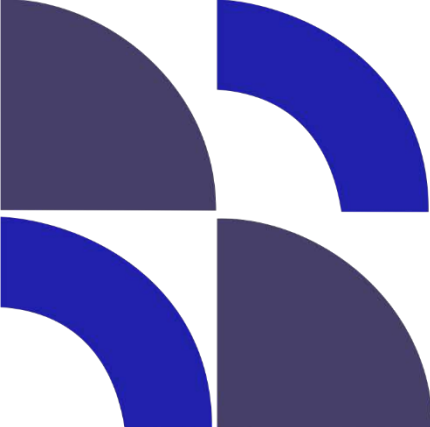


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LIST OF ABBREVIATIONS

Abbreviation	Full Form
ADDIE	Analysis, Design, Development, Implementation
AEO	Assistant Education Officers
B-TAG	Bridging Technical Assistance for Governments
CEO	Chief Executive Officer
CPD	Continuous Professional Development
COP	Communities of Practice
COT	Classroom Observation Tool
COVID-19	Coronavirus Disease
CPA	Concrete, Pictorial, Abstract
DG	Director General
ECF	Early Career Framework
ESL	English as a Second Language
EST	Elementary School Teachers
EU	European Union
HT	Headteacher
ICT	Information and Communication Technology
MT	Master Trainer
OECD	Organisation for Economic Co-operation and Development
PASL	Provincial Assessment of Student Learning
PEC	Punjab Examination Commission
PESP-II	Punjab Education Sector Programme-II
PLC	Professional Learning Communities
PST	Primary School Teachers
QAED	Quaid-e-Azam Academy for Educational Development
SE	Subject Expert
SED	School Education Department
SIS	School Information System
SLO	Student Learning Outcome
TALIS	Teaching and Learning International Survey
TMS	Training Management System
TOT	Training of Trainers
UK	United Kingdom
PECTAA	Punjab Education, Curriculum, Training and Assessment Authority
FGDs	Focus Group Discussions
LMS	Learning Management System
RPM	Regional Programme Manager
SSS	Senior Subject Specialist

Executive Summary

The Continuous Professional Development (CPD) initiative for Elementary School Teachers (ESTs) was launched by the Punjab Education, Curriculum, Training and Assessment Authority (PECTAA) with technical assistance from Bridging Technical Assistance for Governments (B-TAG), in alignment with the Government of Punjab's policy directives. The primary aim of this initiative is to improve teaching quality contributing to improved student learning outcomes across elementary schools in Punjab.

The CPD framework for ESTs is based on four main components: i) Personal Learning Hours dedicated to self-study, ii) Classroom observations and feedback sessions led by headteachers, iii) Teacher Learning Forums Moderated by Subject Experts, and iv) the establishment of Professional Learning Communities. In the first phase of the implementation starting from August 2024, the programme was implemented in 343 middle schools (135 boys' schools and 208 girls' schools) across the Sheikhpura and Nankana Sahib districts reaching out to 1,491 ESTs (694 female, 797 male) who accessed digital self-study modules via PECTAA's Training Management System (TMS). These ESTs were supported by 320 trained headteachers (133 male, 187 female) through classroom observations and feedback and 43 trained Subject Experts (28 male, 15 female) through the conduct of monthly synchronous learning forums and joint classroom observations. ESTs also participated in informal discussion forums to share their challenges, best practices and resolve any issues they face.

In the second phase starting from December 2024, the programme was scaled up to include three additional districts – Faisalabad, Multan and Rawalpindi representing the northern, central, and southern regions of Punjab reaching out to 542 elementary schools (210 boys' school and 332 girls' schools) and 1,704 ESTs (1,204 females, 500 males). To support these teachers, 541 headteachers (217 males, 324 females) were trained in mentoring, coaching, and conducting classroom observations using a tailored observation tool and feedback sessions. Furthermore, 57 Subject Experts (45 males, 12 females) in English, Mathematics, and Science were selected by PECTAA's Quality Assurance Wing and trained to plan and deliver online sessions focused on subject-specific pedagogy. These sessions were informed by classroom observation data and teachers' performance in CPD modules.

As part of CPD-ESTs model, 4 teacher professional development forums were jointly organised by PECTAA's district field offices and B-TAG in Sharaqpur, Faisalabad, Multan and Rawalpindi. These forums saw a participation of 484 participants (181 males, 303 females) including ESTs, headteachers, Subject Experts, officials from PECTAA's district field offices and education authorities. These forums provided a collaborative space for participants to exchange innovative teaching strategies, share best practices, and strengthen Communities of Practice (CoP). They promoted sustained professional development through discussions, presentations, and subject-specific sessions aimed at improving educational outcomes.

The CPD-EST activities continued till March 2025, providing sustained support through self-study modules, monthly online sessions with Subject Experts, and classroom observations conducted by headteachers and Subject Experts.

An analysis of pre- and post-observations indicates that this sustained support led to measurable improvements in teaching practices across the five intervention districts. Classroom observations conducted by headteachers and subject experts revealed a consistent increase in average scores, from 3.15 in September 2024 to 4.21 by April 2025, indicating a gradual increase in instructional quality. Independent observations by external observers corroborated these findings, with overall Classroom Observation Tool (COT) scores increasing from 3.46 to 3.95. Subject-specific gains were also notable: English COT scores rose from 3.38 to 3.68, Mathematics from 3.26 to 3.73, and Science from 3.20 to 3.68.

Additionally, teacher feedback highlighted high satisfaction with the CPD model's content, delivery, and impact. Over 97% of participants found the training to be relevant and practical, while 94% reported increased confidence in aligning their teaching with Student Learning Outcomes (SLOs). These results affirm the effectiveness of the CPD-EST initiative in fostering continuous professional development and improving educational outcomes across Punjab.

Total Beneficiaries

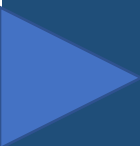
- **5** districts (Sheikhupura, Nankana Sahib, Multan, Faisalabad, Rawalpindi)
- **885** schools including **540 girls' schools** and **345 boys' schools**
- **80** Master Trainers including **21 females** and **59 males**
- **861** headteachers including **511 females**, and **350 males**
- **100** Subject Experts including **28 females** and **72 males**
- **3,194** elementary teachers including **2,000 females** and **1,194 males**
- **~116,820** children including **~45,540 boys** and **~71,280 girls**

Overview of the Report Structure

This report provides details of the CPD for ESTs initiative in Punjab, focusing on its implementation, impact, and future directions. This report is intended for policymakers, education authorities, the Foreign, Commonwealth and Development Office (FCDO) and other development partners. It aims to provide evidence-based insights into the implementation and effectiveness of the CPD initiative for ESTs in Punjab. The findings are designed to inform decision-making on scaling professional development models, enhancing teacher capacity, and improving student learning outcomes. For the School Education Department (SED), the report offers a detailed understanding of implementation challenges and successes, while for development partners, it highlights areas for strategic support, collaboration, and future investment in teacher development initiatives.

The report is organised into the following sections:

Section I introduces the importance of CPD-ESTs in Punjab, exploring how professional development for teachers can enhance student learning outcomes and outlines the core structure of the CPD-ESTs framework. **Section II** reviews relevant research and theoretical frameworks underpinning professional development for educators, offering the foundational knowledge necessary to understand the CPD-EST model. **Section III** outlines the essential components of the CPD-EST framework, including Professional Learning Communities, Classroom Observations, Personal Learning Hours, and Teacher Learning Forums, which are critical to its success. **Section IV** describes the methodologies used for data collection and analysis, including sample selection and ensuring the validity of results, as well as the technological tools employed in the CPD-ESTs implementation. **Section V** reflects on the training delivery, material development, and the outcomes from the CPD-ESTs implementation, showcasing the initial results and lessons learned. **Section VI** highlights the proceedings of Teacher Professional Development Forums organized as part of CPD-ESTs. **Section VII** analyses and gives results on the effectiveness of the intervention. **Section VIII** concludes the report **Section IX** gives recommendations focusing on further enhancing teacher development and student performance.



SECTION I: INTRODUCTION

SECTION I: INTRODUCTION

The Government of Punjab acknowledges that enhancing student learning outcomes is largely contingent upon the quality of teaching, making professional development a high priority. Although there are existing systems to support the continuous professional development of primary school teachers, these systems do not adequately meet the needs of ESTs who play a pivotal role in helping students transition to middle school, where subject-specific learning becomes more demanding. To address this gap, a structured and ongoing CPD model specifically designed for elementary educators is crucial. By providing ESTs with targeted knowledge, skills, and ongoing support, this CPD model can aid in promoting student success and reinforcing the overall educational framework in Punjab.

1.1 The Need for CPD-ESTs in Punjab

Given that traditionally, in Punjab, most of the focus is at the primary levels, it is crucial to vertically integrate the CPD initiative and extend it to the ESTs due to several compelling reasons. The state of student learning outcomes in elementary schools has been consistently below expectations.¹ The need for a CPD programme for elementary school teachers is also necessitated by the uneven quality of pre-service teacher education programmes and the variable quality of higher education, which results in a mediocre intake of teachers. Additionally, lack of structured professional development leads to outdated teaching methodologies, and student learning outcomes remain subpar. To address this gap, PECTAA with technical assistance from Punjab Education Sector Programme-II (PESP-II), developed a framework for CPD for Elementary School Teachers (ESTs) in 2021-22 and tested some of its modalities. Based on the results from the pilot, in consultations with PECTAA and SED, the framework was revised and implemented by B-TAG.

1.2 CPD-ESTs Framework

The CPD framework has been developed to offer targeted professional development opportunities aimed at addressing specific gaps in teacher knowledge and skills at the elementary level. It is designed to meet the needs of the 21st century, recognising the importance of equipping educators with the competencies required in today's dynamic educational landscape. This framework also takes into account the principles of adult learning, recognising that effective professional development must engage and empower teachers as lifelong learners. By aligning with both global best practices and local educational needs, the CPD framework seeks to foster a culture of continuous improvement among ESTs.

¹ Please see, "Exam analysis reports, 2018 and 2019." Punjab Examination Commission.

Key Attributes of CPD Design for ESTs

The CPD model for ESTs is designed with several critical considerations that enhance its effectiveness and sustainability:

1. Alignment with Existing Policies and Resources:

The framework builds upon the current policy landscape while leveraging resources from established institutions such as the PECTAA, enhancing the model's sustainability.

2. Data-Driven Needs Assessment:

The professional development needs of teachers are identified through the systematic collection of reliable and relevant data. This includes insights gathered from classroom observations and student assessments. The data is then meaningfully translated into specific professional development targets, with clear progress monitoring mechanisms to track the achievement of these objectives.

3. Utilisation of Existing Learning Infrastructure:

The CPD model maximises the use of the province's existing infrastructure for teacher learning and development.

4. Curriculum Alignment:

Critical to the CPD model is its alignment with curriculum requirements. This ensures that the development of teachers' knowledge and skills is directly relevant to the effective delivery of the curriculum, thereby enhancing the overall educational experience for students.

1.3 CPD-EST Activities

The CPD framework for ESTs in Punjab encompasses four key activities designed to facilitate ongoing professional development:

1. Personal Learning Hour:

This component promotes self-study using lesson plans and instructional videos accessible via the Learning Management System (LMS). This self-directed learning approach empowers ESTs to engage with educational content at their own pace.

2. Classroom Observations:

Headteachers and Subject Experts conduct observation and feedback sessions that focus on subject-specific classroom practices. This collaborative feedback mechanism is essential for fostering an environment of continuous improvement among teachers.

3. Teacher Learning Forums:

The CPD model incorporates both asynchronous and synchronous online learning forums moderated by Subject Experts. These forums are informed by teacher performance data, allowing for targeted discussions and knowledge sharing that enhances professional learning.

4. Learning Communities:

The framework encourages the establishment of subject-specific teacher communities, which facilitate continuous peer learning. These communities provide invaluable support, enabling educators to share the best practices, resources, and teaching strategies.



SECTION II: LITERATURE REVIEW

SECTION II: LITERATURE REVIEW

The importance of effective teacher professional development (PD) in improving educational outcomes has been well established globally. Numerous studies have shown that sustained, context-sensitive, and targeted CPD programmes can significantly enhance teacher performance and, in turn, student learning outcomes (Darling-Hammond et al., 2017).² Teacher quality is widely recognised as one of the most important factors in determining student success, and CPD plays a central role in ensuring that teachers continue to develop their skills throughout their careers. Darling-Hammond et al. (2017) emphasise that CPD programmes are most effective when they are sustained, embedded with jobs, and aligned with the curriculum, allowing teachers to refine their instructional strategies, improve classroom management, and gain a deeper understanding of subject content.

Globally, there is a growing recognition that the professional development of teachers should be an ongoing process that is tightly connected to the actual needs of the classroom. The Organisation for Economic Co-operation and Development (OECD) in its Teaching and Learning International Survey (TALIS, 2019)³ states that effective CPD must be aligned with both the teachers' instructional needs and the national curriculum. In countries like Singapore and Finland, CPD frameworks are designed to be continuous, underpinned by a culture of collaboration and peer support. Teachers in these countries engage in professional learning communities (PLCs) that provide a platform for ongoing development and reflective practice (Schleicher, 2018).⁴ These systems demonstrate that sustained and targeted CPD can drive significant improvements in both teaching quality and student outcomes.

The need for structured CPD models for elementary school teachers is particularly pressing in developing regions, where educational systems often face challenges such as outdated teaching methods, lack of resources, and low teacher motivation (Levin & Fullan, 2008).⁵ Research has shown that CPD initiatives in countries like India and South Africa have been instrumental in addressing these challenges. These initiatives have employed hybrid models that combine online and face-to-face learning, ensuring accessibility for teachers in rural and underserved areas (Moon & Wolfenden, 2013).⁶ These models offer valuable lessons for regions facing similar geographical and logistical barriers to professional development.

² Darling-Hammond, L., et al. (2017). Preparing Teachers for Deeper Learning. *Teaching and Teacher Education*.

³ OECD. (2019). TALIS 2018: Teachers and School Leaders as Lifelong Learners. *OECD Publishing*.

⁴ Schleicher, A. (2018). Teaching Excellence through Professional Learning. *OECD Education Working Papers*.

⁵ Levin, B., & Fullan, M. (2008). Professional Development for Teachers: How We Can Make it More Effective. *Teachers College Record*.

⁶ Moon, B., & Wolfenden, F. (2013). Hybrid Models of CPD: Learning from South Africa and India. *International Journal of Educational Development*.

The success of CPD programmes also depends on the flexibility and relevance of the training provided. For instance, the EU-funded KeyCoNet project in Europe demonstrated that equipping teachers with digital competencies and training them in the integration of ICT into teaching significantly enhances their ability to meet diverse student needs (Cordingley et al., 2015).⁷ In many developing countries, including those in South Asia and Sub-Saharan Africa, digital literacy is a key area for improvement. Therefore, CPD programmes that include training in educational technology can help teachers meet the needs of modern classrooms and integrate technology effectively into teaching.

In many high-performing education systems, teacher observation and feedback are integral components of CPD. In countries like Japan and Shanghai, teachers engage in structured lesson studies and classroom observations, which allow them to critique and learn from each other's instructional practices (Akiba & Wilkinson, 2016).⁸ This peer-to-peer learning model fosters a culture of continuous improvement and is considered a cornerstone of effective CPD in these regions. These observations are often combined with formative assessments, which provide teachers with ongoing feedback on their performance, enabling them to refine their practices and develop new strategies for teaching.

Similarly, mentorship is another critical element of successful CPD. Structured mentorship programmes, particularly for novice teachers, have been shown to significantly improve teacher retention, confidence, and instructional effectiveness. In the UK, the Early Career Framework (ECF) has introduced structured mentorship for new teachers, which has been proven to enhance their pedagogical skills and classroom management (Sims & Fletcher-Wood, 2020).⁹ Mentorship allows experienced educators to guide new teachers through the intricacies of pedagogy and curriculum delivery, offering a bridge between theory and practice. Such mentorship programmes have been linked to higher levels of teacher retention and professional growth.

The integration of technology into CPD has become particularly important in the wake of the COVID-19 pandemic, which accelerated the transition to online and blended learning. Research indicates that blended learning models, which combine in-person and online training, are particularly effective in reaching teachers in rural or underserved areas (Cordingley et al., 2015). These models also allow for real-time feedback and continuous assessment of teachers' progress. The use of Learning Management Systems (LMS) has proven effective in delivering CPD content at scale, ensuring that teachers have access to high-quality professional development resources regardless of their geographic location.

⁷ Cordingley, P., et al. (2015). The Impact of Collaborative CPD on Teaching and Learning: A Review of the Evidence. *Teacher Development*.

⁸ Akiba, M., & Wilkinson, D. (2016). The Role of Teacher Observations in Professional Development: A Global Perspective. *Educational Researcher*.

⁹ Sims, D., & Fletcher-Wood, H. (2020). Mentorship in the Early Career Framework: Impacts on Teacher Development. *Educational Review*.

In many countries, the success of CPD programmes is closely tied to the ongoing support provided to teachers after the initial training phase. For instance, CPD programmes in countries such as Australia and Canada have shown that sustained professional development, combined with opportunities for peer collaboration and ongoing reflection, leads to more effective teaching practices (Levin & Fullan, 2008). These systems provide teachers with the tools and resources they need to continue their professional growth long after the initial training sessions have ended. The inclusion of regular follow-up sessions, online forums, and peer learning groups ensures that teachers remain engaged with the CPD process and continue to refine their skills.

In conclusion, the literature underscores the critical importance of CPD in enhancing teacher quality and, consequently, student learning outcomes. Successful CPD models, whether in the Global North or South, share common elements such as alignment with curriculum requirements, the use of technology, teacher observation and feedback, and mentorship. The experiences of countries with high-performing education systems, including Singapore, Finland, Japan, and others, provide valuable insights into the design and implementation of effective CPD programmes. These international examples highlight the potential of CPD to improve teaching quality, particularly when it is embedded within the job, contextually relevant, and sustained over time. The lessons learned from these global experiences can inform the development of CPD initiatives in regions with similar challenges, ensuring that teachers receive the support they need to foster student success.

**SECTION III:
CONTINUOUS
PROFESSIONAL
DEVELOPMENT
ELEMENTARY MODEL**

SECTION III: CONTINUOUS PROFESSIONAL DEVELOPMENT ELEMENTARY MODEL

The CPD framework for ESTs is designed to align with both global and local best practices, ensuring it meets international standards while addressing the specific needs of the educational context in Punjab. Developed through consultations with the PECTAA (former QAED) and SED, this model aims to build sustainable professional growth pathways for teachers. It focuses on enhancing teacher competencies, improving instructional practices, and ultimately, boosting student learning outcomes.

The CPD framework comprises four key activities designed to support comprehensive, ongoing professional development:

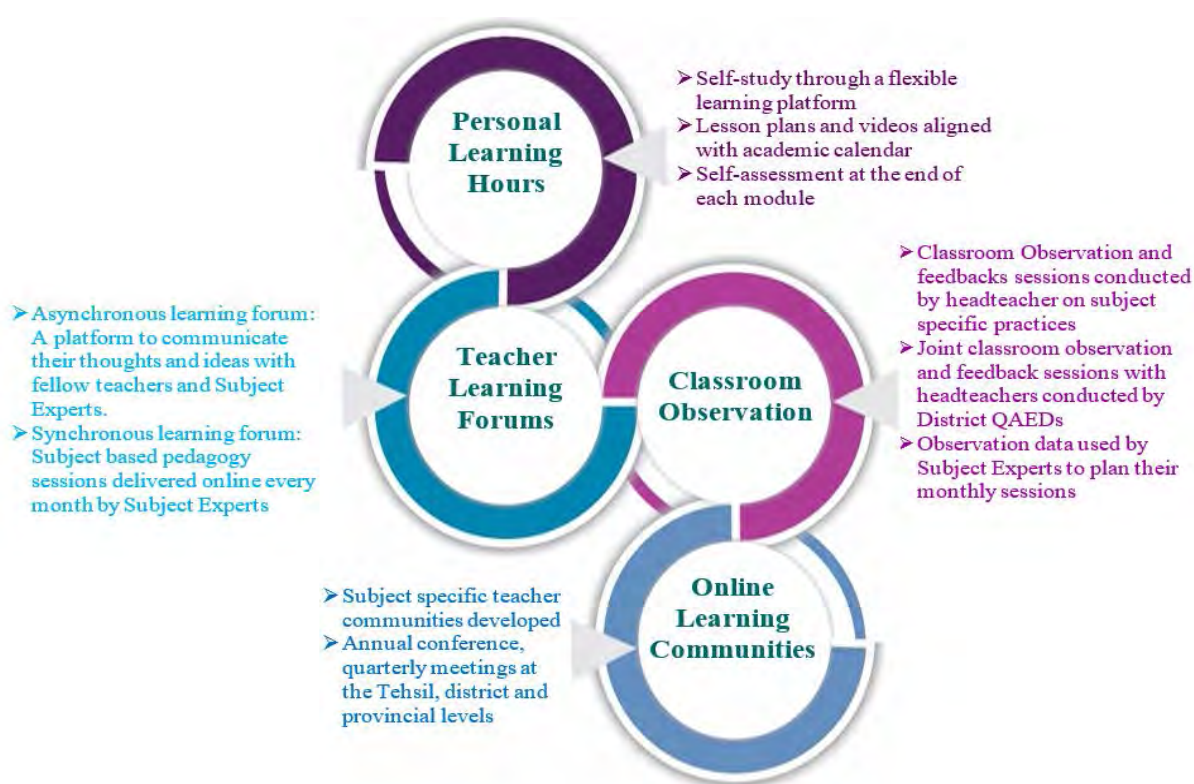


Figure 1: CPD Model for ESTs

3.1 Personal Learning Hours

The "Personal Learning Hour" component is designed as a flexible, self-directed study platform. Each teacher is required to engage with the instructional materials, including lesson plans and videos, aligned with the academic calendar. These resources are updated monthly. The videos are curated or newly developed by PECTAA covering both SLO-based topics and effective teaching strategies. Upon completion of each cognitive unit, teachers take a self-assessment quiz, and a minimum score of 80% is necessary to proceed to the next unit.

3.2 Teacher Learning Forum

The CPD framework emphasises hands-on learning, and all teachers are required to join the online Teacher Learning Forums. Each forum consists of 12-15 teachers who participate in real-time (synchronous) and flexible (asynchronous) activities facilitated by PECTAA's subject experts.

Teachers engage in two types of forums:

- **Asynchronous Learning Forum**

During personal learning hours, teachers need a space to discuss their learning with peers. To meet this need, qualified subject experts are selected by PECTAA from high schools or higher secondary schools in the same district, to oversee these forums for the core subjects: English, Mathematics, and Science. The subject experts encourage the active participation of the teachers. Monthly surveys are conducted through these forums, designed centrally. These surveys provide insights that help shape future training sessions. To ensure meaningful participation, subject experts are trained in managing discussions, guided by comprehensive rubrics and feedback mechanisms supported by technology.

- **Synchronous Learning Forum**

Subject experts also lead monthly live sessions lasting 1.5 – 2 hours for each group of teachers. These sessions allow subject experts to deliver tailored content addressing teachers' specific needs while also providing teachers with a platform to discuss issues, offer insights, or ask questions. These sessions are informed by three key sources:

1. Data from teachers' use of learning platforms during personal learning hours.
2. Results of teacher surveys conducted through asynchronous forums, and
3. Classroom observation data collected by headteachers which is analysed for each group and shared with the subject experts.

Subject Experts are fully trained in effective online moderation techniques. Each teacher participates in at least one forum per month, and if they teach multiple subjects, they join a forum for each subject.

3.3 Classroom Observations

The head of each middle school is responsible for observing every teacher once a month using the classroom observation tool specifically designed for ESTs. The data from these observations is analysed by subject experts to determine teachers' training needs and provide ongoing feedback on their instructional practices. School heads undergo thorough training to conduct these observations and offer constructive feedback.

Additionally, PECTAA district field officers and subject experts conduct joint observations with headteachers, using the same observation tool. Both the school head and the district field officer or subject expert compare their evaluations, and the latter provides feedback on the school head's observation. This data further informs the professional development of teachers.

3.4 Professional Learning Communities

Professional communities are established for different subjects, such as:

- Teacher Community for English
- Teacher Community for Mathematics
- Teacher Community for Science

These communities are nurtured through the asynchronous forums. PECTAA organises annual conferences and quarterly meetings at the tehsil, district, and provincial levels to strengthen these communities and cultivate a professional development culture. Activities in these communities include action research, sharing teaching materials, bridging the gap between theory and practice, and organising events like workshops and seminars. PECTAA will also work towards establishing connections between these forums and other national or international associations to further enhance the professional growth of teachers.



SECTION IV: TECHNICAL DESIGN & METHODOLOGY

SECTION IV: TECHNICAL DESIGN & METHODOLOGY

This section outlines the overall methodology for the evaluation of the CPD-ESTs intervention in Punjab. The intervention aimed to improve teachers' subject content knowledge and pedagogy skills, measured through classroom observations. The evaluation used mixed-method approach to continuously gather data on teachers' progress from the classroom observations conducted by headteachers and Subject Experts (internal observers) as well as pre and post intervention status through classroom observations by external observers. Additional qualitative data was collected by conducting FGDs with teachers and headteachers of the intervention schools from all districts.

Below, details are provided on methodology through which effectiveness of the CPD-EST intervention is gauged:

4.1 Classroom Observations

To ensure the collecting accurate data regarding instructional practices and subject-specific pedagogical approaches, classroom observations were undertaken in English, Mathematics, and Science both before and after the intervention. Independent observers were carefully selected by the B-TAG field team based on their subject expertise, relevant academic qualifications, and experience in both teaching and educational data collection.

A purpose-built classroom observation tool, specifically developed for evaluating pedagogical practices at the elementary level, was used throughout the process. To maintain methodological consistency and comparability, all observations were standardised at the grade 6 level, with an equal distribution of observations across the three target subjects: English, Mathematics, and Science.

The tools used for conducting classroom observations had three main sections:

- Basic information on school, teachers, and number of students in grade 6
- 11 questions/indicators on pedagogical practices
- Subject specific questions/indicators

The tool used for conducting classroom observations is provided as annexure-A.

The questions were designed to capture data through a rating scale across five distinct categories: 'Low', 'Medium Low', 'Medium', 'Medium High', and 'High'. Each category corresponds to a numerical value ranging from 1 to 5, where 1 represents the lowest level of performance and 5 represents the highest.

4.2 Data Validity & Reliability

Multiple checks ensure data validity and reliability. In case of pre-observations, first, selection of subject specific observers to conduct classroom observations was done to ensure the observers are well equipped with requisite skills and knowledge to accurately gauge and rate teaching practices. Second, the tools contained detailed instructions/description of indicators to provide guideline for observers to accurately capture information in class. Third, to minimise observer's personal variance/bias, each teacher was observed by two subject experts/observers at the same time. Both observers recorded their observations independently during the class session. This dual-observer approach helped ensure reliability and validity in the data collected. In all cases when multiple observers were involved in evaluating a teacher, the data collected were averaged to produce a final score. This method helped mitigate individual observer bias and provides a more balanced assessment of the teaching practices observed.

4.3 Sample Selection & Coverage

For data collection, the sampling approach followed purposive sampling, combining convenience sampling and quota-based sampling. In Punjab, the CPD-EST classroom observations were conducted in schools from five districts: Faisalabad, Multan, Nankana Sahib, Rawalpindi, and Sheikhupura. Equal number of pre and post observations were conducted in Faisalabad, Multan, and Rawalpindi with 153, 57, and 66 observations for each round (pre and post) respectively. In Nankana Sahib, 96 observations were conducted at pre and 48 at post round and in Sheikhupura they were 204 and 102 respectively.

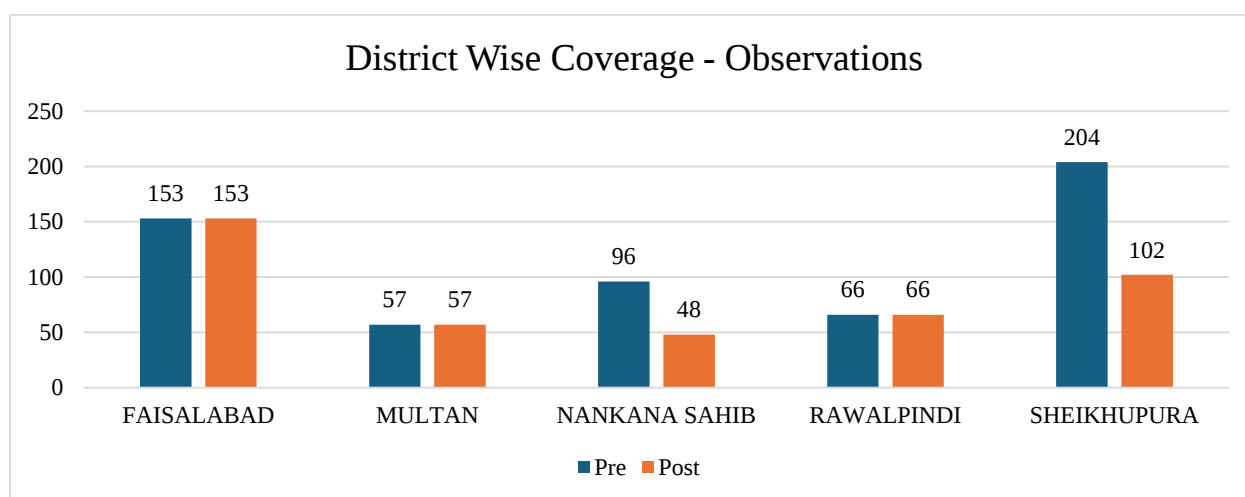


Figure 2: District Wise Coverage of pre & post Observations

The subject wise distribution shows that the observations were equally split for three subjects with a minute variation of one observation by subject for district Faisalabad.

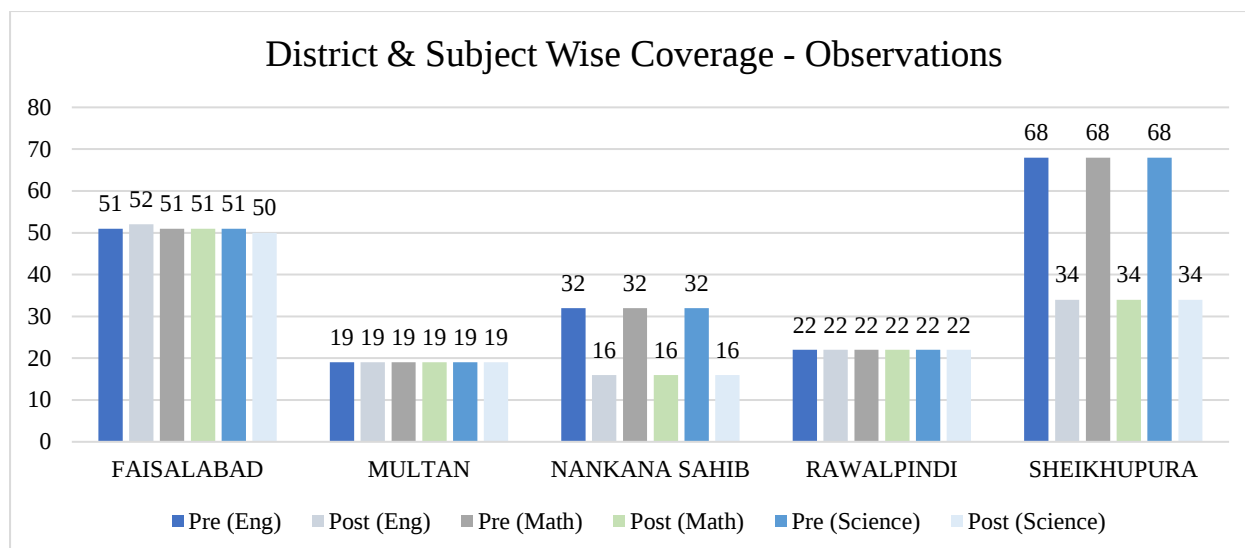


Figure 3: District & Subject Wise Coverage

4.4 Analysis

The collected data was systematically analysed to generate a comprehensive understanding of the intervention's outcomes. The analysis focused on the following key areas:

- **Trends in classroom observation scores assigned by headteachers:** Patterns in the COT (Classroom Observation Tool) scores were examined over time to assess the progression of teaching practices as observed by internal school-based observers (headteachers).
- **Comparative analysis of pre- and post-intervention scores recorded by external observers:** Changes in teaching performance were evaluated by comparing COT scores from baseline and endline observations conducted by independent, subject-qualified external observers.
- **Thematic insights from focus group discussions with teachers and headteachers:** Qualitative data from FGDs were analysed to capture contextual understanding, perceptions of the intervention's effectiveness, and emerging challenges or enablers influencing teaching practice across districts.

To assess the effectiveness of the intervention, the scores assigned by independent observers before and after the intervention are compared. To have a nuanced understanding, the analysis has been conducted at the domain levels, i.e., the scores of all 11 general practices are averaged and regressed on time variable and same has been done for all three subjects individually.

The econometric representation of the analysis approach is presented below:

$$Y_{ist} = \beta_0 + \beta_1 \text{Time}_{it} + \epsilon_{ist}$$

Where

- Y_{ist} represents test scores for student i in school s at time t
- time_{it} is a dummy variable which takes the value of 1 for post period and 0 for pre-treatment period



SECTION V: IMPLEMENTATION of CPD- EST

SECTION V: IMPLEMENTATION OF CPD-EST

The CPD-EST aims to improve teaching practices at the elementary level, ultimately contributing to an increase in student learning outcomes.

5.1 Scope of the Intervention

The developed framework was implemented in two phases:

Phase I: Piloting in 2 districts (August 2024 to March 2025)

In phase I, the framework was launched in the districts of Sheikhpura and Nankana Sahib in August 2024, engaging 1,491 teachers from 343 (135 boys' schools and 208 girls') elementary schools. The participating teachers accessed CPD resources through the Training Management System managed by PECTAA.

To ensure the successful implementation of the CPD framework, training was provided to 320 headteachers (133 males and 187 females) in September 2024 in the areas of mentoring, coaching, and conducting classroom observations using an adapted classroom observation tool. This training aimed to properly equip headteachers with the skills to motivate teachers and facilitate effective feedback.

Moreover, 43 Subject Experts (28 males and 15 females) specialising in English, Mathematics, and Science were trained in September 2024 on subject-specific pedagogical content knowledge. Additionally, they were guided to plan and deliver online sessions for teachers, informed by classroom observation data, performance in online digital modules and discussions conducted in asynchronous learning forums. The results showed notable improvements in content knowledge of the trained Subject Experts. The average score in English rose from 7.1 pre-training to 9.2 in post-training assessment. In Mathematics, it increased from 6.3 to 9.2, and in Science, it increased from 5.1 to 7.5, out of 10.

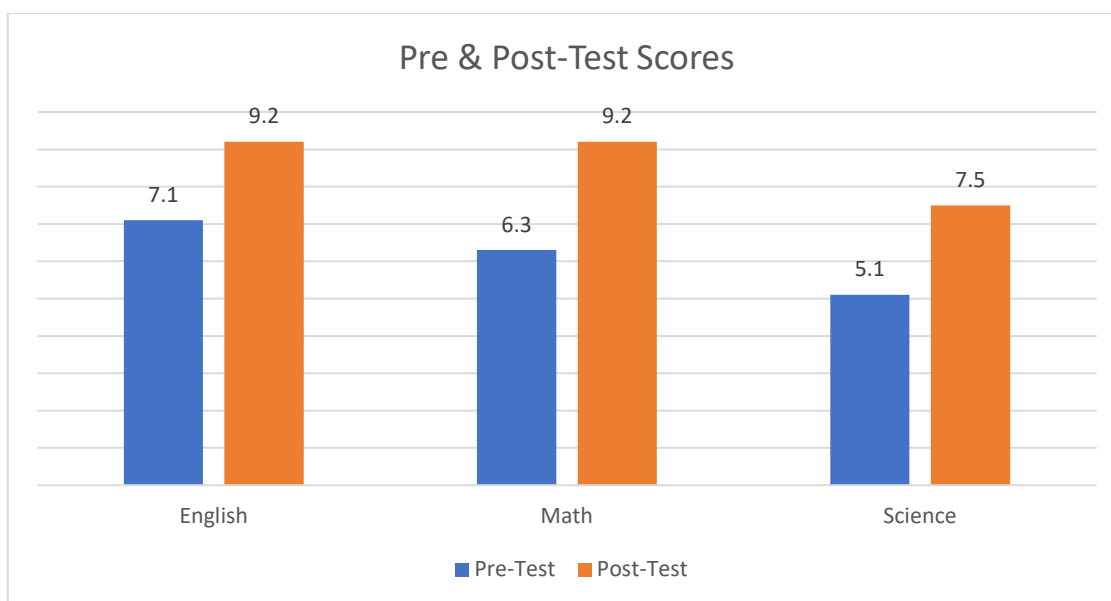


Figure 4: Pre and Post-Test Scores of Subject Experts Training

In addition to the above, in September 2024, independent observers carried out classroom observations across 50 sampled schools, involving a total of 151 teachers and generating 300 observations. The findings revealed important trends in teaching practices, with average scores of 2.85 for Science, 2.98 for Mathematics, and 3.32 for English on a 1-5 Likert Scale. These scores were set to serve as a baseline for evaluating the teaching practices of participants in the CPD initiative.

Furthermore, as part of CPD-EST, the first Teacher Professional Development Forum was held at the Sharaqpur QAED on October 19, 2024. This forum brought together teachers, headteachers, subject experts, and educational officials to foster collaboration among CPD participants. It provided a valuable platform for showcasing innovative teaching strategies, exchanging best practices, and reinforcing COPs. These interactions stimulated ongoing professional development through targeted discussions and presentations regarding effective pedagogical techniques. The details of these activities were reported in *CPD-EST pilot report, November 2024*.

The pilot laid the groundwork for future province-wide expansion, aiming to elevate teaching standards and enhance student outcomes across Punjab. The implementation of CPD-EST activities continued till end of academic year in March 2025.

Phase II: Scaling up to three additional districts (December 2024 – March 2025)

To allow for a broader evaluation of the programme's impact, offering valuable data on its effectiveness and scalability, B-TAG increased the scope of the intervention. It was expanded to include three additional districts - Faisalabad, Multan, and Rawalpindi - representing the northern, central, and southern regions of the province. The selection was done in consultation with PECTAA. An additional 542 schools were reached out through this expansion targeting at least 1,500 ESTs, one in English, Math and Science each from the additional schools.

5.2 Development of Teaching and Learning Materials

A vital component of the CPD-ESTs pilot was the development of subject-specific teaching and learning materials tailored to the needs of elementary school teachers in the targeted districts. These materials include:

i. Digital Modules for Self-Paced Learning

Digital modules were developed to support self-paced learning, allowing teachers to access content at their own convenience. These modules include teaching practice survey questionnaires, lesson plans aligned with the academic calendar, strategy videos, and end-of-module assessment questions. The primary objectives of these digital modules were to:

- Provide standardised content to ensure consistent quality across training sessions.
- Offer wide access, including for teachers in remote areas with limited opportunities for in-person training.
- Enable teachers to revisit and reuse the content over time, reducing the need for frequent in-person training, particularly in areas with high transportation costs.

A total of six modules were developed with 2 modules in phase I and additional 4 during phase II. These comprised 167 lesson plans, 4 strategy videos, and 420 assessment items developed across English, Math, and Science. Strategy videos were designed to help teachers gain a deeper understanding of core concepts and classroom best practices, effectively bridging the gap between theory and practice. End-of-module assessment items were designed for ESTs to assess and reflect on their knowledge before proceeding to the next module while teaching practices survey questions aimed at identifying pedagogical challenges that teachers faced to be shared with their Subject Experts.

A break-down of developed material is given in the table 1.

Table 1: Break-down of all six modules of digital content

Science	English	Mathematics
Module 1 (July-August)		
5 Lesson Plans	16 Lesson Plans	4 Lesson Plans
25 End of Month Assessment Questions	20 End of Month Assessment Questions	8 End of Month Assessment Questions
2 Strategy Videos	2 Strategy Videos	2 Strategy Videos
15 Teaching Practices Survey Questions	15 Teaching Practices Survey Questions	15 Teaching Practices Survey Questions

Module 2		
6 Lesson Plans	8 Lesson Plans	8 Lesson Plans
30 End of Month Assessment Questions	20 End of Month Assessment Questions	20 End of Month Assessment Questions
15 Teaching Practices Survey Questions	15 Teaching Practices Survey Questions	15 Teaching Practices Survey Questions
Module 3		
18 Lesson Plans	15 Lesson Plans	8 Lesson Plans
20 End of Month Assessment Questions	20 End of Month Assessment Questions	20 End of Month Assessment Questions
15 Teaching Practices Survey Questions	15 Teaching Practices Survey Questions	15 Teaching Practices Survey Questions
Module 4		
18 Lesson Plans	22 Lesson Plans	8 Lesson Plans
50 End of Month Assessment Questions	50 End of Month Assessment Questions	20 End of Month Assessment Questions
15 Teaching Practices Survey Questions	15 Teaching Practices Survey Questions	15 Teaching Practices Survey Questions
Module 5		
10 Lesson Plans	13 Lesson Plans	8 Lesson Plans
20 End of Month Assessment Questions	20 End of Month Assessment Questions	20 End of Month Assessment Questions
15 Teaching Practices Survey Questions	15 Teaching Practices Survey Questions	15 Teaching Practices Survey Questions
Module 6		
11 Lesson Plans	12 Lesson Plans	8 Lesson Plans
20 End of Month Assessment Questions	20 End of Month Assessment Questions	20 End of Month Assessment Questions
15 Teaching Practices Survey Questions	15 Teaching Practices Survey Questions	15 Teaching Practices Survey Questions

ii. Classroom Observation Tool for ESTs

The Classroom Observation Tool (COT) for elementary teachers was adapted from the primary-level tool to provide structured, subject-specific feedback in English, Mathematics, and Science by adding tailored indicators for each subject. The adapted COT aligns with best practices, guiding headteachers and subject experts in conducting comprehensive evaluations of instructional methods.

Designed to assess teacher performance in both subject-specific competencies and overall instructional quality, the COT for ESTs enables observers to offer focused feedback that strengthens teaching practices. Its adaptable design allows effective application across diverse classroom settings, ensuring relevance to all elementary schools within the intervention districts.

iii. Training Modules

To train additional headteachers and subject experts, the training modules developed for phase-I were used. Two distinct types of training modules were developed to support CPD-EST intervention.

- 1. Subject-Specific Training Modules:** Separate training modules were created for each core subject—English, Mathematics, and Science—to equip subject experts with the necessary skills to address subject-specific pedagogical needs. These modules focus on supporting subject experts in planning and delivering online sessions that are informed by classroom observation data, teachers' performance in previous CPD modules, and ongoing discussions in asynchronous learning forums. The modules cover strategies for lesson planning, engaging subject experts in active learning, and addressing common challenges in each subject. Interactive activities, such as case studies and role-playing, are included to help subject experts create dynamic, learner-centred online sessions.

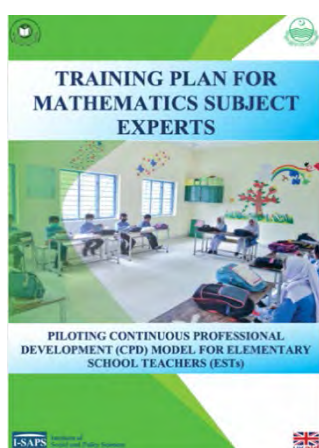


Figure 5: Title page for Math Subject Expert Training Module

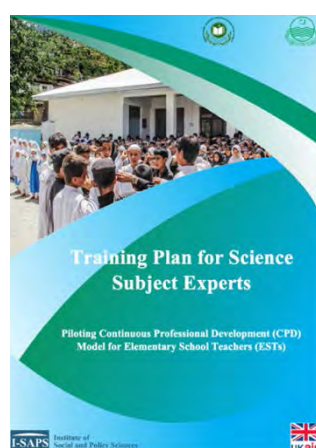


Figure 6: Title page for Science Subject Expert Training Module

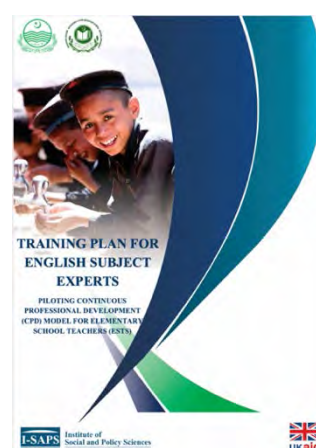


Figure 7: Title page for English Subject Expert Training Module

2. **HTs and District QAED Training:** This module was specifically designed for headteachers and PECTAA district filed officers, focusing on classroom observation and feedback. The training module focuses on mentoring and coaching skills, enabling them to guide teachers in improving classroom practices. Topics covered in this module include techniques for conducting structured classroom observations, providing constructive feedback, and fostering a supportive environment for teachers' professional growth. It also focuses on how to use the observation tools to assess teaching practices, identify areas for improvement, and provide actionable feedback.

5.3 Content Review

While the training modules were reviewed by PECTAA's officials during phase-I, a comprehensive content review workshop was conducted at the PECTAA head office to evaluate and improve the CPD digital modules developed during phase-II. Reviewers with expertise in English, Mathematics, and Science, were involved in assessing the content rigorously and providing constructive feedback. This workshop aimed to ensure that the CPD resources align with educational standards and effectively support teachers' professional development.

The B-TAG team facilitated the review workshop, guiding discussions and incorporating feedback from all participants to refine and improve the content. This collective effort strengthened the quality and relevance of CPD materials, ensuring that teachers are better equipped to enhance their teaching practices.

5.4 Content Uploading

Initially, teachers were given access to self-study modules available through the PECTAA's TMS. However, due to the non-renewal of the contract between PECTAA and Punjab Information Technology Board (PITB) for TMS services, the B-TAG team engaged a private firm through a competitive process to ensure uninterrupted content management and training delivery. The content was uploaded, and ESTs from all 5 districts were granted access to it through the LMS hosted by a private firm (NearPeer).

1. **Digital Modules:** Monthly modules, aligned with the academic calendar, covering SLOs for Mathematics, Science, and English using videos and lesson plans were uploaded on LMS for teachers to access. The platform allowed teachers to select one subject at the start, providing access to content tailored to that subject.
2. **Survey Questionnaire:** A survey questionnaire was developed for each subject, gathering information on the topics, teachers found challenging and the difficulties they encountered in classroom instruction. This feedback was intended to inform the focus of upcoming learning forum sessions conducted by Subject Experts.

3. **End-of-Module Assessment:** Each module included an assessment at the end based on SLOs, designed to help teachers gauge their understanding. Teachers could re-attempt the assessment if they didn't achieve satisfactory results initially, supporting their content knowledge growth.
4. **Discussion Forum:** A moderated discussion forum provided teachers with a platform to share challenges, successes, and progress. Subject experts moderated the forums, posting questions, answering queries, and encouraging peer interaction to foster a supportive community.

Teachers were directed to access the digital modules through a notification with the following steps. Subject Experts and headteachers were given an orientation during their training sessions on how to access the LMS and support teachers in doing the same.

- Step 1: Visit: <https://bit.ly/PunjabCPD>
- Step 2: Click on “Join us” in the top right corner.
- Step 3: Enter your CNIC number in the given box and click on **NEXT**:
- Step 4: Please add your Default Password: **Default@123**
- Step 5: Once logged in, scroll down and start your first lecture.

5.5 Training Delivery

The training delivery for the phase-II focused on two main types of training sessions aimed at ensuring effective implementation and sustainable professional development for headteachers (HTs) and Subject Experts (SEs). The training sessions included:

HTs Training

The training of headteachers was done through a cascade model:

i. Training of Trainers (TOT)

The TOT sessions were held on 1st January 2025 in the districts of Faisalabad, Multan, and Rawalpindi. A total of 57 Master Trainers (MTs) were trained across these districts: 15 MTs in Rawalpindi (12 male, 3 female), 30 MTs in Faisalabad (24 male, 6 female), and 12 MTs in Multan (9 male, 3 female). These MTs were selected by PECTAA's quality assurance wing and included PECTAA's district field officers as well.

The sessions were jointly facilitated by the B-TAG's content development and training team and PECTAA's district field offices. The focus of the TOT sessions was to ensure that MTs had a comprehensive understanding of the CPD model, COT for ESTs and could effectively train HTs in the following phases.

The trainers explained the CPD model and its core principles, explored strategies for motivating teachers, particularly those underperforming, introduced the COT for ESTs and its indicators, which are essential for mentoring and evaluating teachers, and discussed constructive feedback.

57 MASTER TRAINERS

January 1, 2025



44 M

13 F



524 Headteachers

Batch 1: January 6 to 7

Batch 2: January 8 to 9



196 M

328 F

The training approach combined deductive and inductive methodologies with activity-based learning, ensuring interactive and hands-on experiences. Sessions included role-playing exercises where participants practiced scenarios such as motivating underperforming staff, using the COT in real-world contexts, and discussing its practical implications. Trainers encouraged high standards of discussion, allowing participants to share insights from their school environments.

ii. *Headteachers' Training*

524 headteachers (196 male, 328 female) across the three districts (Rawalpindi: 155 headteachers, Faisalabad: 271 headteachers, Multan: 98 headteachers) between 6th and 9th January 2025 for two days. The sessions were conducted at the PECTAA district field offices in each district and were led by the 57 MTs, ensuring a sustainable model of professional development.

The training sessions focused on the HTs' role as instructional leaders, emphasising how they could support teachers in improving their classroom practices.

Topics included:

- The CPD-EST model and its components
- The HTs' responsibility in fostering an environment conducive to professional growth and enhanced teaching
- Techniques for inspiring and engaging teachers to improve their teaching methods
- Using subject-specific COTs to assess teaching practices in Mathematics, Science, and English
- Mentoring and coaching techniques to provide constructive feedback

The training also provided HTs with practical tools to observe and assess teachers' performance, using the COT to identify areas for improvement and promote reflective teaching practices. Through this structured training programme, HTs acquired essential skills to support and guide teachers in their professional development under the CPD model.

Subject Experts Training

In the initial phase of the CPD-EST pilot, a three-day training session was conducted for the SEs in English, Mathematics, and Science in Sharaqpur in August and September 2024. PECTAA's Quality Assurance Wing selected participants based on their subject knowledge, prior training experience, and ability to deliver training sessions effectively. They were also chosen for their skills in mentoring, coaching, and supporting teachers in their professional growth. The group selected included high school teachers, some elementary school teachers, Assistant Education Officers (AEOs), and PECTAA's district field officers.

During phase-II, as part of the expanded scope, SEs in Multan, Rawalpindi, and Faisalabad were selected and trained on December 30 and 31, 2024, at the PECTAA district field offices in the respective districts. A total of 57 Subject Experts participated in this training, with 44 male and 13 female participants. Each subject (English, Mathematics, and Science) had 19 designated Subject Experts. The district-wise distribution of participants was as follows:

Rawalpindi	• 15 SEs (11 male, 4 female)
Faisalabad	• 30 SEs (24 male, 6 female)
Multan	• 12 SEs (9 male, 3 female)

The training was delivered by experienced trainers from the B-TAG training team, who provided advanced pedagogical strategies and subject-specific methodologies to further develop the professional capabilities of the SEs. The goal of this training was to equip SEs with the necessary skills to support and enhance the professional development of teachers within the CPD model. Through this initiative, the CPD-EST project continued to build on instructional practices, ensuring a sustainable and impactful approach to teacher training and classroom improvement.

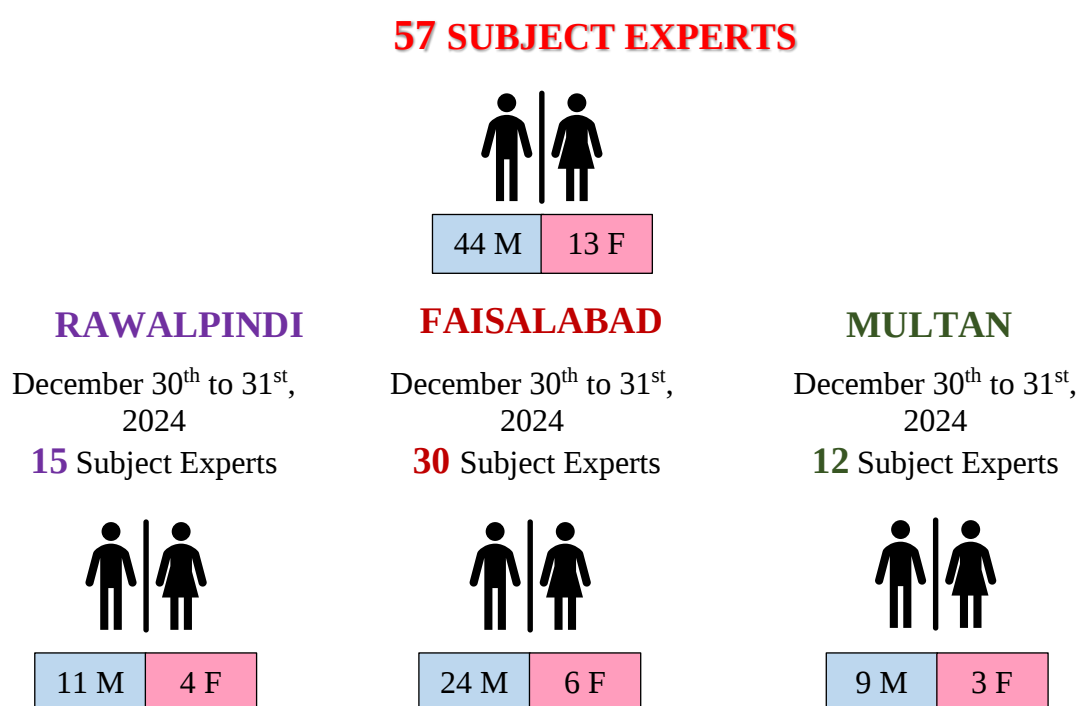


Figure 8: Gender-wise breakdown of Subject Experts

The following subject-specific sessions were delivered during the phase-II of the intervention:

i. Training of the English Subject Experts

The training session for English Subject Experts (SEs) took place from December 30th to 31st, 2024, and aimed at enhancing their pedagogical skills at the elementary level. The session's primary objective was to equip the SEs with innovative strategies for teaching English to elementary school students. The focus was on improving professional competencies, particularly in holistic language instruction, addressing second language acquisition challenges, and applying context-specific, social constructivist approaches.

One key concept introduced during the training was the use of **multiple intelligences** to improve teaching methods, enabling SEs to equip teachers to engage their students in various ways and address their diverse learning needs. The training also emphasised effective **lesson planning** using **Gagne's Nine Events of Instruction**, an instructional design model to enhance student learning. Participants were encouraged to create rubrics for assessing students' language skills and practised developing lesson plans that incorporated these principles.

The training followed a broad-to-narrow approach, beginning with an analysis of lesson plans based on Gagne's framework. SEs reviewed strategies for teaching the four core language skills: **reading, listening, writing, and speaking**. Particular attention was paid to understanding sentence structure, syntactic and lexical ambiguity, and techniques to avoid common issues such as **run-on sentences**. Furthermore, the training covered **paragraph structure, cohesion, and coherence**, allowing the SEs to apply these concepts in practical teaching scenarios.

ii. Training of the Mathematics Subject Experts

A training session was held from December 30th to 31st, 2024, for 19 Mathematics Subject Experts to enhance their pedagogical skills at the elementary level.

The objective of these training sessions was to provide Mathematics Subject Experts with a comprehensive understanding of the CPD model and its key features tailored specifically for elementary teachers. Participants explored essential aspects of the CPD framework, including the role of active learning in promoting professional growth, the importance of Teacher Learning Forums as collaborative spaces, and the critical role subject experts play in supporting the development of effective teaching practices. Additionally, the training introduced Math-specific indicators introduced in the COT for ESTs further equipping the SEs to assess and support effective teaching in mathematics.

iii. *Training of the Science Subject Experts*

Similarly, training session for Science SEs was conducted from December 30th to 31st, 2024, for 19 Science Subject Experts to improve their pedagogical skills at the elementary level.

This session aimed to equip the science subject experts with innovative strategies for teaching science at the elementary level. The focus was on enhancing participants' professional competencies by introducing inquiry-based learning models and integrating collaborative and project-based learning approaches into science education. Furthermore, the training provided valuable insights into effective online teaching practices, equipping the SEs with strategies to engage students in remote learning environments. The training also aimed to prepare the subject experts to facilitate and enhance the professional competencies of selected trainees, ensuring they are well-equipped to lead and support future teaching efforts.

Results & Findings on The Effectiveness of Training

Pre- and Post-Training Scores

The Scale-Up iteration of the CPD-EST pilot yielded clear evidence of enhanced subject-matter proficiency among participating experts. The effectiveness of the CPD-EST Scale-up training sessions was evaluated through the pre- and post-assessment scores of subject experts across three subjects: English, Mathematics, and Science. The assessments aimed to measure improvements in subject experts' competencies and instructional practices because they participated in the CPD training.

The average pre- and post-assessment scores in English, Mathematics, and Science demonstrate notable improvements.

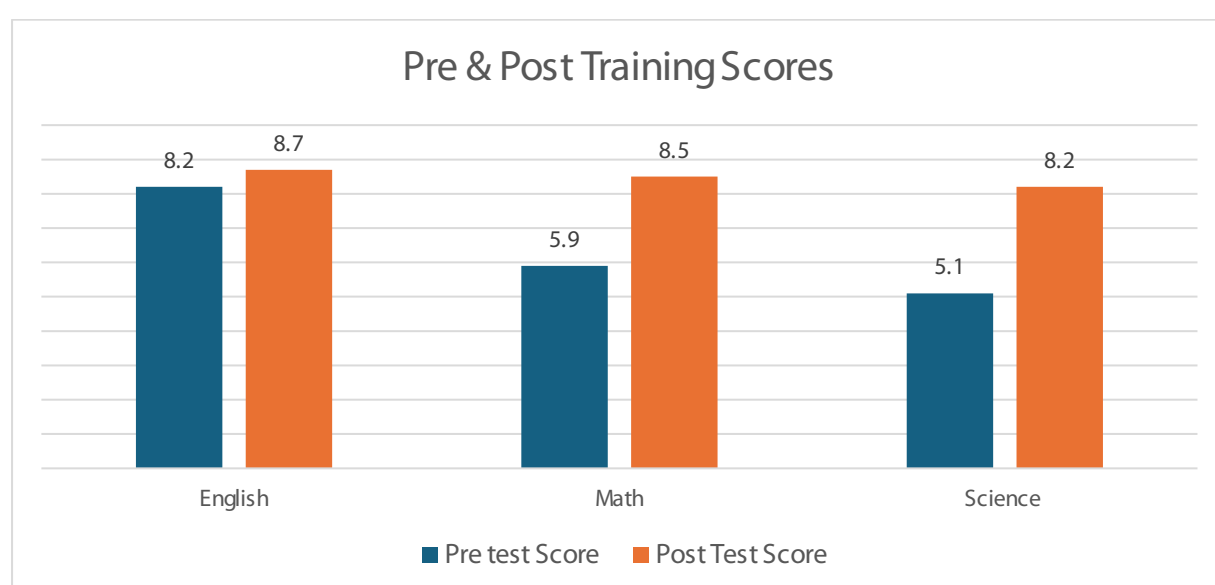


Figure 9: Pre- and Post-Assessment Scores of SEs

Subject Experts Training Feedback

Feedback from Subject Experts who participated in the training sessions indicates a consistently high level of satisfaction with the performance of the Master Trainers. All SEs reported being satisfied with the trainer's overall performance, with 74% strongly agreeing and 26% agreeing with the trainers' effectiveness and delivery styles.

Engagement was also rated exceptionally well. All SEs agreed that the Master Trainers encouraged questions and interaction, reflecting a highly participatory and learner-centred approach.

Regarding training materials, 99% of SEs felt the materials met their expectations, with 62% strongly agreeing and 37% agreeing, indicating that the resources were relevant, clear, and aligned with the training objectives. Only 1% expressed a neutral stance, with no negative responses reported.

Time management during the sessions was also positively reviewed, with 99% of SEs agreeing that the sessions were effectively paced and organised (63% strongly agree, 36% agree, and 1% neutral). No participants indicated dissatisfaction in this area.

Overall, the feedback reflects a strong endorsement of the training experience delivered by the Master Trainers. Detailed subject-wise analysis is presented below, based on a weighted scoring method in which responses were assigned numerical values (Strongly Disagree = 0 to Strongly Agree = 4), and mean scores were calculated for each question to ensure a standardised comparison across subjects.

i. English Subject Experts' Feedback

The training for English Subject Experts achieved positive feedback, with all categories averaging above **3.6 out of 4**, reflecting unanimous agreement on its effectiveness. Participants highlighted satisfactory time management, engaging materials (e.g., tailored resources), and the trainer's subject mastery (e.g., use of contextual examples and curriculum-aligned strategies). There were minor suggestions to further enhance accessibility for diverse classroom contexts.

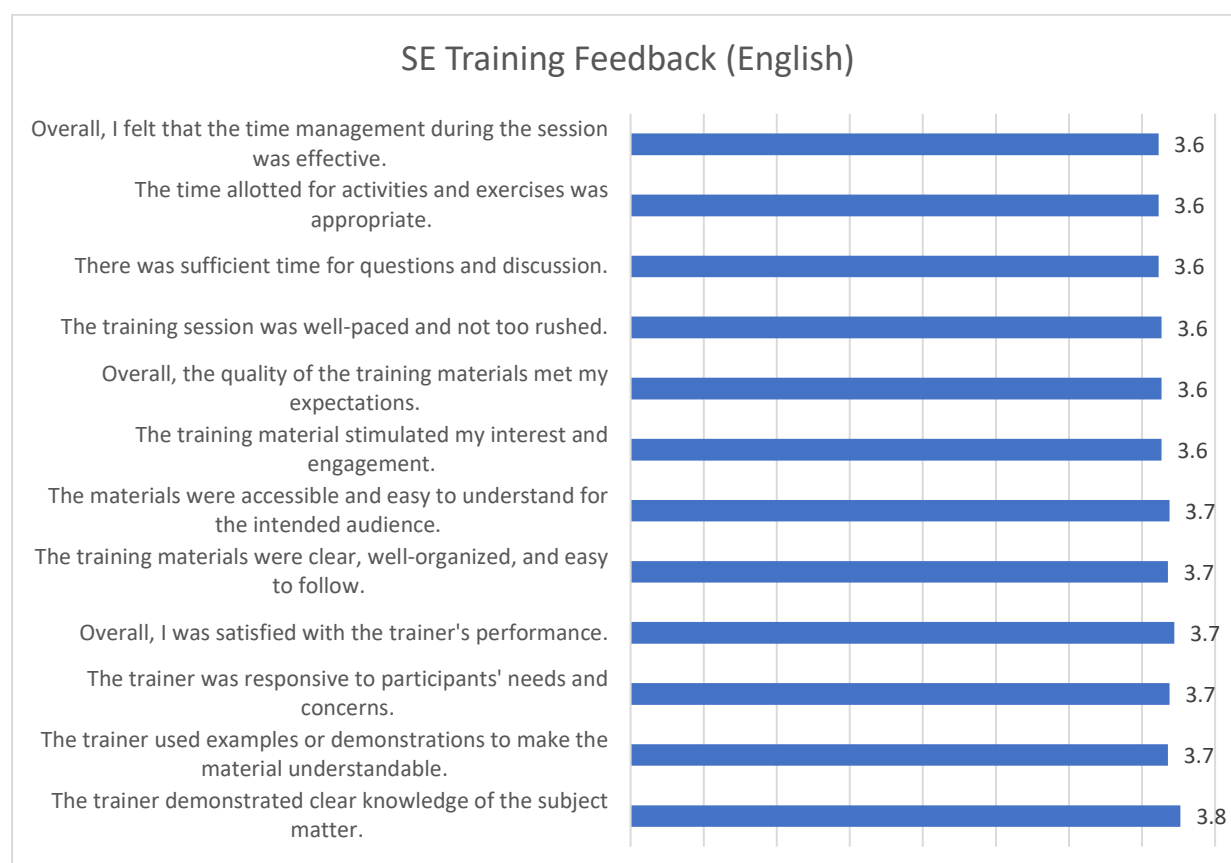


Figure 10: English Training Feedback

ii. Math Subject Experts' Feedback

The training for Math Subject Experts received positive feedback as well, with all categories averaging over 3.6 out of 4, reflecting unanimous agreement on its effectiveness. Participants praised the structured time management (e.g., balanced pacing for problem-solving activities and collaborative exercises), practical materials, and the trainer's expertise (e.g., clear demonstrations of mathematical reasoning). Suggestions for improvement included extending time for training on advanced topics.

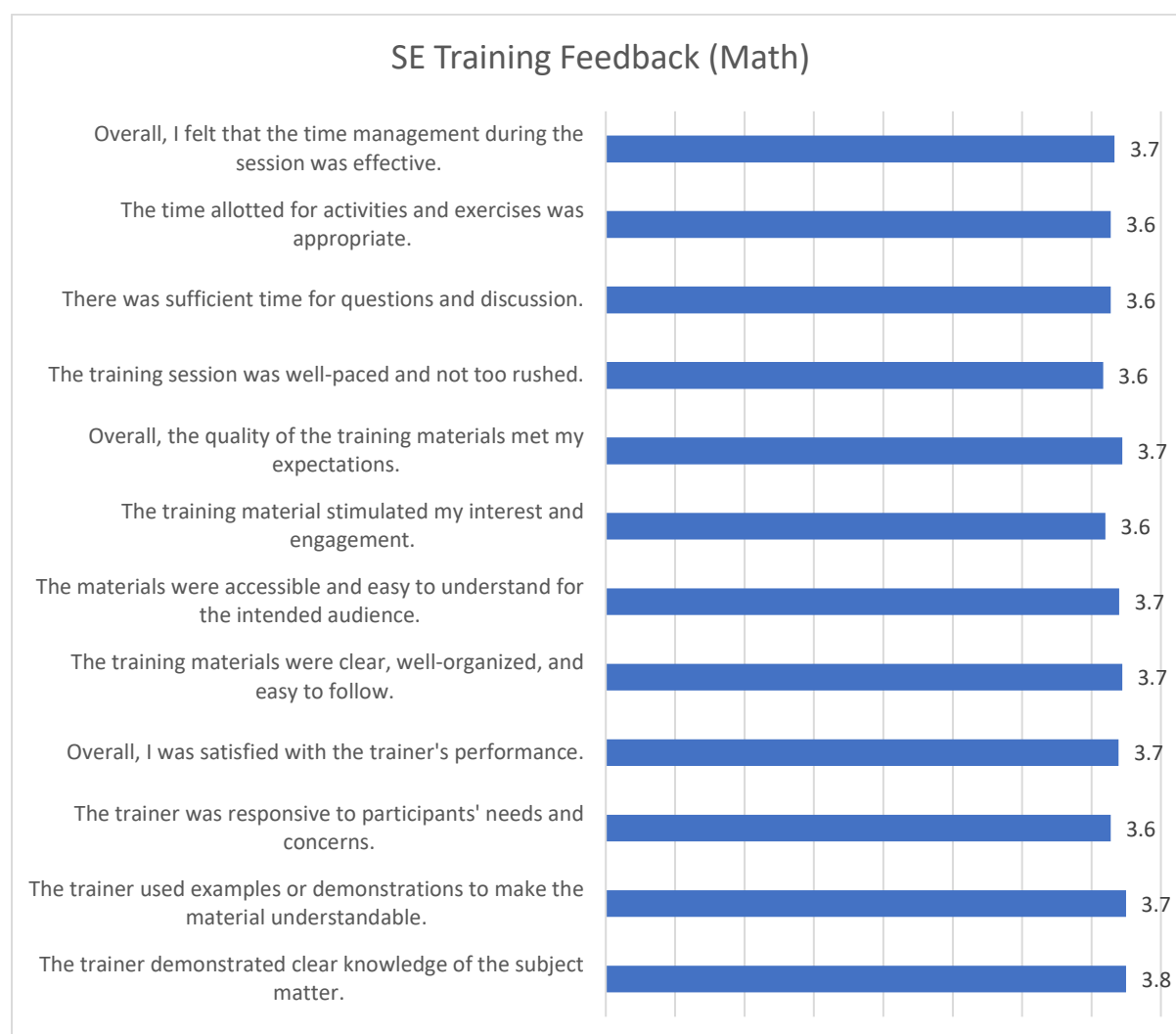


Figure 11: Mathematics Training Feedback

iii. Science Subject Experts' Feedback

The training for Science Subject Experts received consistently high feedback (average scores: 3.5–3.8 out of 4), with participants praising effective time management (e.g., "well-paced sessions" scoring 3.8), engaging materials (3.7), and the trainer's expertise in demonstrating scientific methodologies (3.8). Overall, the programme excelled in merging theoretical knowledge with practical inquiry, equipping teachers to confidently deliver.

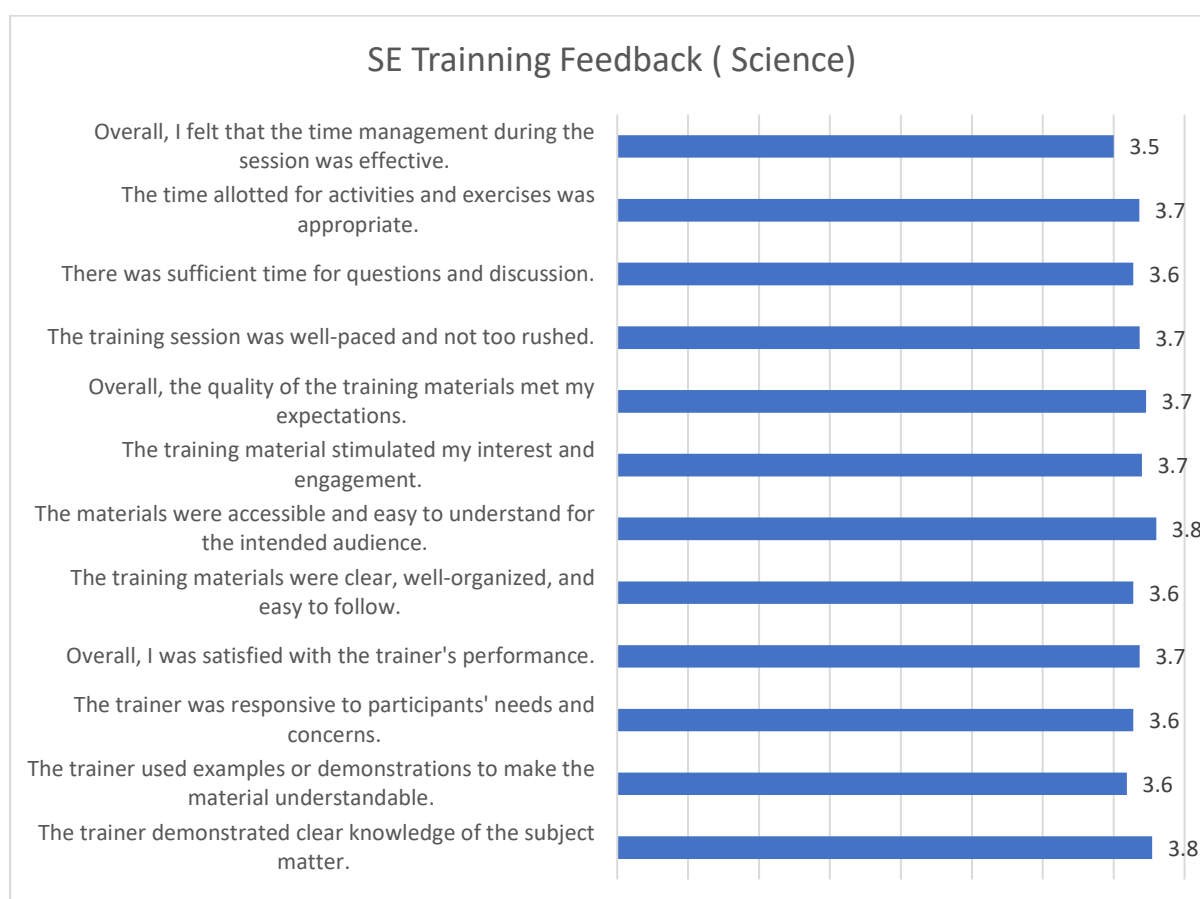


Figure 12: Science Training Feedback

5.6 Pre- and Post-Classroom Observations

The classroom observations conducted at the start and at the end of the intervention in sampled schools were analysed to assess the effectiveness of the intervention. The observations encompassed the three core subjects: English, Mathematics, and Science, allowing for a comprehensive analysis of instructional methodologies before and after the intervention.

Identification and Selection of Independent Observers

B-TAG field teams identified and selected independent observers to conduct classroom observations. The selection was done with careful consideration of specific qualification criteria, including subject expertise, relevant teaching experience, and proficiency in data collection methods. This ensured that the observers possessed the necessary skills to accurately observe teaching practices.

Training of the Independent Observers on Subject-Specific Tools

Following the selection process, the independent observers underwent targeted training on the COT, including the subject-specific practices. This training aimed to equip them with a thorough understanding of the observation framework and the key indicators to be assessed during classroom visits. The primary purpose of these observations was to capture a baseline of teaching practices at the start of the intervention and an endline at the end.

Conduct of pre and post-classroom observations

The pre-observation for phase-II were done in November 2024. Post-observations for both phases were done in March 2025, with the findings providing valuable insights into the effectiveness of the intervention.

5.7 Conduct of Synchronous Learning Forums

Following their training, Subject Experts (SEs) were assigned to schools with the responsibility of facilitating synchronous learning forums for teachers and conducting joint classroom observations with headteachers.

SEs from Phase I resumed their monthly sessions in October 2024, while Phase II SEs initiated their sessions in January 2025. Each SE engaged with a cohort of 30 teachers, divided into two groups of 15. Sessions ranged from 60 to 120 minutes in duration. The initial sessions introduced the CPD framework, unpacked the indicators of the COT and provided a platform for teachers to discuss the challenges they faced.

Subsequent sessions were tailored to address specific areas where teachers showed instructional gaps. These areas were identified using data from two key sources: (i) software-generated reports highlighting the three lowest-performing Student Learning Outcomes (SLOs), and (ii) classroom observation data collected by headteachers, which flagged teaching practices that received a rating of three or below.

To address these gaps, SEs planned and delivered targeted, one-hour online support sessions focusing on the identified weak SLOs. These sessions offered practical strategies to improve instruction, including demonstrations using pedagogical videos, curated YouTube content, and guidance on effectively implementing the provided lesson plans in classrooms.

5.8 Classroom Observations by headteachers and Subject Experts

Throughout the intervention, headteachers conducted classroom observations of their ESTs using the COT specifically adapted for ESTs. They also held one-on-one feedback sessions with their teachers.

In addition, Subject Experts visited schools and conducted joint classroom observations with headteachers. The data was collected and analysed. These observations served as a means to assess teachers' instructional practices, identify areas needing improvement, and provide actionable, targeted feedback aimed at enhancing teaching effectiveness

5.9 Teachers' Professional Development Forums

As part of the CPD-EST initiative, a series of Teacher Professional Development Forums were organised. These forums served as vital platforms for teachers to share their experiences, discuss instructional challenges, and strengthen professional networks. Teachers expressed appreciation for the collaborative environment, highlighting that the forums enabled them to co-develop innovative solutions to common classroom issues.

Notably, the first professional development forum for Phase I was held in October 2024 and was jointly organised by B-TAG and the PECTAA district field office in Sharaqpur. In Phase II, three forums were independently conducted by the PECTAA district field offices in Faisalabad, Multan, and Rawalpindi, collectively engaging over 314 teachers. These forums marked an important step toward institutionalising peer-led learning and professional collaboration among ESTs.

The details of these forums have been added annexure-E.



SECTION VI:

ANALYSIS & RESULTS

SECTION VI: ANALYSIS & RESULTS

This analysis section is structured to provide a comprehensive overview of the intervention's effectiveness. It starts with a high-level summary of key findings, followed by online course completion data and an analysis of trends in COT scores assigned by headteachers (internal observers) to capture teacher progress over time. It then presents results from independent external observers comparing pre- and post-intervention classroom observations and concludes with key thematic insights from teacher FGDs.

6.1 Summary of Findings

- 1,708 elementary school teachers accessed the course from the scale-up districts: Rawalpindi, Multan, Faisalabad and 1,414 completed the course qualifying for course completion certificate.
- Analysis of classroom observation tool (COT) scores by internal observers (headteachers) shows a steady improvement in teaching practices over time, with average scores rising from 3.15 in September 2024 to 4.21 by April 2025. This positive trend holds even when considering only months with over 100 observations, indicating consistent progress across the observed period.
- External observers' pre- and post-intervention classroom observations in five Punjab districts reveal a significant increase in average COT scores, from 3.46 before the intervention to 3.95 after. Improvements were consistent across general teaching practices and subject-specific indicators, with all differences statistically significant, demonstrating the intervention's effectiveness.
- Subject-wise analysis shows notable gains in English, Math, and Science COT scores across all districts. For example, English scores rose from 3.38 to 3.68, Math from 3.26 to 3.73, and Science from 3.20 to 3.68, reflecting broad-based improvements in instructional quality following the intervention.
- District-level breakdowns confirm that all five districts experienced increased COT scores in both general and subject-specific domains. The magnitude of improvement varied, but every district showed progress, which highlights the intervention's positive impact regardless of local context.
- Teacher feedback collected through FGDs and online forms highlights high satisfaction with the training content, delivery, and impact. Over 97% of teachers found the training relevant and practical, while more than 95% reported increased confidence and improved ability to align classroom activities with SLOs.
- Assessment components of the training were well-received, with over 94% of teachers stating that assessments were well-designed, reflective of training content, and helpful in consolidating learning. Most teachers also valued the feedback provided, which supported their ongoing professional growth.

- The self-paced, flexible training format was widely appreciated, with 95% of teachers finding it convenient and effective. Overall, 94% of teachers indicated they would recommend this training to peers, confirming strong endorsement and perceived benefit from the intervention.

6.2 Online digital modules completion data

Overall, 1,882 ESTs accessed the course. Out of these, 1,708 elementary school teachers were from the scale-up districts: Rawalpindi, Multan, Faisalabad

District-wise and gender-wise break up is given below:

Table 2: District and Gender Wise Break-up of Digital Modules Completion Data

Sr. No.	DISTRICT	FEMALE	MALE	TOTAL
1	FAISALABAD	707	282	989
2	MULTAN	156	76	232
3	RAWALPINDI	341	142	483
SUB TOTAL		1,204	500	1,704
4	Self-Registered (other districts)	100	78	178
GRAND TOTAL		1,304	578	1,882

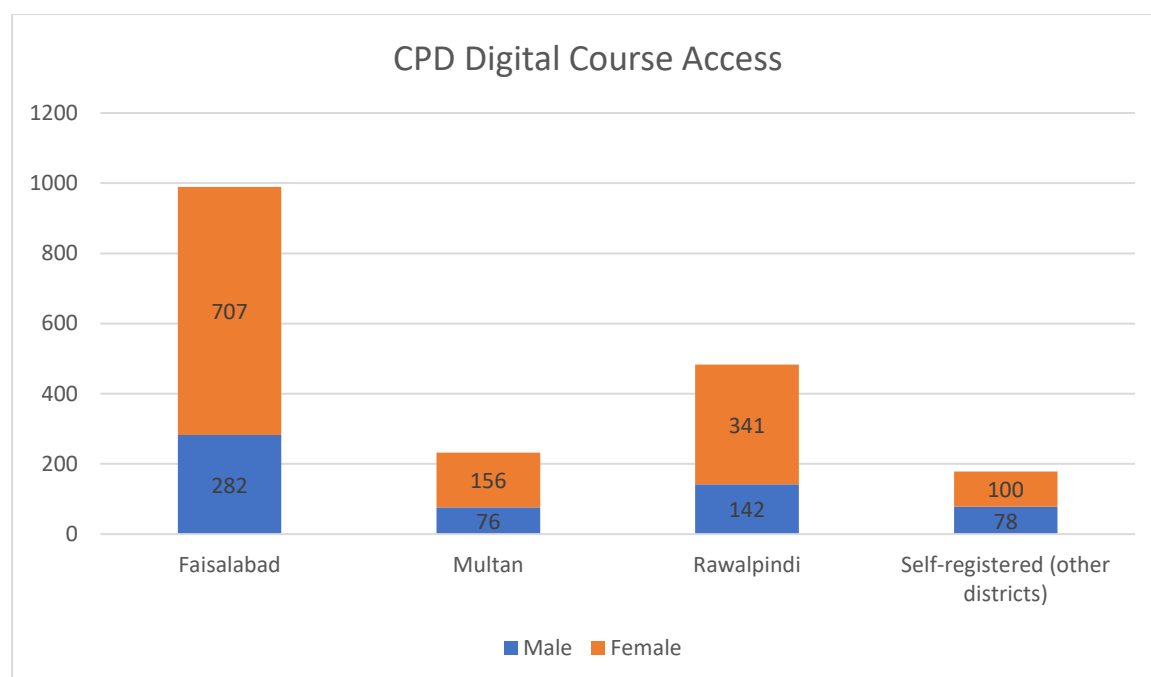


Figure 13: District & Gender wise data of CPD Digital Course Access

Out of the ESTs, who accessed the course, only those teachers were given certificates who completed all 6 digital modules, attempted end-of-module assessment with a qualifying score. Course completion data of teachers is given below:

Table 3: Subject wise Course Completions from Scale-up Districts

Sr. No.	Course Completions from Scale-up Districts	
1	ENGLISH	523
2	MATH	490
3	SCIENCE	401
SUB TOTAL		1,414
Sr. No.	Course Completions from other Districts	
4	ENGLISH	113
5	MATH	85
6	SCIENCE	72
SUB TOTAL		270
GRAND TOTAL		1,684

6.3 Trend Analysis of COT scores by Internal Observers

Headteachers conducted classroom observations in their schools using classroom observation tool. The data from this record shows a positive trajectory in average scores by month, indicating improvement in teaching practices.

- Average COT score was 3.15 in September 2024, which increased to 4.21 by April 2025.

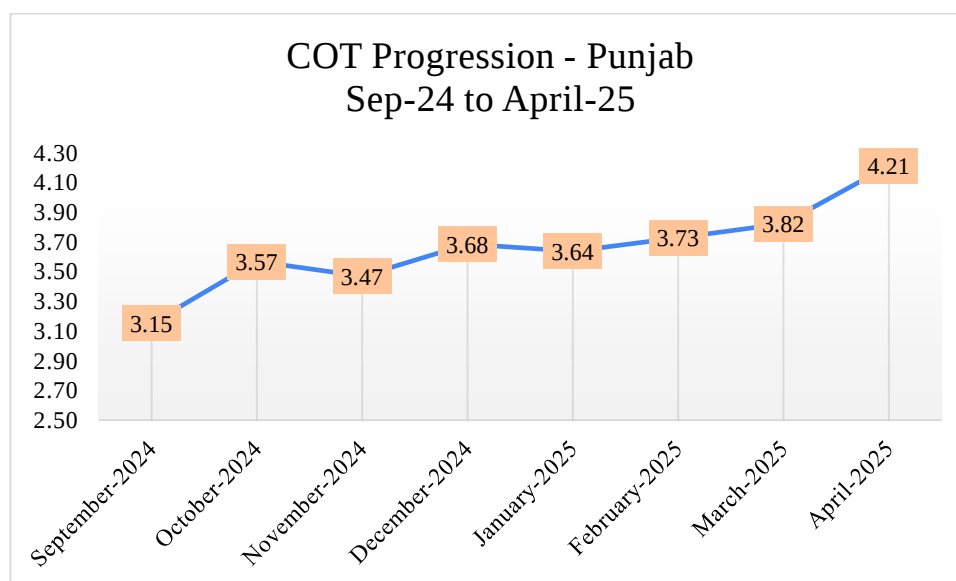


Figure 14: Average COT scores across five intervention districts- Sep 24 to April 25

Limiting the above analysis to period where per month observations are at-least 100 also shows a gradual positive change in COT scores.

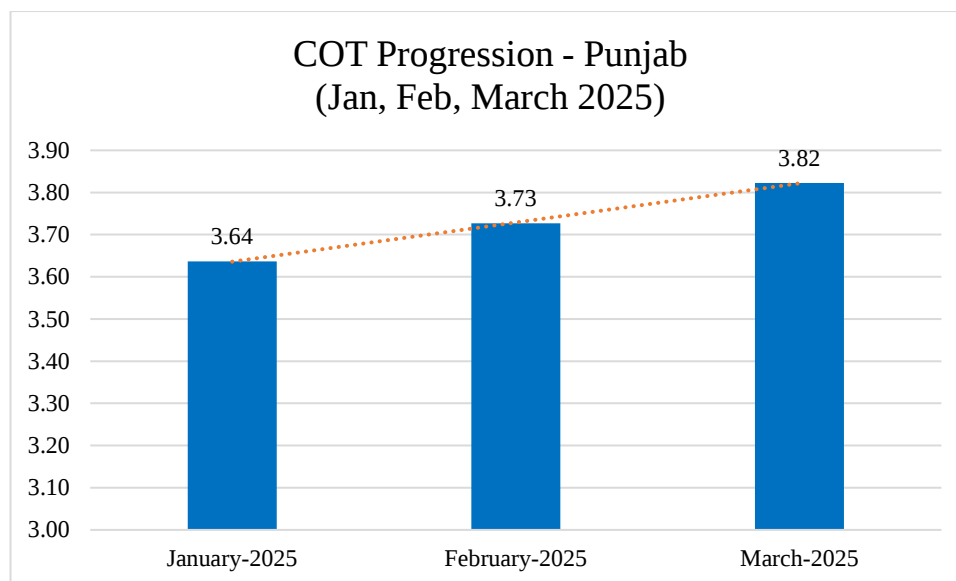


Figure 15: Monthly trend of COT scores showing consistent improvement during periods with 100 Observations

6.4 Pre vs Post Analysis of COT Scores by External Observers

Pre-Post Average COT Scores – Overall

Overall, an increase of approximately 0.48 score is observed (combining all 5 districts from Punjab).

- The average COT score, all districts, combining general practices and subject specific indicators, increased from 3.46 from pre to 3.95 during post observations.

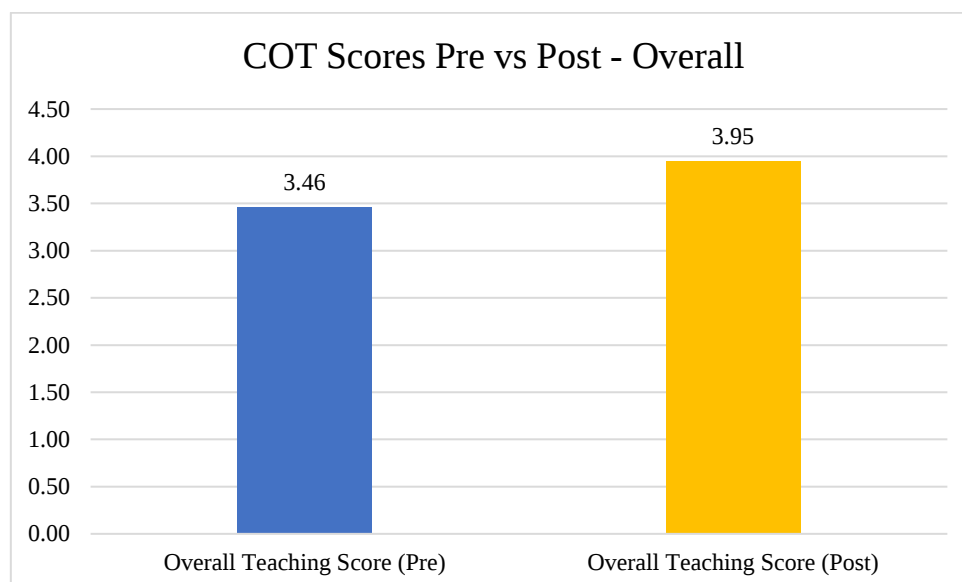


Figure 16: The average Pre vs Post COT scores of all districts, combining general practices and subject-specific indicators

- The average COT scores, all districts combined, increased
 - From 3.65 to 4.17 for 11 general practices
 - From 3.38 to 3.68 for English, from 3.26 to 3.73 for Math, and from 3.20 to 3.68 for Science

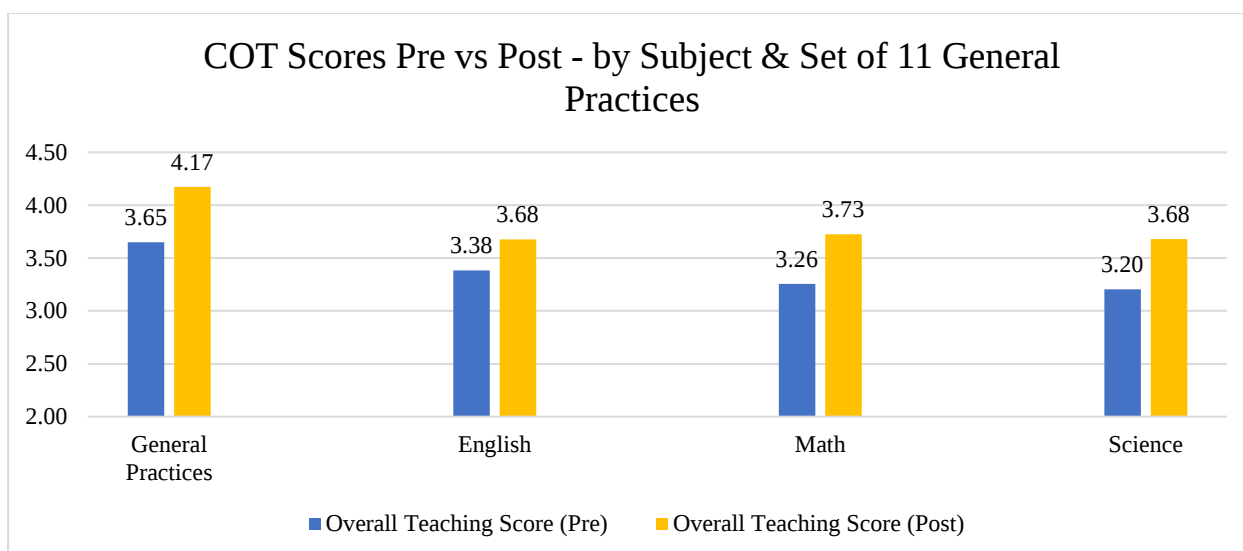


Figure 17: Comparison of average pre- and post-intervention COT scores by subject and the 11 General Teaching Practices

Overall, COT scores have increased for all three subjects and for the set of 11 general practices, the difference are statistically significant.

VARIABLES	(1) 11 General Practices	(2) English	(3) Math	(4) Science
time	0.521*** (0.040)	0.296*** (0.106)	0.470*** (0.091)	0.451*** (0.091)
Constant	3.652*** (0.026)	3.380*** (0.069)	3.255*** (0.059)	3.229*** (0.060)
Observations	1,002	334	334	332
R-squared	0.147	0.023	0.075	0.069

Standard errors in parentheses
 *** p<0.01, ** p<0.05, * p<0.1

Pre-Post Average COT Scores – by Practice & Subject

The table presents COT scores by practice and subject. The last column shows the difference in pre and post COT scores.

Category	Indicator / Practice	Overall Teaching Score (Pre)	Overall Teaching Score (Post)	Difference (Post - Pre)
General Practices	1. Objectives articulation	3.77	4.21	0.44
	2. Clear content explanation	3.82	4.21	0.39
	3. Real-life connections	3.74	4.17	0.43
	4. Teacher modeling	3.60	4.15	0.56
	5. Understanding assessment	3.65	4.21	0.56
	6. Monitoring student progress	3.51	4.23	0.72
	7. Teaching adjustments	3.70	4.17	0.47

	8. Clarifying feedback	3.56	4.08	0.52
	9. Thinking questions	3.70	4.19	0.48
	10. Thinking tasks	3.56	4.03	0.47
	11. Responding to needs	3.54	4.25	0.71
	AVERAGE	3.65	4.17	0.52
English	1. Innovative English strategies	3.36	3.68	0.31
	2. Critical and creative responses	3.41	3.68	0.27
	AVERAGE	3.38	3.68	0.29
Math	1. Math connections	3.22	3.65	0.43
	2. Problem-solving facilitation	3.39	3.80	0.42
	3. Practice and problem-solving opportunities	3.32	3.92	0.59
	4. Mathematical concept representation	3.09	3.54	0.44
	AVERAGE	3.26	3.73	0.47
Science	1. Science concepts explanation	3.33	3.73	0.40
	2. Scientific method engagement	3.37	3.82	0.45
	3. Demonstration of procedures incorporating safety	3.16	3.46	0.30
	4. Science-technology-society connections	2.96	3.70	0.75
	AVERAGE	3.20	3.68	0.48
OVERALL	AVERAGE	3.46	3.95	0.48

6.5 Pre-Post Average COT Scores – by Districts

All five districts showed increase in average COT scores on all domains (general and subject wise practices).

Faisalabad:

- The average for 11 general practices combined increased from 4.01 to 4.31
- From 3.16 to 3.24 for English
- From 3.42 to 3.68 for Math
- From 3.45 to 3.59 for Science

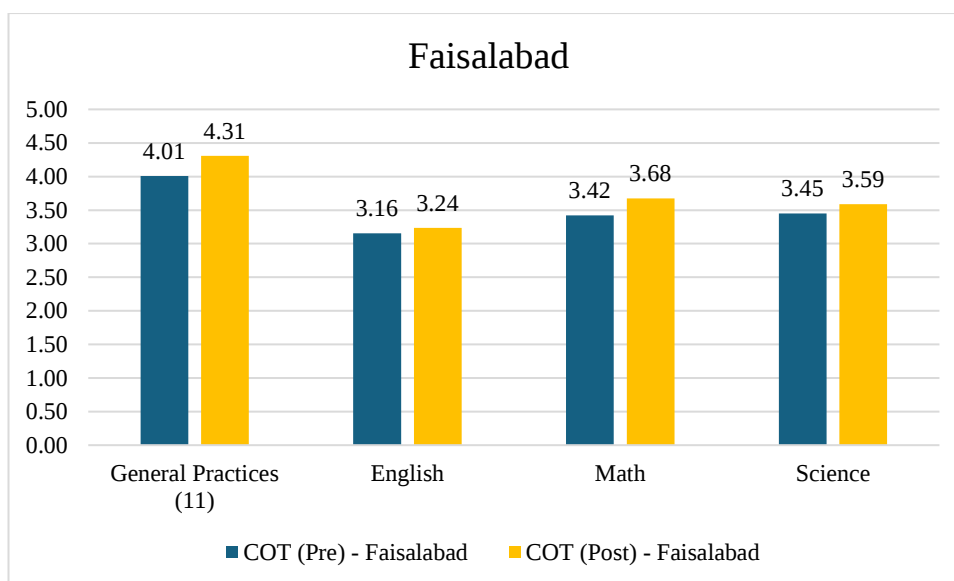


Figure 18: Average pre- and post-intervention COT scores in Faisalabad across 11 General Teaching Practices and subject areas

Multan:

- The average for 11 general practices combined increased from 4.05 to 4.46
- From 3.63 to 4.32 for English
- From 3.66 to 4.11 for Math
- From 3.50 to 4.11 for Science

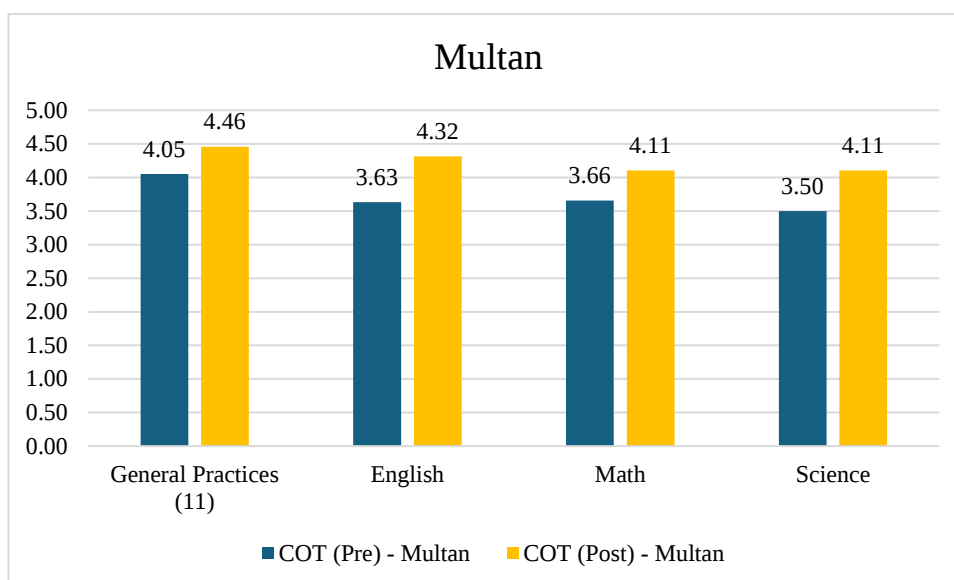


Figure 19: Average pre- and post-intervention COT scores in Multan across 11 General Teaching Practices and subject areas

Nankana Sahib:

- The average for 11 general practices combined increased from 3.30 to 3.64
- From 3.13 to 3.56 for English
- From 2.92 to 3.66 for Math
- From 2.64 to 3.53 for Science

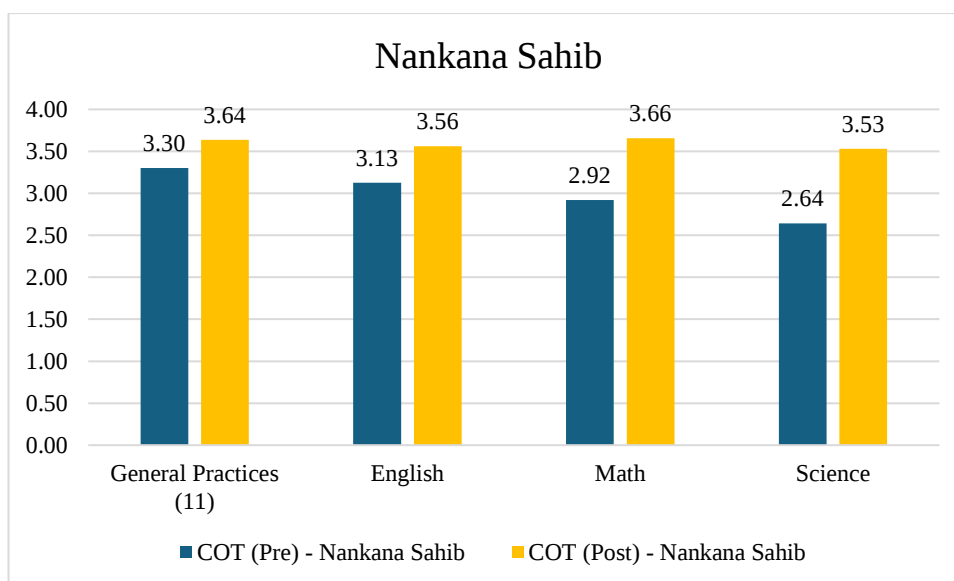


Figure 20: Average pre- and post-intervention COT scores in Nankana Sahib across 11 General Teaching Practices and subject areas

Rawalpindi:

- The average for 11 general practices combined increased from 3.79 to 4.61
- From 4 to 4.64 for English
- From 3.77 to 4.23 for Math
- From 3.85 to 4.25 for Science

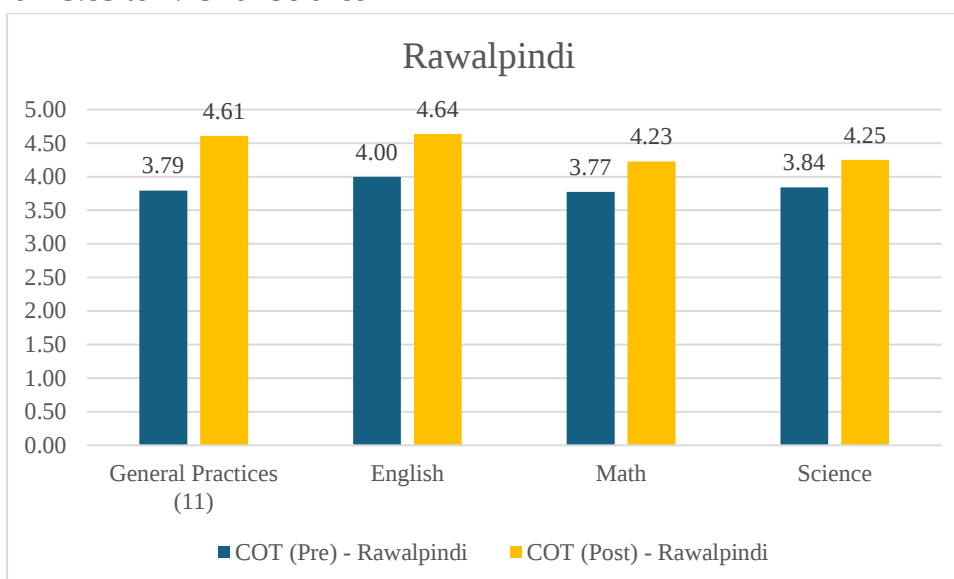


Figure 21: Average pre- and post-intervention COT scores in Rawalpindi across 11 General Teaching Practices and subject areas

Sheikhupura:

- The average for 11 general practices combined increased from 3.39 to 3.78
- From 3.40 to 3.41 for English
- From 3.01 to 3.29 for Math
- From 3.06 3.28 for Science

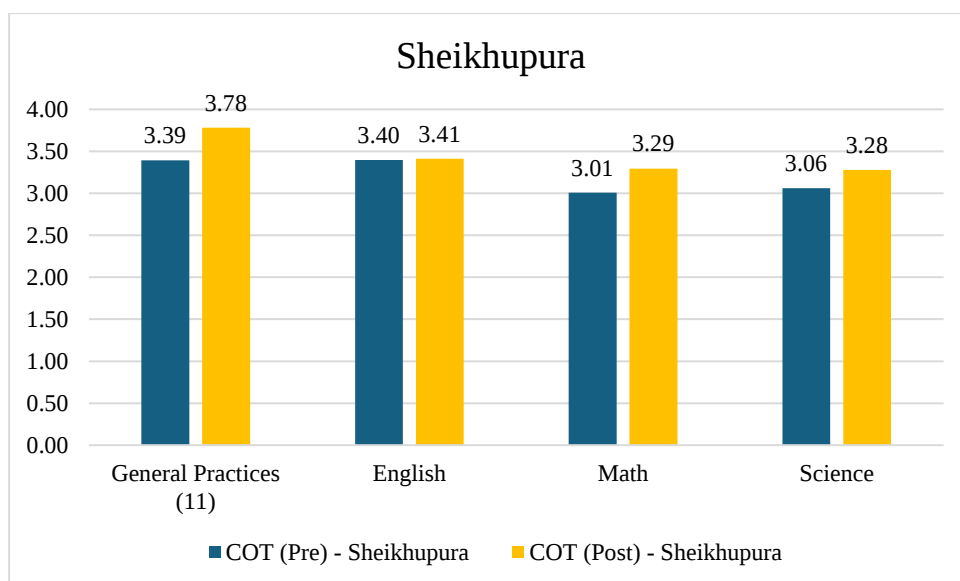


Figure 22: Average pre- and post-intervention COT scores in Sheikhupura across 11 General Teaching Practices and subject areas

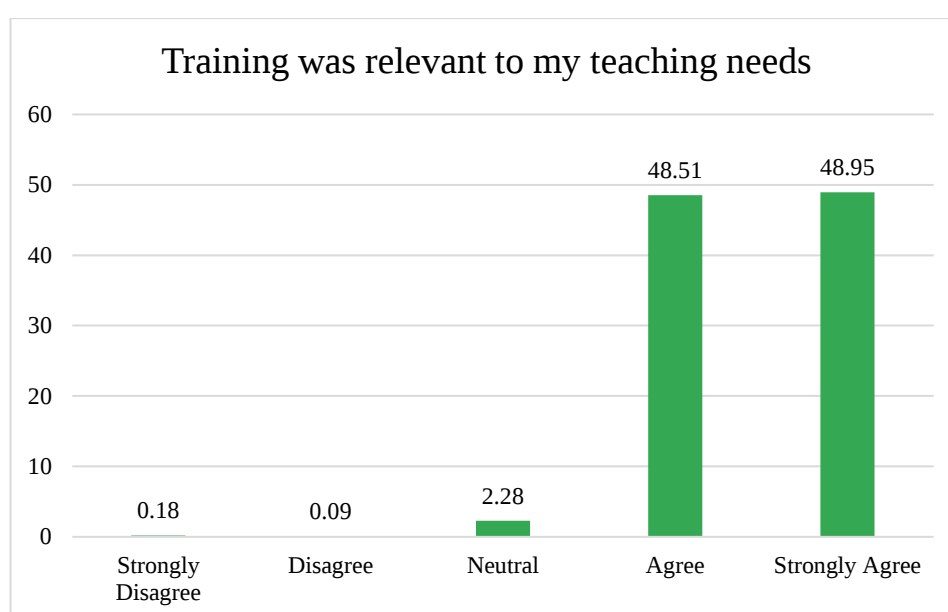
6.6 Analysis of Teachers Feedback on Training Content, Delivery, and Impact

The teachers were provided access to an online form to provide their feedback on different aspects of training. For analysis, the information is categorised and presented into following:

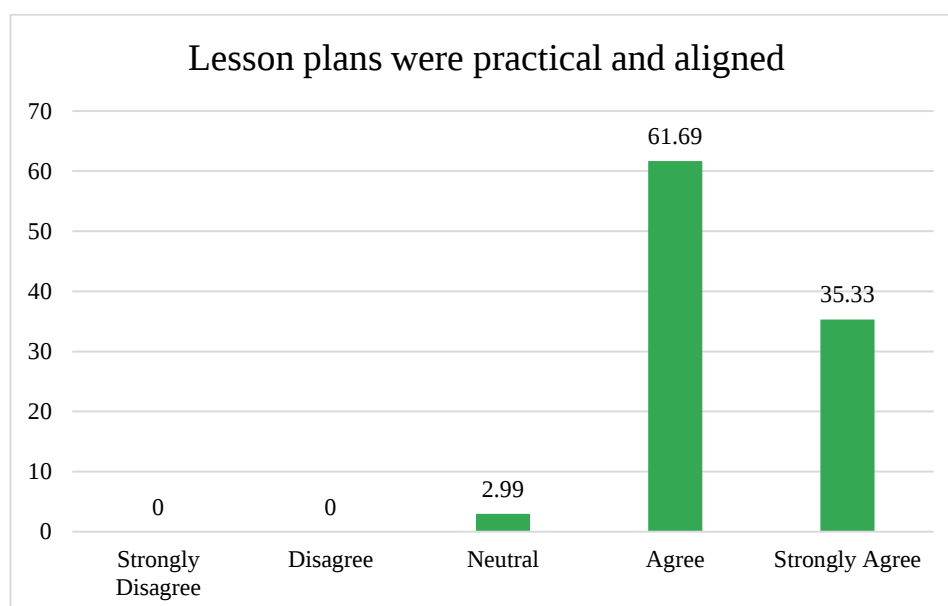
- Training Content
- End of Module Assessment
- Delivery & Facilitation
- Impact of Training
- Overall Feedback

Feedback on Training Content

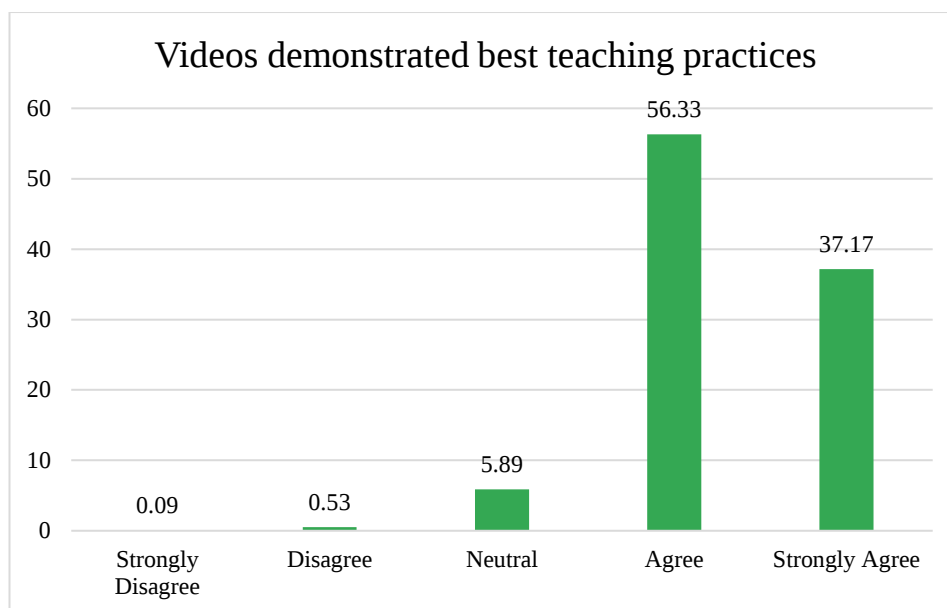
More than 97 percent teachers found the training to be relevant to their needs



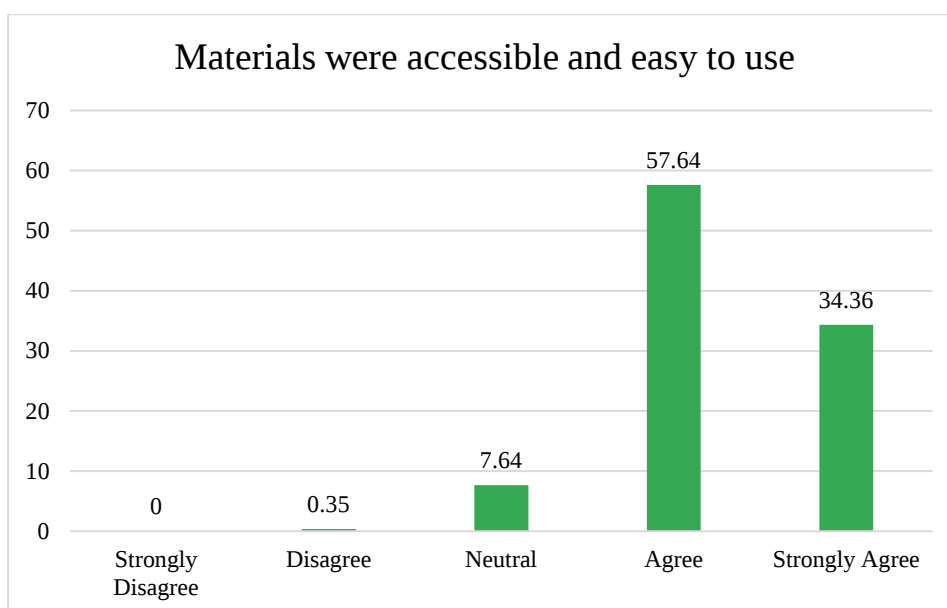
97 percent teachers reported that the lesson plans were practical, easy to implement, and aligned with relevant SLOs



93.5 percent teachers reported the videos used in trainings to have demonstrated best teaching practices effectively

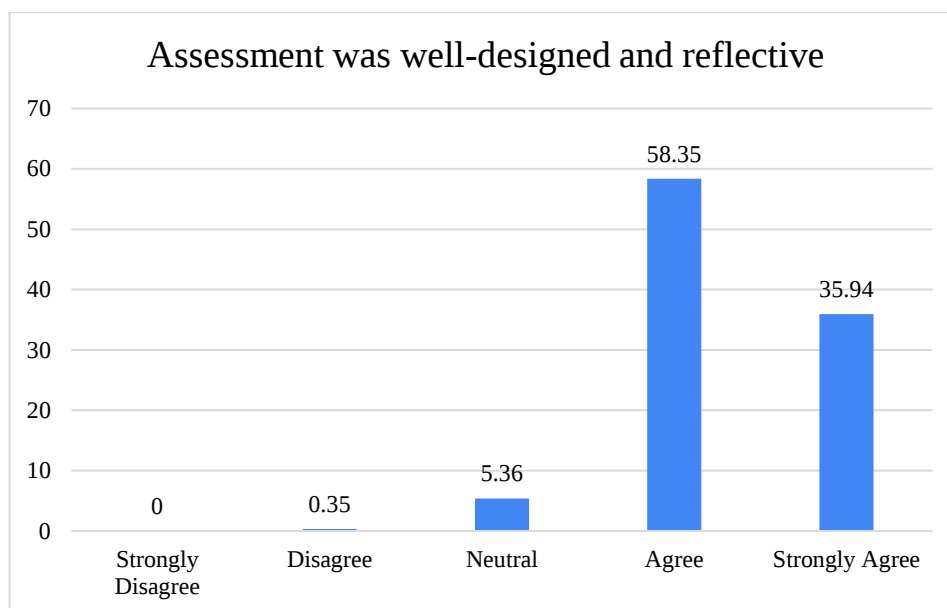


92 percent teachers found the training materials to be accessible and easy to use independently

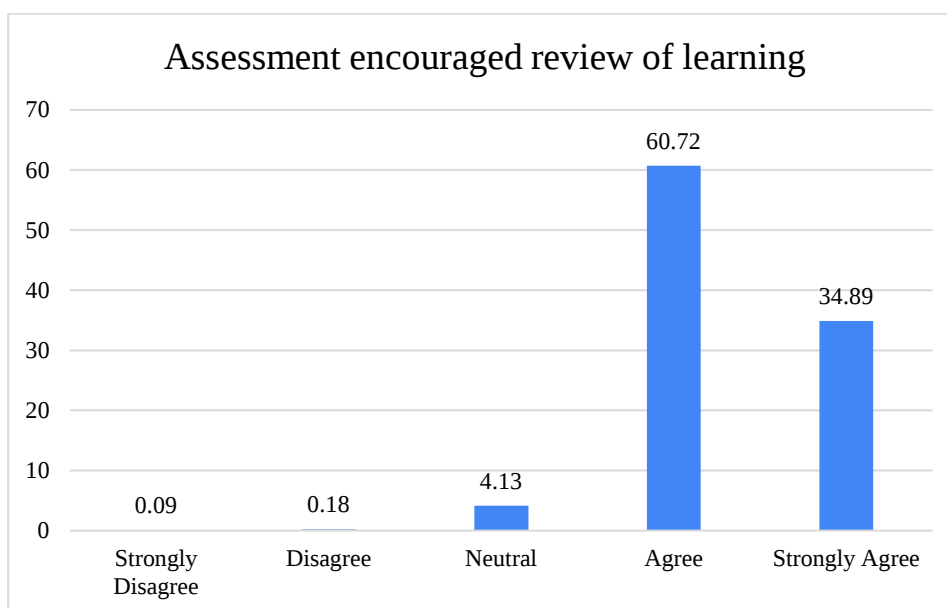


Feedback on Assessment

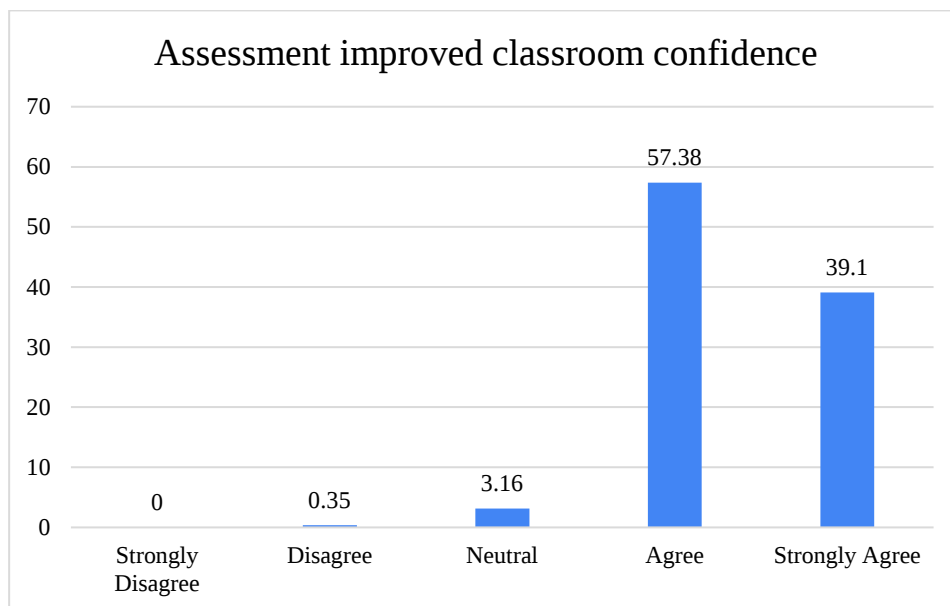
Over 94 percent teachers reported that the assessments were well-designed and reflected the key concepts covered in the training



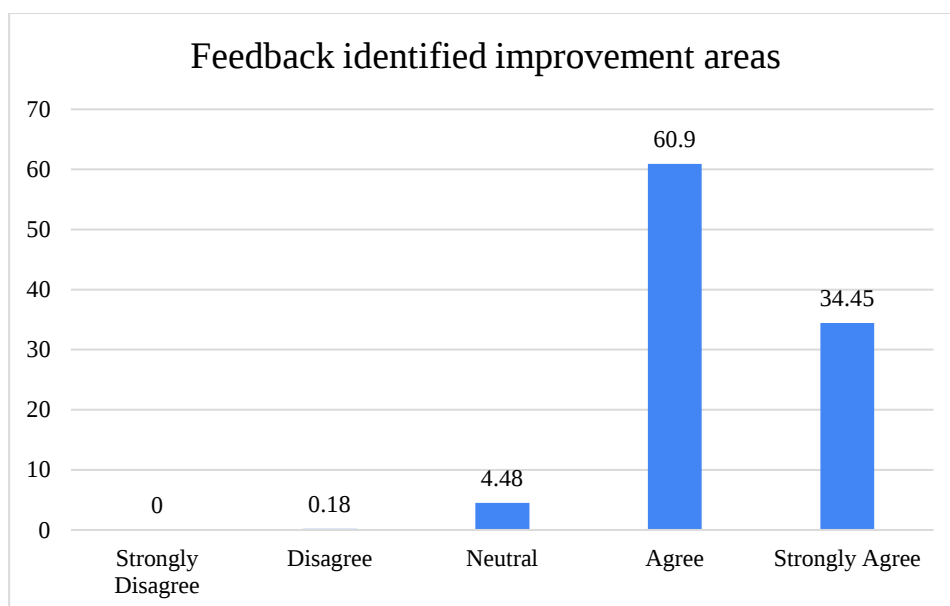
95.61 percent teachers agreed that the assessments encouraged them to review and consolidate what they learnt from the videos and lesson plans



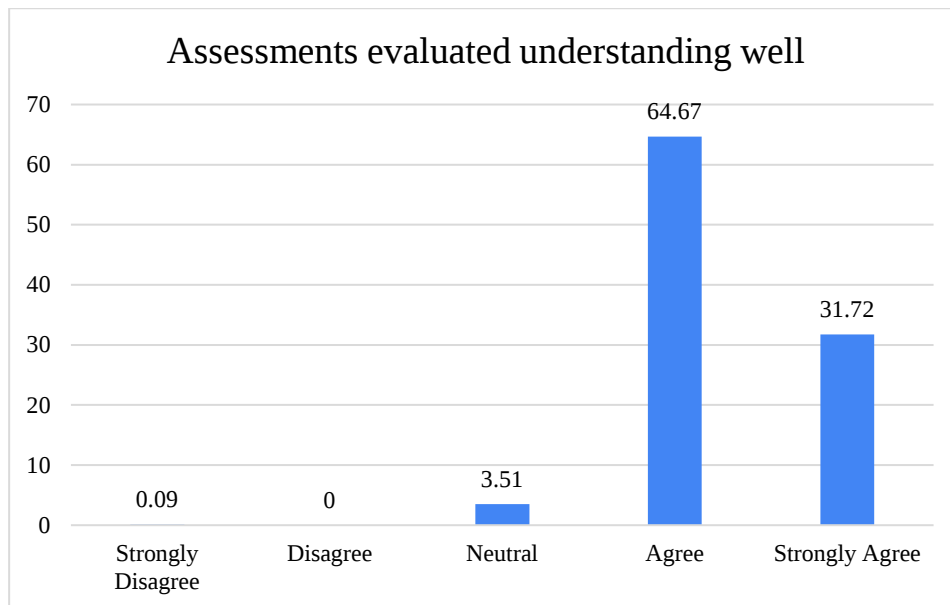
96.48 percent teachers reported that completing the assessment improved their confidence in applying the knowledge and strategies in their classrooms



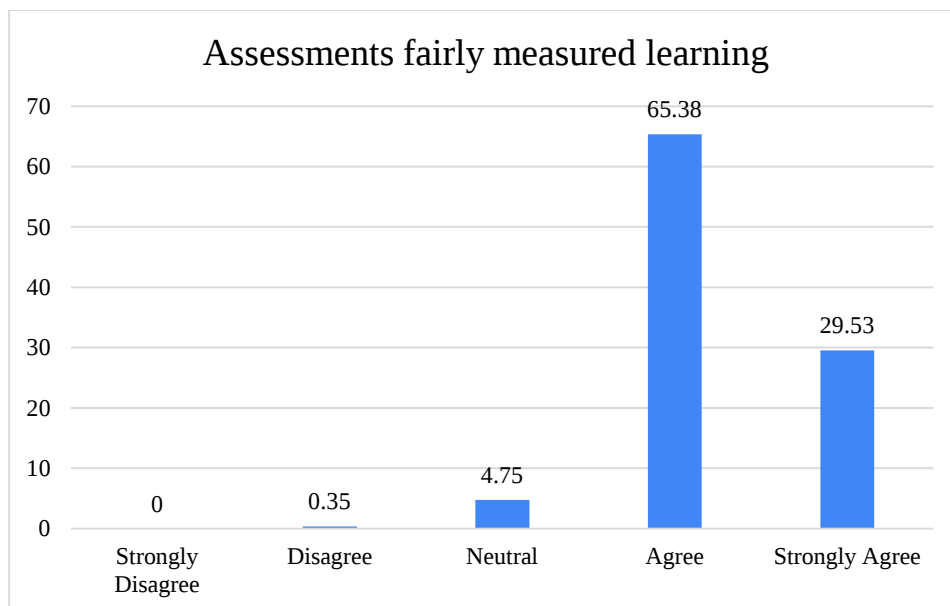
More than 95 percent teachers reported that the feedback provided after the assessment was useful for identifying areas of improvement



More than 96 percent teachers reported that the end-of-module assessments helped them evaluate their understanding of the training content

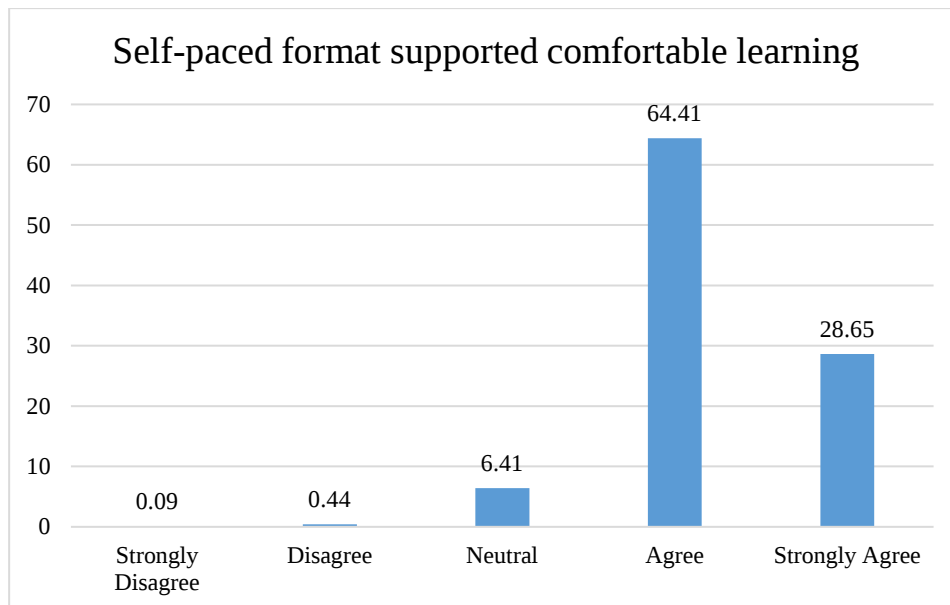


About 95 percent teachers found the assessments to be a fair measure of what they learned during the training

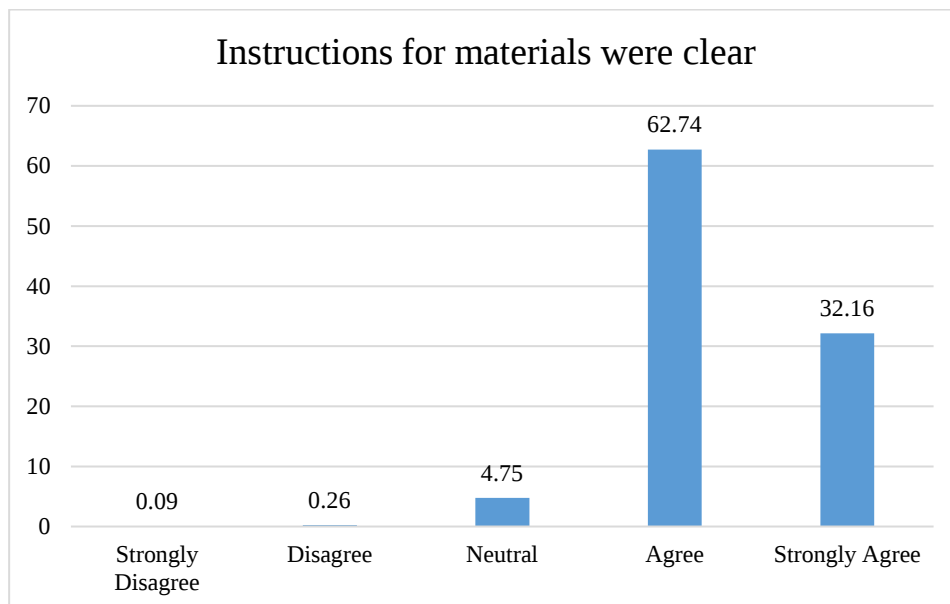


Feedback on Delivery & Facilitation

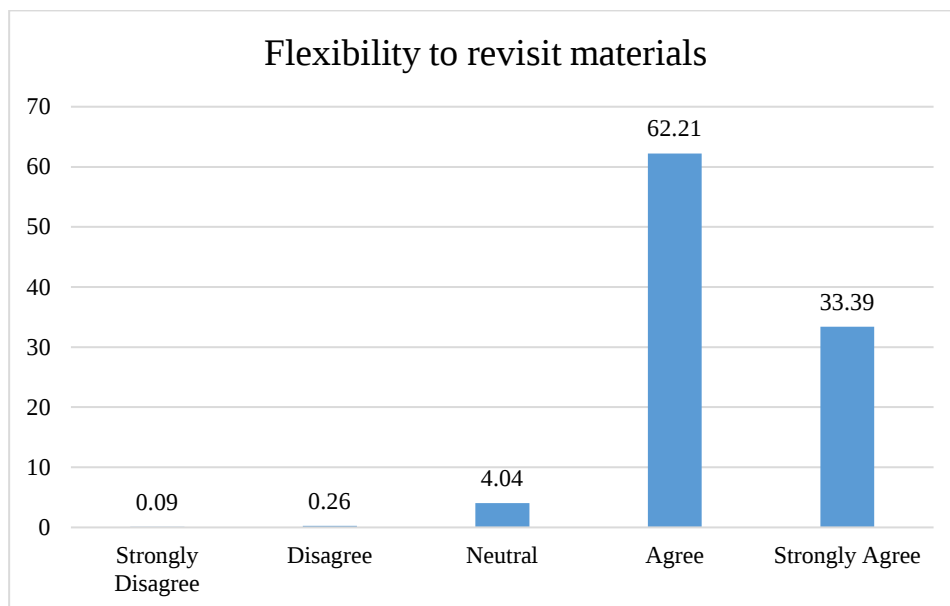
93 percent teachers agreed that the self-paced format allowed them to learn at a comfortable pace



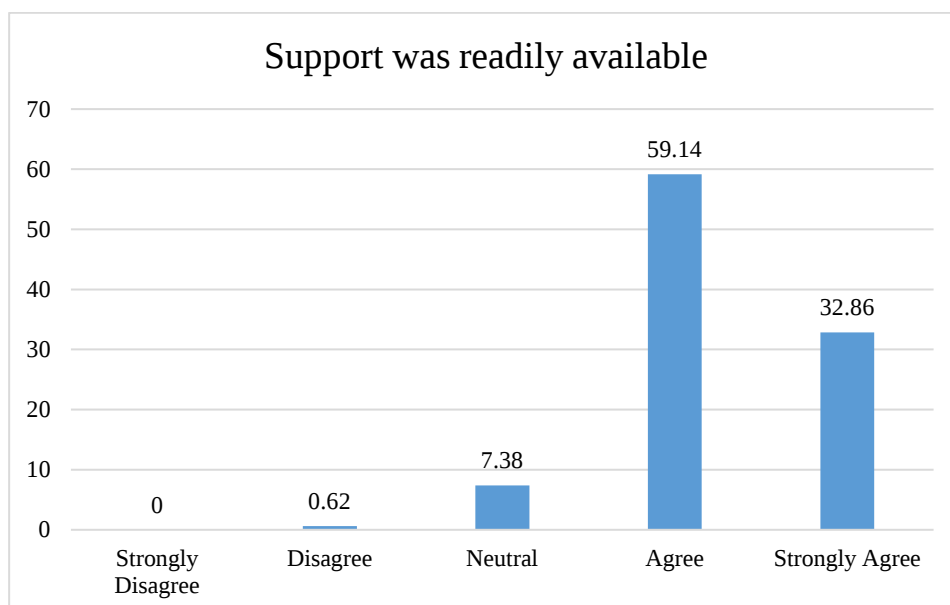
About 95 percent teachers agreed that the instructions for accessing and using the materials were clear



95.6 percent teachers agreed that the training provided flexibility to revisit lesson plans and videos when needed

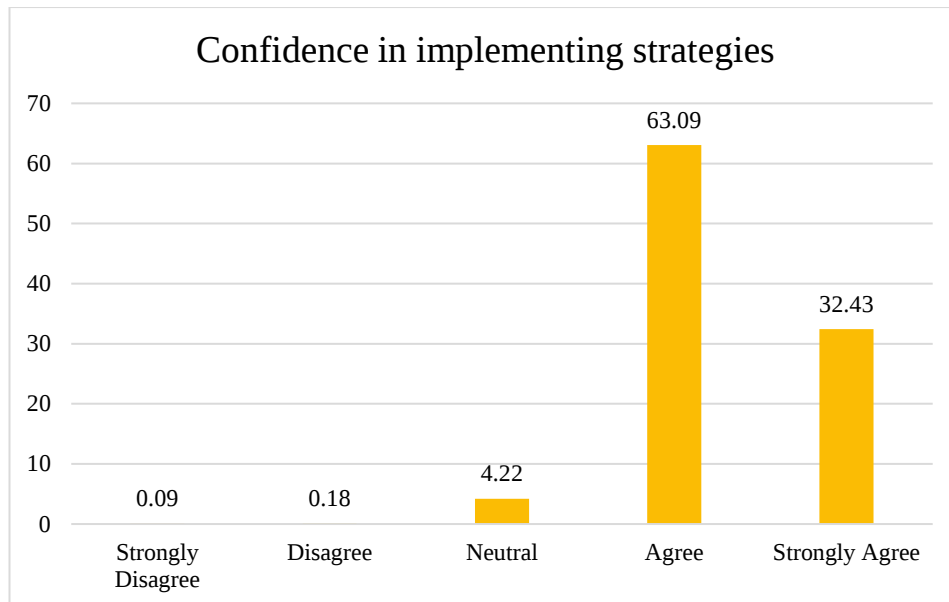


92 percent teachers agreed that the support was readily available for any queries or issues

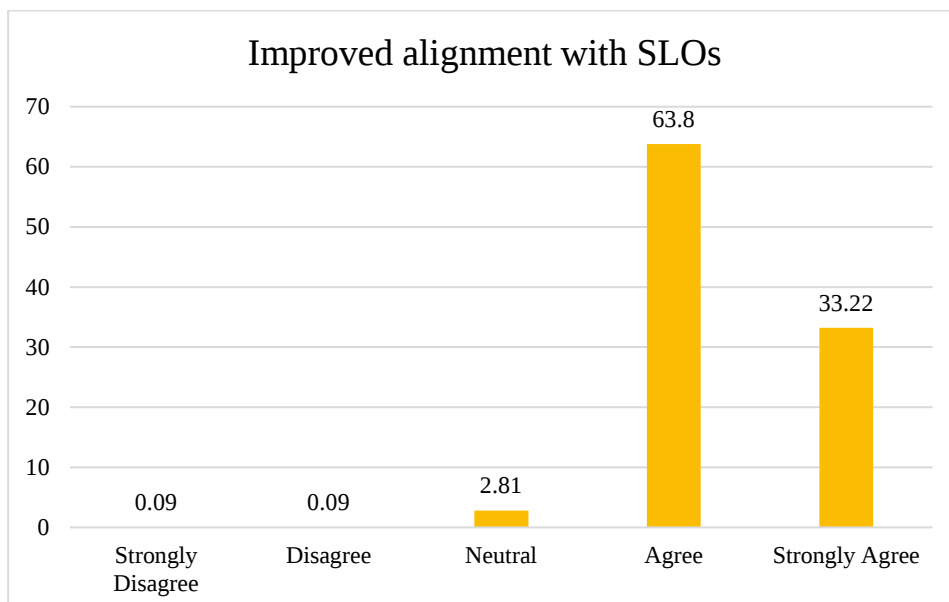


Self-Reported Impact of Training

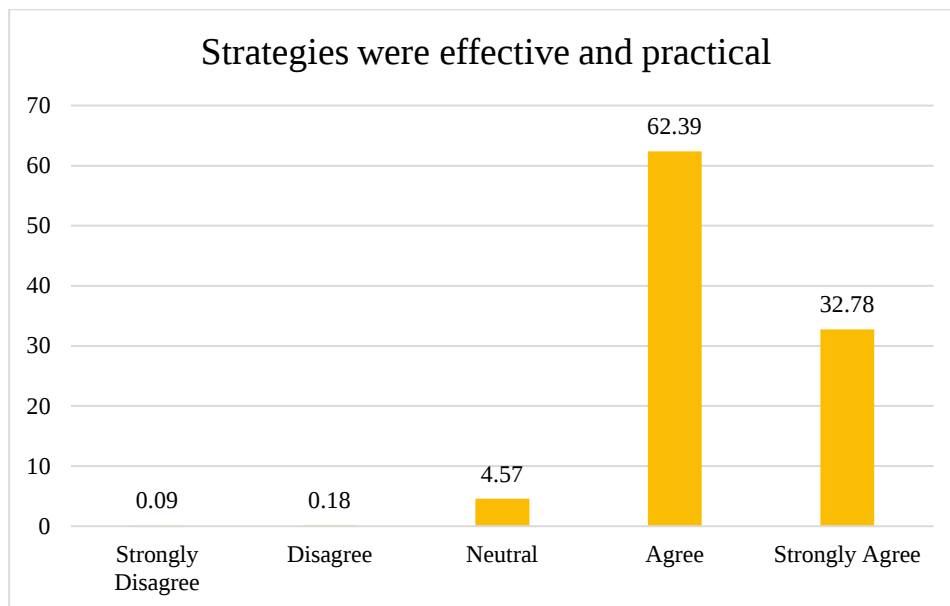
More than 95 percent teachers reported that they felt more confident in implementing the lesson plans and strategies discussed after the training



About 97 percent teachers reported that the training improved their ability to align classroom activities with SLOs

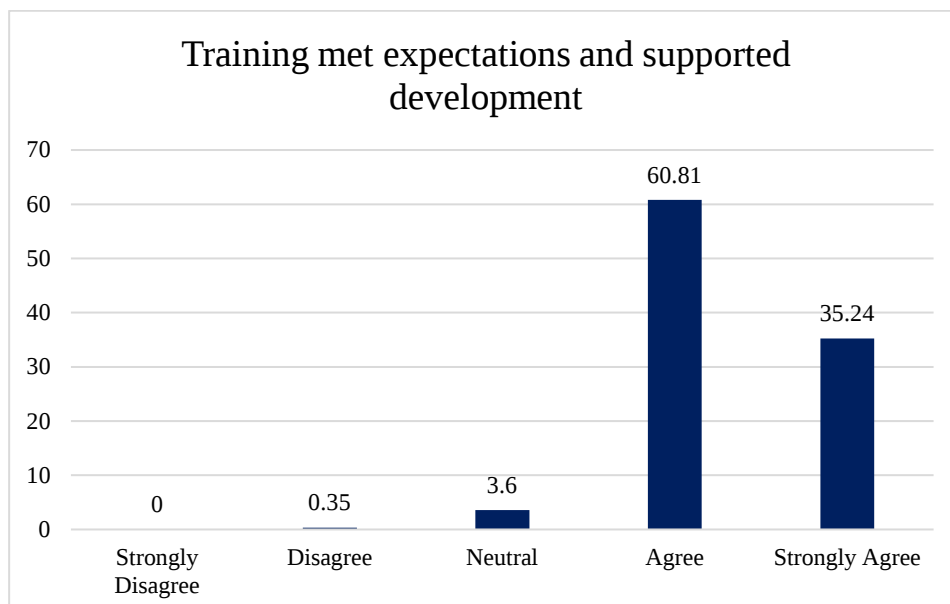


95 percent teachers agreed that the strategies introduced in training were effective and practical for their classroom needs

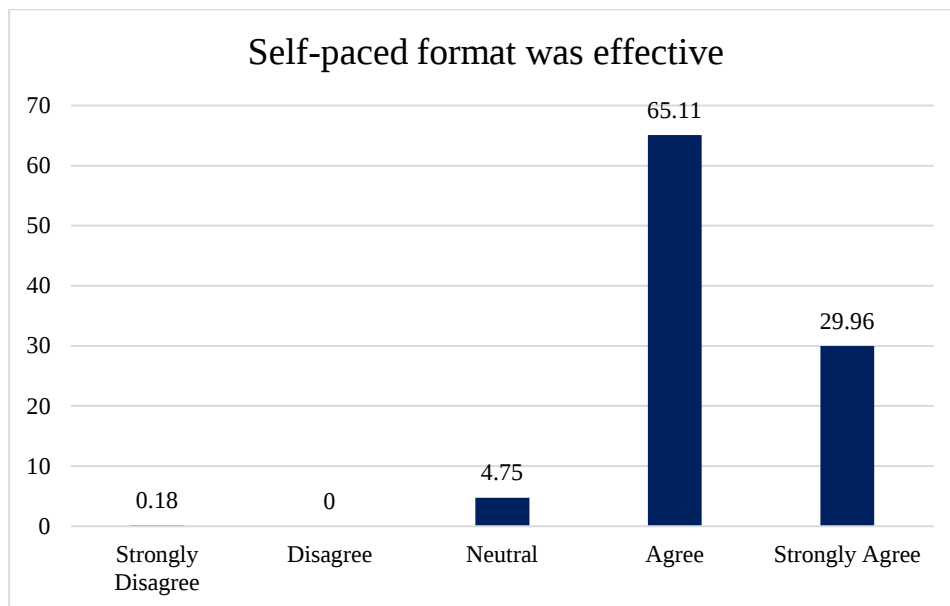


Overall Feedback on Intervention

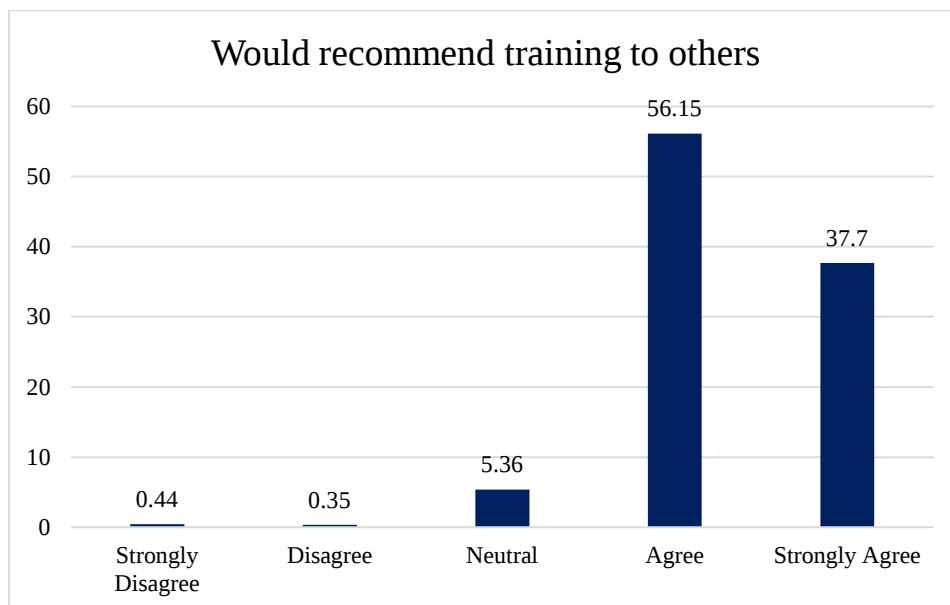
96 percent teachers reported that the training met their expectations and positively impacted professional development



95 percent teachers reported that the self-paced format was convenient and effective for learning



About 94 percent teachers reported that they would recommend this training to other teachers





SECTION VII: CONCLUSION

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The CPD-ESTs intervention implemented by PECTAA with technical assistance from B-TAG has successfully established a robust framework for improving the professional development of ESTs in Punjab. The programme's comprehensive approach comprising self-learning modules, structured classroom observations, joint feedback sessions, and monthly learning forums, has led to measurable improvements in teachers' subject content knowledge and pedagogical skills.

The pilot phase, initially implemented in two districts, laid a strong foundation for the scale-up, which extended the programme to three additional districts. Through the analysis of classroom observations, and teacher feedback, the programme identified key areas for improvement, allowing for targeted interventions that addressed teachers' weaknesses. The data collected has provided invaluable insights, helping refine the CPD framework and ensuring its continued relevance and effectiveness.

Teachers, headteachers, and subject experts have all reported positive outcomes, including increased confidence, enhanced teaching methodologies, and greater engagement with students. Regular classroom observations and feedback have fostered a culture of self-reflection and continuous professional growth. Subject Experts have played a pivotal role in supporting teachers, guiding them through challenges and ensuring the practical application of new strategies in the classroom.

The CPD-ESTs initiative has proven to be an effective model for teacher development in Punjab, with substantial progress made in improving instructional practices and student engagement. As the programme continues to evolve, the ongoing data collection and feedback loops will ensure that the CPD framework remains adaptable and responsive to the needs of teachers. The programme's success highlights the critical role of continuous professional development in improving educational outcomes, and its continued expansion promises further positive impacts on both teacher effectiveness and student learning.



SECTION VIII: RECOMMENDATIONS

SECTION VIII: RECOMMENDATIONS

Based on the successful implementation and findings of CPD-EST intervention, below we present a few recommendations that serve as a roadmap for scaling and sustaining CPD for teachers in Punjab.

1. PECTAA to institutionalise CPD-EST by March 2026 and implement it across all districts in a phased manner

Given the positive outcomes observed in the five pilot districts, it is recommended that the CPD-EST framework be institutionalised and scaled across all districts in Punjab through a phased and structured expansion making CPD-EST as the standard in-service professional development model for ESTs. PECTAA along with its district field offices will be responsible for district planning and coordination, while TA partners can provide essential technical support. Institutionalising CPD in this way ensures sustainability, system-wide coverage, and alignment with broader education reform objectives.

2. PMIU and PECTAA to update COT elementary and develop a dashboard by March 2026 to visualise, analyse and utilise teaching practices data

As part of the CPD-EST framework, the COT was adapted for elementary school teachers by incorporating subject-specific teaching practices. Headteachers and Subject Experts were trained to use the COT Elementary to conduct structured classroom observations and provide targeted, actionable feedback to teachers.

To formalise and institutionalise this observation mechanism, it is recommended that PECTAA and PMIU update the existing COT application to incorporate the adaptations made for elementary teachers. The application should enable systematic collection of both teacher-level and student-level data to track changes in instructional practices over time.

To support evidence-based decision-making, a customised **COT Elementary dashboard** should be developed. This dashboard will allow education managers to visualise and analyse observation data collected by headteachers and Subject Experts, helping identify trends, strengths, and areas in need of support. These insights will directly inform revisions to the CPD content for elementary teachers and guide the development of focused, need-based training materials for both Headteachers and Subject Experts.

3. PECTAA to vertically integrate CPD into secondary education by March 2026

With structured support and system developed to support the professional development of primary and elementary teachers in Punjab, the needs of Secondary School Teachers (SSTs) who guide students through critical transitions from middle to high school, remain insufficiently addressed. At the secondary level, weak instructional practices contribute to

low student engagement, poor academic outcomes, and increased dropout rates, particularly among girls. Strengthening the capacity of SSTs is therefore essential to improving learning, retention, and completion rates. Building on this success, there is now a pressing need to vertically integrate the CPD model into secondary education.

Building on CPD-EST framework, PECTAA, with support from TA teams, should design a CPD-SST framework responding to the needs of SSTs and pilot it in selected districts by March 2026. The model should include blended learning modules focused on subject pedagogy, gender-responsive teaching, and differentiated instruction, allowing for flexible, scalable learning opportunities with support from TA partners in content design and hosting. Headteachers and Subject Experts should be trained by PECTAA district field offices to support and mentor teachers. This vertical integration will ensure continuity in teaching quality across the student lifecycle and address a long-standing gap in teacher support at the secondary level. This will also improve retention and transition rates at the secondary level.

4. PECTAA to strengthen and formalise Communities of Practice (COPs) through its district field offices by December 2025

COPs provide participants a collaborative space to exchange innovative teaching strategies, share best practices, and learn from each other. As part of CPD-EST intervention, several teacher professional development forums were organised which promoted sustained professional development through discussions, presentations, and subject-specific sessions aimed at improving educational outcomes. It is important to deepen and formalise the CoP structures to empower teachers and contribute to improvements in teaching practices, ultimately improving student learning outcomes. The CoPs will facilitate not only the sharing of knowledge among teachers but also contribute to local CPD planning and decision-making courtesy participation of district level education officials in professional development forums.

To strengthen COPs, PECTAA and their field formations need to develop annual activity calendars and financial plans for the conduct of CoPs on regular basis. District level structures of CoPs need to be strengthened in order to sustain and institutionalise subject-specific communities moderated by trained teacher educators in PECTAA district field offices. Additionally, digital communication strategies using both in-person and informal digital platforms (WhatsApp, Facebook groups) should be developed to increase accessibility and engagement among teachers, especially in remote areas.

5. PECTAA to strengthen Teachers' CPD through Licensing and Certification Programme by March 2026

To develop and sustain a high-quality teaching workforce, it is essential to establish robust mechanisms for teacher certification and licensing. In line with the PECTAA Act, a dedicated Training and Certification Wing has already been established within PECTAA

to lead this function. With TA support, PECTAA should now move forward in designing a comprehensive certification and licensing regime, underpinned by a nationally recognised qualifications framework.

This framework should be aligned with international accreditation standards and, where feasible, incorporate transferable credits that facilitate enrolment in reputable international universities. The certification and licensing strategy should define core teaching competencies, qualification levels, required credit hours, practicum components, and other key benchmarks to meet international best practices.

Such an initiative will not only professionalise the teaching cadre but also strengthen accountability and offer teachers structured career advancement opportunities, ultimately leading to improved educational outcomes across the system.



ANNEXURES

ANNEXURE-A: SUBJECT-SPECIFIC CLASSROOM OBSERVATION PRACTICES

PART 1: PRE-OBSERVATION				
General Information				
School name		EMIS code		
Teacher name		CNIC		
Name of observer		Observation Date		
Observer designation (circle one)				
About the lesson you observe				
Grade(s)		Number of children in class today		
Subject				
Topic				
Main SLO				
Observation start time		Observation end time		

PART 2: CLASSROOM OBSERVATION (General Practices)						
	Score (5 is high)					
Lesson Facilitation	n/a*	1	2	3	4	5
1. The teacher explicitly articulates the objectives of the lesson and relates classroom activities to the objectives.						
2. The teacher's explanation of content is clear and correct.						
3. The teacher makes connections that relate to students' daily lives or other content knowledge.						
4. The teacher models by enacting, thinking aloud or showing a final product expected of the students.						
Checks for understanding						
5. The teacher uses questions, prompts or other strategies to determine students' level of understanding.						

6. The teacher monitors most students during individual or group work.						
7. The teacher adjusts teaching to the level of the students.						
Feedback						
8. The teacher provides specific comments to help students clarify misunderstandings and understand successes.						
Critical Thinking						
9. The teacher asks thinking questions.						
10. The teacher provides thinking tasks.						
Classroom Culture						
11. The teacher responds to students' needs.						

* NA = Not applicable. Selecting this option means you did not observe the practice in the lesson and it was not required.

Subject Specific Practices (English)				
	Score (1 is low, 3 is medium, 5 is high)			
	n/a*	1	3	5
12. The teacher builds on previously learnt English Language using innovative teaching strategies for richer learning experiences.				
13. The teacher enables the students to respond critically and creatively to the given text type.				
Subject Specific Practices (Science)				
	Score (3 is high)			
	n/a*	1	3	5
12. The teacher explains the fundamental concepts, principles, and interconnections of the life sciences, the physical sciences, the environmental sciences, and earth and space science using scientific terminologies.				
13. The teacher uses strategies to engage students in scientific method of studies enabling students to develop solutions to problems through observation, reasoning and investigation.				
14. The teacher demonstrates principles and procedures related to the design and implementation of scientific investigations incorporating safety practices.				

15. The teacher fosters a deep understanding among learners about the intricate connections between science, technology, and society (STS connections) in present-day situations, emphasizing the effects of science and technology on society by cultivating STS connections in current contexts.				
Subject Specific Practices (Math)				
	Score (3 is high)			
	n/a*	1	3	5
12. The teacher creates meaningful linkages between previously acquired mathematical concepts and new learning through different teaching strategies i.e. inquiry- based, Math's Solutions, Discovery approach etc.				
13. The teacher helps students make sense of mathematical problems by enabling them to understand the meaning of a problem and identifying multiple solutions.				
14. The teacher provides sufficient opportunities for practice and problem-solving for key concepts (Content Strands: Number operations, Measurement and Geometry, Algebra and Data Handling) to encourage abstract and quantitative reasoning.				
15. The teacher concludes the mathematical problem by representing the concept through diagrams, two-way tables, graphs, flowcharts, and formulas and applying formative assessment strategies.				

ANNEXURE-B: TRAINING NOTIFICATION



No. QAED/QAED (WING/34-51/2024) ²⁵²⁷
 QAID-E-AZAM ACADEMY FOR EDUCATIONAL
 DEVELOPMENT, GOVT. OF THE PUNJAB,
 WAHDAT COLONY, LAHORE
 Dated: December 26, 2024



To

- i. Chief Executive Officers (CEO),
District Education Authority (DEA),
District, Rawalpindi, Faisalabad and Multan.
- ii. Principal /DTSC Head,
Quaid-e-Azam Academy for Educational Development (QAED),
District, Islamabad, Faisalabad and Multan.

SUBJECT: CONTINUOUS PROFESSIONAL DEVELOPMENT (CPD) ESTs SCALE-UP (FAISALABAD, MULTAN, RAWALPINDI)

Please refer to letter No. SO (TRG)1-52/2023, dated 6-12-2024 (copy enclosed) on subject cited above.

2. Quaid-e-Azam Academy for Educational Development (QAED), Punjab has planned 2 day Training of Subject Experts in three subjects (Eng, Math, Science), 1-day online TOT of MTs for Head Teachers (HTs) and 2-days Training of Head Teachers (HTs) in collaboration with Bridging Technical Assistance for Governments (BTAG) as per following detail:

Sr.	Activity	Trainees	Dated	Venue
1	2-day online Training of Subject Experts in three subjects (Eng, Math, Science) of Rawalpindi (15), Faisalabad (30), Multan (12) districts in subject-wise classes	57	30-12-2024 To 31-12-2024	QAED Islamabad QAED Faisalabad QAED B/R, Multan
2	1-day face-to-face TOT of MTs for Head Teachers (HTs) in Rawalpindi, Faisalabad, Multan	57	01-01-2025	QAED Islamabad QAED Faisalabad QAED B/R, Multan
3	2-day Training of Head Teachers (HTs) on Leadership in Rawalpindi (156), Faisalabad (275), Multan (111) districts (in 2 batches)	542	06-01-2025 To 09-01-2025	QAED Islamabad QAED Faisalabad QAED B/R, Multan
4	1-day Teacher Professional Development event CPD-ESTs in Rawalpindi, Faisalabad, Multan	100/district	10-01-2025	QAED Islamabad QAED Faisalabad QAED B/R, Multan

Note: List of MTs, Teachers, Training Plan & Financial Guidelines are attached

3. In light of the above, Chief Executive Officers (DEA) are requested to direct the Master Trainers & Teachers to attend the above training and ensure their participation in the subject training.

4. It is requested that the District QAED Head inform the participants and ensure their participation in the subject training as per schedule, maintain the vouched accounts and submit to the undersigned within a week (both scanned and hard form). All expenses of the said training will be borne by the BTAG and there is no financial liability on the part of QAED, Punjab.

Hakeeb

DEPUTY DIRECTOR (District QAEDs)

CC

- i. The RPM concerned.
- ii. PS to Director General, QAED
- iii. PA to Additional Director General, QAED
- iv. Mrs. Rabia Aslam, BTAG team with the request to provide the funds before the start of the training.



sotraining.sed@gmail.com

NO.SO(TRG)1-52/2023
GOVERNMENT OF THE PUNJAB
SCHOOL EDUCATION DEPARTMENT

Dated Lahore the 6th December, 2024

To

The Chief Executive Officers (DEA),
Faisalabad, Multan & Rawalpindi.

Subject:

**IMPLEMENT REFINED CPD ELEMENTARY FRAMEWORK IN 500
MORE SCHOOLS AND 1500 MORE TEACHERS**

I am directed to **enclose** herewith email received from CPD and Multigrade Expert, Bridging Technical Assistance for Governments (BTAG) alongwith list schools and to request you to facilitate the B-TAG team to ensure smooth conduct of subject activity under intimation to this Department.

SECTION OFFICER (TRAINING)

CC:

1. The Director General, QAED, Punjab.
2. PS to Secretary, School Education Department.
3. PS to Special Secretary, School Education Department.
4. PS to Additional Secretary (ER), School Education Department.
5. **Ms. Rabia Aslam**, CPD and Multigrade Expert BTAG, with the request to coordinate with CEOs (DEA), Faisalabad, Multan & Rawalpindi for proposed activity.

ANNEXURE-C: FGD QUESTIONNAIRE

1: Headteacher Feedback

(Gathering insights on intervention process, classroom observations, and impact on teaching practices)

Name of HT		District Name	
CNIC		School EMIS Code	

1-A. Process and Content of the Intervention

1. How satisfied are you with the CPD-EST training and materials provided?

(Rate on a scale of 1-5)

- ☐ 1 = Not satisfied at all
- ☐ 2 = Slightly satisfied
- ☐ 3 = Moderately satisfied
- ☐ 4 = Very satisfied
- ☐ 5 = Completely satisfied

2. How well did the intervention align with the professional development needs of your teachers?

(Rate on a scale of 1-5)

- ☐ 1 = Not aligned at all
- ☐ 2 = Slightly aligned
- ☐ 3 = Moderately aligned
- ☐ 4 = Mostly aligned
- ☐ 5 = Fully aligned

3. How effective was the Training of Trainers (ToT) in preparing you for mentoring teachers?

(Rate on a scale of 1-5)

- ☐ 1 = Not effective at all
- ☐ 2 = Slightly effective
- ☐ 3 = Moderately effective
- ☐ 4 = Very effective
- ☐ 5 = Extremely effective

4. Which aspect of the CPD-EST training was most useful? (Select one)

- ☐ Classroom Observation Training
- ☐ Mentoring & Coaching Techniques
- ☐ Digital Learning Modules
- ☐ Teacher Learning Forums
- ☐ None
- ☐ Other (please specify) _____

1-B. Classroom Observation Process

5. How was your experience with using the Classroom Observation Tool (COT)?

(Rate on a scale of 1-5)

- ☐ 1 = Very difficult
- ☐ 2 = Somewhat difficult
- ☐ 3 = Neutral
- ☐ 4 = Somewhat easy
- ☐ 5 = Very easy

6. How frequently were classroom observations conducted at your school? (Select one)

- ☐ Daily
- ☐ Weekly
- ☐ Monthly
- ☐ Once in 2-3 months
- ☐ Rarely, when needed
- ☐ Never

7. How effective was the feedback provided to teachers after classroom observations?

(Rate on a scale of 1-5)

- ☐ 1 = Not effective at all
- ☐ 2 = Slightly effective
- ☐ 3 = Moderately effective
- ☐ 4 = Very effective
- ☐ 5 = Extremely effective

8. What challenges did you face while conducting classroom observations?

(Open-ended)

1-C. Impact on Teaching Practices

9. To what extent have you observed improvements in teachers' instructional methods since the intervention?

(Rate on a scale of 1-5)

- ☐ 1 = No improvement
- ☐ 2 = Slight improvement
- ☐ 3 = Moderate improvement
- ☐ 4 = Significant improvement
- ☐ 5 = Very high improvement

10. Please share any specific changes you have noticed in classroom teaching as a result of CPD-EST.

(Open-ended)

2: Teacher Feedback

(Understanding teachers' experiences, learning, and impact of the intervention.)

Name of teacher		District Name	
CNIC		School EMIS Code	

2-A. Learning and Development

1. **How useful were the self-learning digital modules in improving your subject knowledge?**

(Rate on a scale of 1-5)

- ☐ 1 = Not useful at all
- ☐ 2 = Slightly useful
- ☐ 3 = Moderately useful
- ☐ 4 = Very useful
- ☐ 5 = Extremely useful

2. **How often did you engage with the CPD digital learning modules? *(Select one)***

- ☐ Daily
- ☐ Weekly
- ☐ Monthly
- ☐ Once in 2-3 months
- ☐ Never

3. **How effective was the training in addressing your classroom challenges?**

(Rate on a scale of 1-5)

- ☐ 1 = Not effective at all
- ☐ 2 = Slightly effective
- ☐ 3 = Moderately effective
- ☐ 4 = Very effective
- ☐ 5 = Extremely effective

4. **Which aspect of CPD-EST helped you the most in improving your teaching?**

(Select one)

- ☐ Digital learning modules
- ☐ Classroom observation feedback
- ☐ Online learning forums
- ☐ Subject expert training sessions
- ☐ None
- ☐ Other (please specify) _____

2-B. Application in the Classroom

5. To what extent has CPD-EST influenced/improved your lesson planning and instructional strategies?

(Rate on a scale of 1-5)

- ☐ 1 = No impact
- ☐ 2 = Slight impact
- ☐ 3 = Moderate impact
- ☐ 4 = Significant impact
- ☐ 5 = Very high impact

6. How confident do you feel about implementing the teaching strategies introduced in CPD-EST?

(Rate on a scale of 1-5)

- ☐ 1 = Not confident at all
- ☐ 2 = Slightly confident
- ☐ 3 = Moderately confident
- ☐ 4 = Very confident
- ☐ 5 = Completely confident

7. How frequently did your headteacher provide feedback on your teaching? (Select one)

- ☐ Daily
- ☐ Weekly
- ☐ Monthly
- ☐ Once in 2-3 months
- ☐ Rarely, when requested
- ☐ Never

8. What were the biggest challenges in applying the CPD-EST learning in your classroom? (Open-ended)

2-C. Overall Satisfaction and Suggestions

9. **Would you recommend CPD-EST to continue in your school?** *(Select one)*

- ☐ Yes
- ☐ No
- ☐ Maybe

10. **Would you recommend CPD-EST to other teachers?** *(Select one)*

- ☐ Yes
- ☐ No
- ☐ Maybe

11. **What additional support or improvements would you suggest for CPD-EST?**
(Open-ended)

3: Discussion for Collective Feedback

(Collecting shared opinions on improvements and additional content needs.)

Total number of participants in the group		Total schools represented in the group	
Total male participants		District	
Total female participants		Date	

1. Which additional topics or subjects should be included in CPD-EST training?

(Select one or more)

- ☐ Classroom management strategies
- ☐ Use of technology in teaching
- ☐ Student engagement techniques
- ☐ Differentiated instruction for diverse learners
- ☐ Other (please specify) _____

2. What was the most effective part of CPD-EST for your group? *(Select one)*

- ☐ Teacher Learning Forums
- ☐ Digital modules
- ☐ Classroom observations and feedback
- ☐ Subject expert training

3. How much can CPD-EST be improved to better support teachers?

(Rate on a scale of 1-5, where 1 = No improvement, 2 = Minor improvement, 3 = Moderate improvement, 4 = Major improvement, 5 = Complete redesign needed)

4. What challenges did teachers in your group face in completing CPD-EST activities? *(Open-ended)*

5. What recommendations does your group have for improving CPD-EST in future implementations? *(Open-ended)*

CPD-EST – Subject Expert Feedback Questionnaire

Section A: Implementation & Support Provided to Teachers

Name of SE		District Name	
CNIC		Subject	

1. How frequently did you conduct Teacher Learning Forum sessions? *(Select one)*

- Weekly
- Monthly
- Once in 2-3 months
- Rarely

2. How engaged were the teachers in the online sessions or school visits? *(Rate on a scale of 1-5)*

- 1 = Not engaged at all
- 2 = Slightly engaged
- 3 = Moderately engaged
- 4 = Highly engaged
- 5 = Fully engaged

3. How useful was the Classroom Observation Tool (COT) in assessing and improving teachers' instructional practices? *(Rate on a scale of 1-5)*

- 1 = Not useful at all
- 2 = Slightly useful
- 3 = Moderately useful
- 4 = Very useful
- 5 = Extremely useful

4. What was the biggest challenge you faced in your role as a Subject Expert? *(Select one)*

- Engaging teachers in online sessions
- Conducting classroom observations effectively
- Providing constructive feedback to teachers
- Managing time for all responsibilities
- Other (please specify) _____

Section B: Training Experience

5. How satisfied were you with the Subject Expert training provided under CPD-EST? (Rate on a scale of 1-5)

- 1 = Not satisfied at all
- 2 = Slightly satisfied
- 3 = Moderately satisfied
- 4 = Very satisfied
- 5 = Completely satisfied

6. How well did the training prepare you for conducting Teacher Learning Forums and school visits? (Rate on a scale of 1-5)

- 1 = Not prepared at all
- 2 = Slightly prepared
- 3 = Moderately prepared
- 4 = Well prepared
- 5 = Fully prepared

7. Which component of the training was most useful for your role? (Select one)

- Understanding the CPD-EST framework
- Subject-specific instructional strategies
- Classroom observation techniques
- Online session facilitation skills
- Other (please specify)

8. How effective was the training in enhancing your subject knowledge and pedagogy? (Rate on a scale of 1-5)

- 1 = Not effective at all
- 2 = Slightly effective
- 3 = Moderately effective
- 4 = Very effective
- 5 = Extremely effective

Section C: Open-Ended Feedback

- 9. What specific improvements would you suggest for the Subject Expert training program? (*Open-ended*)**

- 10. Can you share an example of a positive impact you observed as a result of your work as a Subject Expert? (*Open-ended*)**

ANNEXURE-D: TESTIMONIALS AND CASE STUDY

ASMA GULZAR

SUBJECT SPECIALIST ENGLISH QAED ISLAMABAD



As part of the Continuous Professional Development (CPD) Programme, I conducted a series of training sessions for both Educators (ESTs) and headteachers. This initiative marks another important milestone towards achieving educational excellence.

The programme began with an orientation session for headteachers, where they were informed about the CPD Programme's objectives, framework, and the expected outcomes. This session set the stage for a clear understanding of the programme's goals.

I also moderated online sessions with ESTs, focusing on key topics such as lesson planning, instructional strategies, and classroom management. These sessions provided ESTs with practical tools to enhance their teaching effectiveness. In addition to these sessions, I conducted regular school visits to observe lessons and provide constructive feedback. During these visits, I highlighted areas of strength and identified opportunities for improvement, fostering a culture of continuous growth.

I strongly believe that the programme will have a positive impact on student learning outcomes. Headteachers will also develop enhanced supervisory and mentoring skills, which will contribute to improved teaching practices and adjustments in instructional methods, ultimately benefiting student performance.

I am confident that the CPD Programme for ESTs will prove to be highly effective in fostering teacher development and enhancing education. By providing ongoing support and coaching to both ESTs and headteachers, we can ensure that the impact on teacher development and student outcomes remains sustainable and far-reaching.

NADEEM AHMED

MATHEMATICS SUBJECT EXPERT

Attending the training sessions was an incredibly enriching experience. As a Mathematics Subject Expert, I gained valuable insights into the CPD model and its components, which deepened my understanding of how to support elementary educators effectively.

The emphasis on the Concrete-Pictorial-Abstract (CPA) methodology and problem-solving strategies provided me with practical tools to improve mathematical instruction. Additionally,

exploring the ADDIE model helped me in refining my approach to designing impactful training sessions.

One of the highlights of the training was the opportunity to develop online micro-training sessions. Despite some technical challenges, this experience strengthened my confidence in using digital platforms for professional development. The discussions on Teacher Learning Forums and Subject-Specific COT indicators also reinforced my role in fostering quality teaching practices.

Overall, this training equipped me with innovative strategies and resources to enhance mathematics instruction and better support teachers in their professional growth. I look forward to applying these learnings in my work and contributing to a more engaging and effective learning environment.

BILAL AHMED

SCIENCE SUBJECT EXPERT



Attending the training on Continuous Professional Development for elementary school teachers CPD (ESTs) at QAED Islamabad was an enriching experience. This training not only deepened my understanding of the CPD model but also equipped me with innovative instructional strategies to enhance elementary science education.

The emphasis on inquiry-based and project-based learning was particularly beneficial. Exploring the 5E teaching approach and designing lesson plans based on real-world scientific challenges helped me develop engaging, student-centred learning experiences. Additionally, the focus on online pedagogical methods, including the use of Microsoft Teams, provided me with practical skills to facilitate remote learning effectively.

A highlight of the training was the micro-teaching sessions on Day 3, where I had the opportunity to design and deliver lessons using digital tools. The constructive feedback from peers and facilitators refined my instructional approach and strengthened my ability to mentor fellow educators.

Overall, this training has empowered me with the knowledge and confidence to support my colleagues in implementing innovative teaching practices. I am eager to apply these learnings in my professional development sessions and contribute to improving science education.

Case Study: Punjab – Rawalpindi

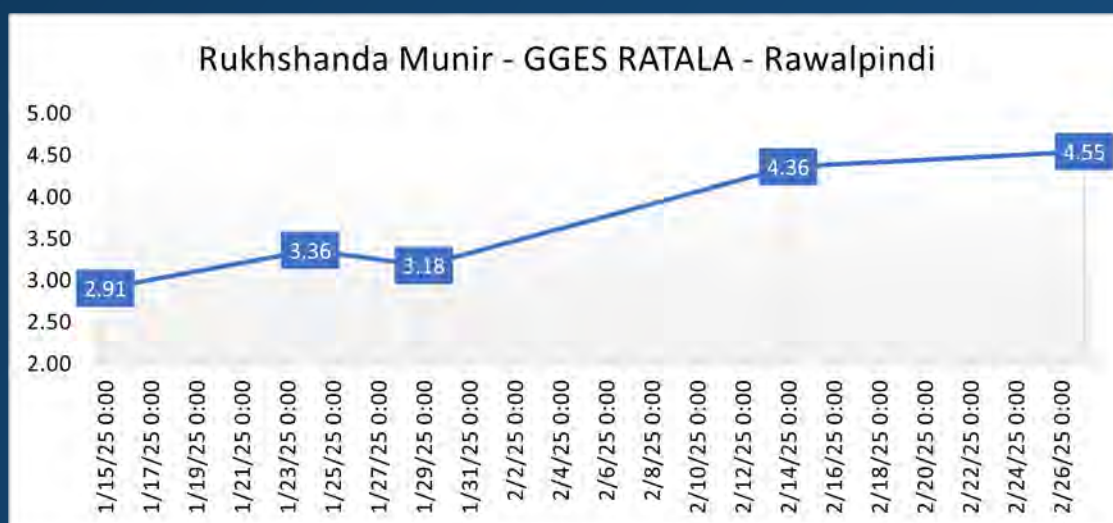
Teacher Name: Rukhshanda Munir

School: GGES Ratala

Rukhshanda Munir, an Elementary School Teacher at Government Girls Elementary School Ratala, Rawalpindi, participated in the CPD Elementary Programme. In January 2025, at the outset of the intervention, her Classroom Observation Tool score, as assessed by the headteacher, stood at 2.91 out of 5, placing her among the lower-performing teachers and indicating a clear need for professional development. Over the course of three months, Rukhshanda received consistent, targeted support from her headteacher, Ms. Adeeba Aslam, through regular classroom observations and one-on-one feedback sessions.

To further strengthen her instructional skills, Rukhshanda completed self-paced online modules to enhance her subject knowledge. She also received targeted mentorship from her Subject Expert during online learning forums, which focused on areas where she scored lower in the COT and in the end-of-module assessments linked to specific SLOs. Together, they addressed the instructional challenges she faced in the classroom through practical strategies and ongoing support.

Her teaching practices were assessed five times using the COT over the course of the intervention, demonstrating steady and measurable improvement, with her score reaching 4.55 by March 2025. Rukhshanda's case highlights the impact of focused, on-the-job professional development that combines mentorship, feedback, and content support. Her progress serves as a strong testament to the effectiveness of the CPD Elementary intervention in enhancing teacher performance through sustained, targeted support.



ANNEXURE-E: TEACHER PROFESSIONAL DEVELOPMENT FORUM

Faisalabad – January 10, 2025

On January 10, 2025, PECTAA district field office Faisalabad, organised a one-day conference titled *Empowering Elementary School Educators: The CPD Framework's Opportunities, Challenges, and Impact*. The event took place at PECTAA district field office Faisalabad (Fatima Jinnah Hall) and was attended by 106 participants, including 41 male and 65 female ESTs specialising in English, Mathematics, and Science. In addition, one AEO, one Education Officer, and Principal PECTAA district field office Faisalabad participated.

Conference Proceedings

The conference was organised under the leadership of Mr. Ghulam Murtaza, Education Officer at PECTAA district field office Faisalabad. Registration, attendance, and material distribution were efficiently managed by Mr. Abubakar and Mr. Azeem. The programme commenced at 8:30 a.m., with Mrs. Farkhanda Tahir, Subject Specialist at PECTAA field office Faisalabad, serving as the stage secretary.

Following the recitation of the Holy Quran by Mr. Qaiser Zaki and a Naat by Mr. Manzoor Hussain Asad, Mrs. Najma Kousar, Principal of PECTAA field office Faisalabad, delivered the opening remarks. She highlighted the significance of the CPD framework and set the stage for the day's discussions. Mr. Akif Munir, keynote speaker, elaborated on the CPD framework, explaining its four pillars and differentiating between asynchronous and synchronous learning through practical examples.

Panel Discussion

A panel discussion, moderated by Mr. Akif Munir, explored the conference theme. The panel included:

- Mrs. Maimoona Yaqoob (Subject Expert)
- Mr. Manzoor Hussain Asad (PECTAA Representative)
- Mr. Hafiz Ghulam Mustafa (Headteacher)
- Mrs. Sameen Asif (Teacher)

Over 45 minutes, the panellists shared valuable insights and addressed audience queries in an engaging, interactive session.

Breakout Sessions

Participants were divided into subject-specific groups for more focused discussions:

- **Mathematics:** Dr. Mudassir Kaleem conducted a session titled *Mathematical Mindsets: Shifting Perspectives, Unlocking Potential*, followed by a discussion led by Mr. Hafiz Najaf Ali and Mr. Muhammad Amman on implementing effective math strategies.
- **Science:** Mrs. Khalida Sadiq, Mr. Hafiz Ghulam Mustafa, and Mr. Asif Nazir led sessions focused on inspiring student engagement and effective teaching methodologies.
- **English:** Mr. Muhammad Yasir introduced various reading strategies and facilitated discussions on best practices for English instruction.

Mr. Akif Munir oversaw the sessions, ensuring smooth proceedings, while Mr. Manzoor Hussain Asad provided technical support. The event concluded with closing remarks from the Regional Programme Manager (RPM), Mr. Fateh Muhammad Sabir, who encouraged teachers to implement the discussed strategies in their classrooms. Certificates were then distributed to attendees, marking the successful conclusion of a productive and enriching event.



Figure 23: Participants of Teacher Forum at district field office PECTAA Faisalabad



Figure 24: Opening Remarks by Principal district field office PECTAA Faisalabad



Figure 25: Panel Discussion during Teacher forum at district field office PECTAA Faisalabad

Rawalpindi – January 10, 2025

A similar one-day conference was held at district field office PECTAA Rawalpindi, attended by 100 participants, including Elementary School Teachers (ESTs), Senior Subject Specialists (SSS), and Education Officers. The event was coordinated by Mrs. Rafia, the focal person for training activities.

Following an opening session led by Dr. Tariq Mehmood Qazi and Mr. Aman Ullah, panel discussions were held to address key CPD issues, particularly focusing on the transition of CPD efforts to ESTs. Speakers included former Regional Programme Managers (RPMs) Dr. Shafqat Hussain and Mr. Sohail Bukhtiar, along with education officers and subject specialists.

Breakout Sessions

The breakout sessions covered the following topics:

- **English:** Reading strategies
- **Mathematics:** Developing a mathematical mindset
- **Science:** Engaging students in scientific learning

Participants engaged in discussions, case studies, and interactive activities. At the conclusion of the conference, certificates were distributed to the participants, and future CPD strategies were discussed to ensure continuous improvement in teaching practices.



Figure 26: Dr. Tariq Qazi giving concluding remarks at Teacher forum at district field office PECTAA Islamabad



Figure 27: Certificate Distribution Ceremony at the end of Teacher forum at district field office PECTAA Islamabad

Multan – January 10, 2025

The Multan conference, held at PECTAA district field office Multan (Conference Hall), followed a similar structure to the previous events, with 108 attendees, including Elementary School Teachers and education officers. Dr. Allah Nawaz, the chief organiser, ensured smooth operations, with assistance from Dr. Matin Gul.

Following the recitation of the Holy Quran and a Naat, Dr. Summera Khan, Principal of PECTAA district field office Multan, welcomed participants and emphasised the critical role of the CPD framework in enhancing professional development. Dr. Muhammad Azam Rana, RPM, delivered the keynote speech, providing an in-depth explanation of the framework's core principles.

Panel Discussion

The panel discussion, moderated by Dr. Allah Nawaz, featured perspectives from an EST, a headteacher, a subject expert, and PECTAA representatives. The discussion focused on the implementation of CPD and the challenges faced by teachers and educational leaders in the process.

Breakout Sessions

The breakout sessions focused on subject-specific strategies:

- **Mathematics:** Led by Mr. Rana Qamar Hussain and Mr. Sajjad Hussain, exploring effective strategies for mathematics instruction.
- **Science:** Mrs. Lubna Ahmad and Mr. Muhammad Ilyas discussed engaging methods for teaching science.
- **English:** Mr. Muhammad Irfan and Mrs. Shaheen Akhter introduced effective reading strategies to enhance English instruction.

The event concluded with closing remarks from Dr. Summera Khan, who encouraged participants to implement the newly learned teaching techniques in their classrooms. A certificate distribution ceremony followed, marking the successful conclusion of the conference



Figure 28: Opening Remarks by Principal district field office PECTAA Multan, Ms. Summera Khan



Figure 29: ESTs engaging in a CPD Learning Forum facilitated by Subject Experts during the Professional Development Forum in Multan



Figure 30: Panel Discussion Participants



Figure 31: Breakout Session in Progress

