UKaid
from the British people

Quantifying the Challenge:

A Situation Analysis of Multigrade Teaching

Punjab

I-SAPS
Institute of
Social and Policy Sciences
Informing Policies, Reforming Practices

TABLE OF CONTENT

TABLE OF CONTENT

List of Abbreviations

AEOs	Assistant Education Officers
APF	Assessment Policy Framework
B-TAG	Bridging Technical Assistance for Governments
CPD	Continuous Professional Development
COT	Classroom Observation Tool
ECCE	Early Childhood Care and Education
FCDO	Foreign, Commonwealth & Development Office
GOAL	Girls and Out of School Children - Action for Learning
HT	Headteacher
ITSP	Innovative Teachers Support Package
I-SAPS	Institute of Social and Policy Sciences
KESP	Khyber Pukhtunkhwa Education Sector Programme
LP	Lesson Plan
MGT	Multigrade Teaching
MT	Master Trainer
OOSC	Out-of-School Children
PEC	Punjab Examination Commission
PESP	Punjab Education Sector Programme
PCTB	Punjab Curriculum and Textbook Board
SAHE	Society for the Advancement of Education
SED	School Education Department
SIS	School Information System
SLO	Student Learning Outcome
TA	Technical Assistance
QAED	Quaid-e-Azam Academy for Educational Development
UK	United Kingdom

Executive Summary

Multigrade teaching (MGT) is prevalent in all provinces of Pakistan including Punjab. Data informs that around 85% of primary schools in the province have less than 6 teachers indicating that at least one grade in these schools is being grouped together with one or more other grades[1].

Despite a high incidence of multi-grade teaching, many teachers lack the knowledge and skills to manage multigrade classes effectively as they have been trained for single-grade teaching. This has led to low levels of learning and higher number of dropouts from such schools[2].

Research suggests that if MGT is effectively implemented, it has a promise to offer tangible benefits, while if done in an unstructured and unplanned manner, it can have serious negative consequences. With this in background, a pilot programme for multigrade teacher training was implemented in January 2022 by Quaid-e-Azam Academy for Educational Development (QAED) with support from Punjab Education Sector Programme-II (PESP) Extended. 3000 three-teacher schools were targeted, reaching out to 9000 teachers, who were provided training in effective MGT strategies. Teachers were supported with teaching and learning materials, including an academic calendar, lesson plans, worksheets and formative assessment strategies designed specifically for MGT. A multigrade teaching and learning (T&L) strategy was also developed which outlines 5 overarching goals to achieve School Education Department (SED's) vision regarding MGT in Punjab and highlights comprehensive policy actions needed to be done by relevant departments.

Multigrade schools and teaching are inevitable in most countries due to various reasons including scattered populations, non-availability of teachers in far flung areas, and financial impracticability to offer a teacher for each grade in extremely low enrolment schools. This report covers a situation analysis of MGT in Punjab with the intention to inform future SED interventions in multigrade schooling. UK Government's Bridging Technical Assistance for Governments (B-TAG) approach to situation analysis of the MGT is informed by the literature review, MGT practices in Punjab, including desk review of all relevant documents including the MGT strategy, analysis of the multigrade teacher training programme and a survey administered with 22 teachers who received multigrade training in 2022 and have been implementing lesson learned in classrooms ever since.

[1] Multigrade Teaching and Learning Strategy 2021 - Punjab
[2] Asian Development Bank (2019) School Education in Pakistan, A Sector Assessment.

Our analysis revealed the following key findings:

An evaluation conducted by the Society for the Advancement of Education (SAHE) covering 51 male and female teachers in 03 districts of Punjab, reported that most teachers were satisfied with the multigrade teacher training and were using T&L resources specifically developed for MGT.

The evaluation also reported that most of the teachers were implementing the lessons learned during training in their classrooms and the children were more engaged, participating in the activities and interacting with the teachers.

Teachers' survey results show an overwhelming 82 % who were completely satisfied with the training, with 18 % partially satisfied. Teachers also reported the MGT strategies that they are effectively using in their classrooms. The strategies include activity-based teaching, teaching common topics together, grouping adjacent grades together, arranging the physical space in the classroom for conducive learning, using low-cost no-cost material and conducting formative assessments to improve teaching practices.

Teachers also reported several challenges they face in classrooms and the need for refresher training, school-based follow-up, and support mechanisms, to focus on strategies and handling students with varying abilities, among others.

1. The Multigrade Teaching and Learning Strategy 2021 should be approved and notified to begin its effective implementation.
2. Teachers' feedback and evaluation studies should inform improvements in the design and delivery of multigrade teacher training content.
3. Regular refresher sessions should be organised for multigrade teachers as part of their Continuous Professional Development (CPD).
4. Teachers should be provided school-based follow-up support and mentoring by Assistant Education Officers (AEOs) and Head-teachers (HTs).
5. Multigrade training should be integrated into teacher education programmes, both pre- and in-service.
6. Multigrade teacher training content should be expanded to cover remaining months of the academic year and the training programme should be scaled up to include four-teachers' schools.
7. Classroom Observation Tool (COT) should be revised to respond to multigrade classrooms.
8. QAED should develop and deliver capacity building programmes for HTs and AEOs to equip them with knowledge and skills to provide school-based mentoring and support to teachers specific to MGT practices.
9. Communities of Practice (COPs) should be developed for teachers moderated by the AEOs, so that teachers can collaborate with their peers, and learn from each other's challenges and success stories.
10. Curriculum should be adapted to respond to multigrade classrooms and formative assessment strategies should be developed accordingly.

SECTION

1

Introduction

Introduction

Project Background

The Foreign, Commonwealth & Development Office (FCDO) of the UK Government has been working towards advancing educational outcomes in Punjab and Khyber Pakhtunkhwa. Through both financial and technical assistance, the FCDO has played a pivotal role in implementing interventions that have significantly contributed to the progress in the education sector.

Building upon the FCDO's decade-long investment through the Punjab Education Sector Programme (PESP) and Khyber Pakhtunkhwa Education Sector Programme (KESP), the Girls and Out of School Children-Action for Learning (GOAL) aims to support the Governments of Punjab and KPK further by facilitating equitable access to high-quality education throughout the provinces. This will be achieved through a comprehensive set of interventions designed to increase school enrolment, encourage longer retention, and enhance learning outcomes, with a specific focus on girls and marginalised children.

The Bridging Technical Assistance for Governments (B-TAG), managed by the Institute of Social and Policy Sciences (I-SAPS), is consolidating previous investments and creating traction with provincial governments, ensuring a seamless transition to the long-term GOAL Technical Assistance (TA). As part of the project's goals, B-TAG is conducting a thorough situation analysis of Multigrade teaching in Punjab. This involves identifying prevalent issues and challenges, assessing recent interventions, evaluating their impact, and proposing a strategic way forward. The aim is to facilitate learning through quality resources guided by assessments, contributing to the overarching objectives of the GOAL initiative.

Multigrade Teaching in Punjab

Most primary schools across Pakistan typically have six grades, including an ECCE class. Presently, approximately 29% of government primary schools in Punjab are either single-teacher or two-teacher schools, while a significant majority have 3 to 4 teachers per school[3]. Approximately 85% of primary schools in the province have fewer than 6 teachers, indicating that at least one grade in these schools is grouped with one or more other grades[4]. The majority of these schools with grouped classes, or multigrade classrooms, are situated in rural areas rather than urban areas. Only a small percentage of schools (less than 10%) have 4 or more teachers per

[3] Asian Development Bank (ADB), 2019, School Education in Pakistan: A Sector Assessment. DOI: *http://dx.doi.org/10.22617/TCS190039*

[4] Multigrade Teaching and Learning Strategy Punjab, 2021

school. This highlights the fact that multigrade teaching is still widely prevalent in Pakistan.

The high incidence of multigrade classrooms in primary schools, especially in rural areas, results from various factors such as inadequate resources, including the unavailability of teachers and classrooms and low student enrolment, due to which the principle of 'one teacher-one classroom' cannot be implemented as it is impractical and financially unfeasible especially when considering the Student-Teacher Ratio (STR). In Punjab, the number of teachers in government primary schools is significantly less than that required to ensure the provision of a teacher in each classroom, leading to the situation of MGT. In the absence of customised T&L material and teacher training, T&L practices become haphazard, with teachers unable to cater to the needs of multigrades simultaneously. Typically, teachers engage with one grade at a time, leaving children in the other grades idle and hampering the learning process.

Despite a high incidence of MGT, many teachers lack the knowledge and skills to manage multi-grade classes effectively as they have been trained for single-grade teaching. In this respect, both pre-service and in-service institutions have made little effort to step forward in developing grade and age specific content as well as strategies which can help facilitate the work of the teachers to teach in multi-grade classroom situations, when necessary. At the school and classroom level, the lack of good multigrade practices employed by teachers, irregular teacher attendance, and over-crowding lead to low levels of learning and higher numbers of dropouts from such schools[5].

Several studies report a disadvantage associated with MGT. For example, a study on large-scale assessment in the context of Punjab found that students in schools where multi-grade teaching is practiced scored 2.52 points lower than students in schools where mono-grade teaching is practiced. This finding shows a negative effect on students' learning achievements in MGT schools[6] . Previous studies in the context of Pakistan, Rowley (1992) found that mono-grade schools showed cognitive differences in favour of children when compared with multigrade school children[7].

However, MGT is not necessarily a disadvantage for schools. If done properly, MGT leads to several benefits including increased access to education with small sized MGT schools setting up close to sparsely populated areas, imrpoved learning outcomes through differentiated learning practices required by MGT settings and modeled behaviour by older learners giving more opportunities for younger learners to learn and grow[8].

[5] Asian Development Bank (2019) School Education in Pakistan, A Sector Assessment.
[6] Punjab Examination Commission (2021), Large Scale Assessment (LSA), developed with the support of the Third Punjab Education Sector Project (PESP III) Technical Assistance team of Cambridge Education, Mott MacDonald, Lahore, Pakistan. https://pec.edu.pk/system/files/LSA%20Main%20Findings%20Report%202021.pdf#overlay-context=publications
[7] Rowley, S.D., Multigrade Classrooms in Pakistan: How Teacher Conditions and Practices Affect Student Achievement. Unpublished PhD thesis, Harvard University, 1992.
[8] Ballesteros, M., & Ocampo, R. O. (2016). Best practices of multigrade teaching in luna, Apayao, Philippines. International Journal of Novel Research in Education and Learning, 3(6), 61-73. P.64

MGT settings have also been found to result in better non-cognitive outcomes including better attitudes towards self, peers, and the schools compared with the monograde settings[9,10]. Other benefits include improved learning process as a result of problem solving and collaborative learning, refined communication skills, increased confidence as students tend to help each other, better student-teacher relationship and continuous reiteration and revisitation of topics[11].

A few interventions have targeted multigrade teaching in Punjab, including a multigrade T&L Strategy developed with support from PESP-II (Extended) or PESP-II (E). A pilot programme was implemented in January 2022 in 3000 three-teachers' schools, reaching out to 9000 teachers and providing training in effective MGT strategies. Teachers were supported with T&L materials, including an academic calendar, lesson plans, worksheets and formative assessment strategies designed specifically for multigrade teaching. The programme was successful in imparting useful techniques to the teachers, guiding them on how to group different grades, teach them similar Student Learning Outcomes (SLOs), keep students engaged and use formative assessment strategies to inform their teaching practices. An evaluation of MGT pilot programme was conducted by the SAHE, assessing through key informant interviews, observations of training & classrooms, as well as interviews with teachers and parents, to evaluate the relevance and effectiveness of the pilot MGT training programme.

9 See McEwan, P. J. (2008). Evaluating multigrade school reform in Latin America. Comparative Education, 44(4), 465-483.
10 Mulkeen, A. G., & Higgins, C. (2009). Multigrade Teaching in Sub-Saharan Africa Lessons from Uganda, Senegal, and the Gambia. The World Bank
11 *https://www.mona.uwi.edu/cop/sites/default/files/resource/files/Multigrade%20teaching%20-%20Strategies.pdf*

Report Structure

The report is structured into five sections following the executive summary. The first section introduces the project, providing background information on multigrade teaching in Punjab, and explains the rationale for conducting the study. The second section describes the technical approach and methodology, including a detailed account of the desk review, and the teacher survey.

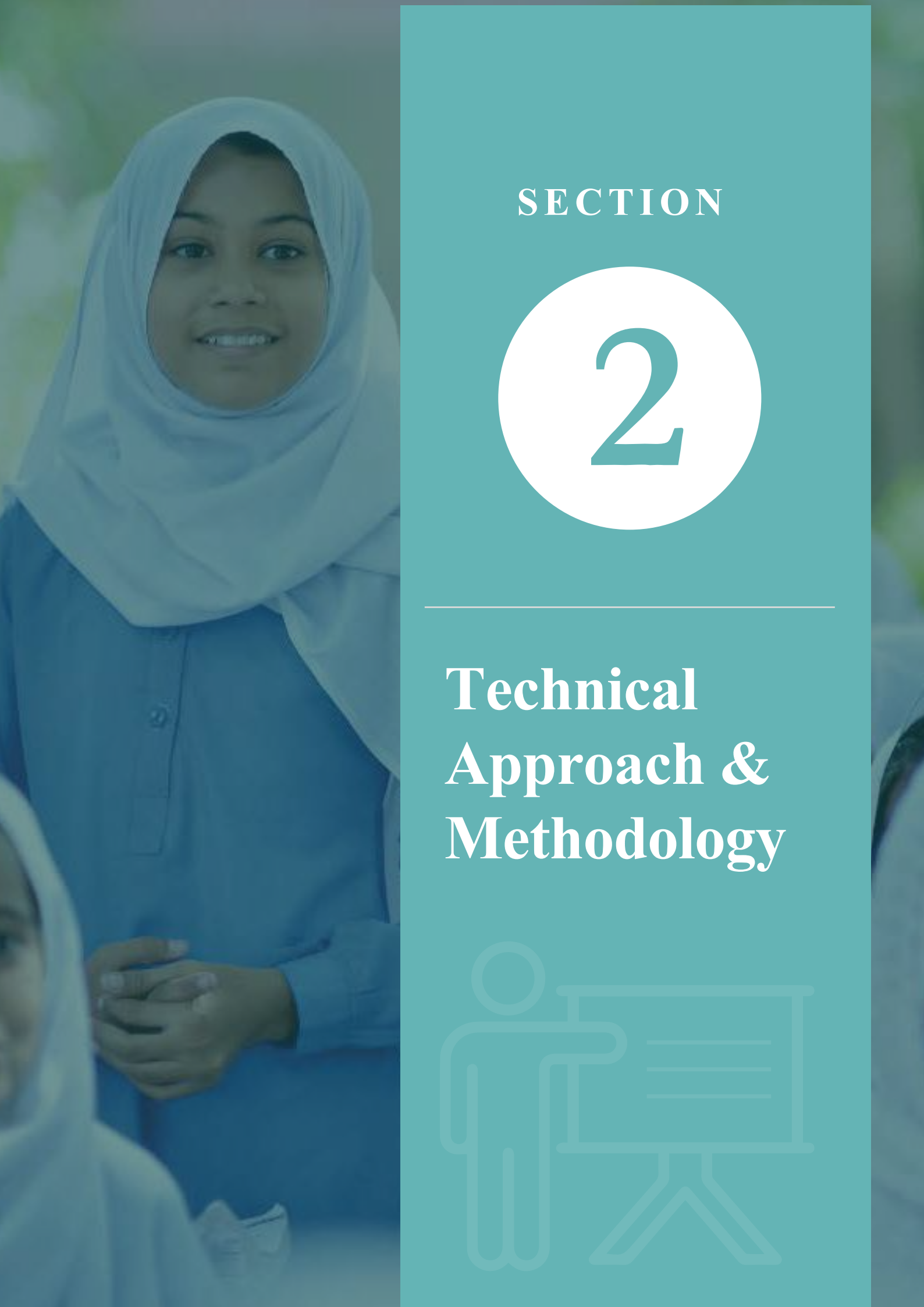
Section III provides a concise literature review. Section IV offers an overview of the documents examined for this review, including the Punjab Multigrade Teaching & Learning Strategy, the Multigrade pilot programme by PESP-II (E), and SAHE's evaluation of the pilot programme. The fifth section presents findings from the teachers' survey, administered through one-on-one interviews with 22 teachers who underwent MGT training in January 2022.

The sixth section synthesises the findings and formulates recommendations and a way forward. Section VII concludes the report by summarising key insights from the study.

Rationale of the Study

Multigrade teaching is a prevalent practice in public sector schools, especially in remote and rural areas of Pakistan, and there is an urgent need to equip teachers with the knowledge and skills to effectively manage more than one grade simultaneously. Beyond the development of the Punjab Multigrade Teaching and Learning Strategy and the teacher training pilot programme, which involved the development of training content, it is crucial to assess the situation on the ground before developing a way forward including scaling up the training.

The findings from this study will serve as valuable insights for expanding the programme, identifying gaps and challenges in its implementation, and developing a clear way forward. The study seeks to provide a comprehensive understanding of the current state of multigrade teaching, allowing for informed decisions and strategic planning to enhance the effectiveness of the programme in addressing the unique needs of students and teachers in multigrade classrooms.



SECTION

2

Technical Approach & Methodology

Our approach to the situation analysis of the MGT is informed by the prevalent teaching practices in multigrade classrooms in Punjab. The approach also included desk review of all relevant documents including the MGT strategy, analysis of the MGT training pilot programme implemented by the PESP-II (E) and a survey administered with the primary school teachers who benefitted from the MGT training pilot programme.

Literature Review

The Literature Review focuses on international MGT examples and practices, aiming to identify and extract best practices applicable to our context. By examining MGT methodologies and strategies implemented in similar global contexts, the review seeks to discern patterns, successes, and proven techniques that can be adapted to enhance MGT practices within our own setting.

Desk Review

B-TAG team conducted a desk review of key reports and documents, and an analysis of Multigrade Teacher Training in Punjab as follows:

01 **Multigrade Teaching and Learning Strategy, 2021- Punjab:** A Multigrade Teaching and Learning Strategy was developed in 2021 and shared with the SED that identified MGT best practices and roles and responsibilities of different departments in implementing those practices in schools.

02 **Multigrade Teaching & Learning Pilot PESP II (E) 2021:** PESP-II (E) piloted multigrade teaching training programme in 2021 in 3000 three-teacher schools across 21 districts reaching out to 9000 teachers. Teachers were trained on MGT best practices and given T&L material to support classroom teaching.

03 **SAHE's Evaluation of Multi-grade Teaching (MG) Pilot Programme in Punjab's Primary Schools, 2021:** SAHE evaluated MGT training pilot programme in Punjab and shared a report that outlines both successful aspects and areas for improvement.

Teachers' Survey

Objectives of the Survey

The B-TAG team conducted a teachers' survey as part of the situation analysis for MGT. The survey targeted teachers who underwent 6-days MGT training in 2021, a pilot programme organised by QAED for 3-teacher schools across 21 districts. The primary objective of the survey was to assess whether teachers retained the concepts taught to them during the training sessions and if the teachers were actively applying them in their classrooms. Furthermore, the survey aimed to gauge the perceived usefulness and practicability of the pilot training, and also explore if the teachers observed any impact on student learning outcomes, student participation, and any reflections on their own motivation and preparation.

The survey also delved into the challenges encountered by teachers in real classroom settings and sought to identify ways in which the training and support materials effectively responded to these challenges. The survey thus aimed to provide a comprehensive understanding of the impact and effectiveness of the MGT training programme and to offer insights for potential improvements or modifications.

Teachers Selection

The teachers selected for interviews represented the north, south, and central districts, as well as representation of male and female teachers. The sample selection process considered specific characteristics of the schools, as outlined below:

01

Schools practicing the MGT approach.

02

Teachers who underwent the 6-day MGT training.

03

Gender representation, encompassing both boys' and girls' schools and male and female teachers.

04

Location, with a focus on rural settings.

Table 1 provides the precise number of teachers who participated in the interviews. A total of 22 interviews were conducted across seven districts in Punjab. These interviews included 12 with male teachers and 10 with female teachers, ensuring a diverse sample.

District	Female	Male	Total
Gujranwala	2	2	4
Bahawalnagar	2	2	4
Rawalpindi	2	1	3
Sargodha	0	2	2
DG Khan	1	1	2
Talagang	2	3	5
Sahiwal	1	1	2
Total	10	12	22

Data Collection Tool Development

Based on literature review and desk research, a data collection tool was developed. This tool was designed to assess various aspects of the MGT training programme, including the effectiveness of learning resources provided to teachers and the MGT strategies adopted in the classroom. The questions within the tool focused on the following

- How teachers perceived their training and the extent to which they have implemented it in the classroom and school.
- Specific ways in which the training assisted teachers and the challenges they still encounter, particularly concerning handling MGT and student learning.
- The effectiveness of support materials such as academic calendar, lesson plans, worksheets, and Formative Assessment strategies.
- Recommendations for further improvements in training, learning materials, support mechanisms, and student learning.

> **The data collection tool is attached under annexure-A.**

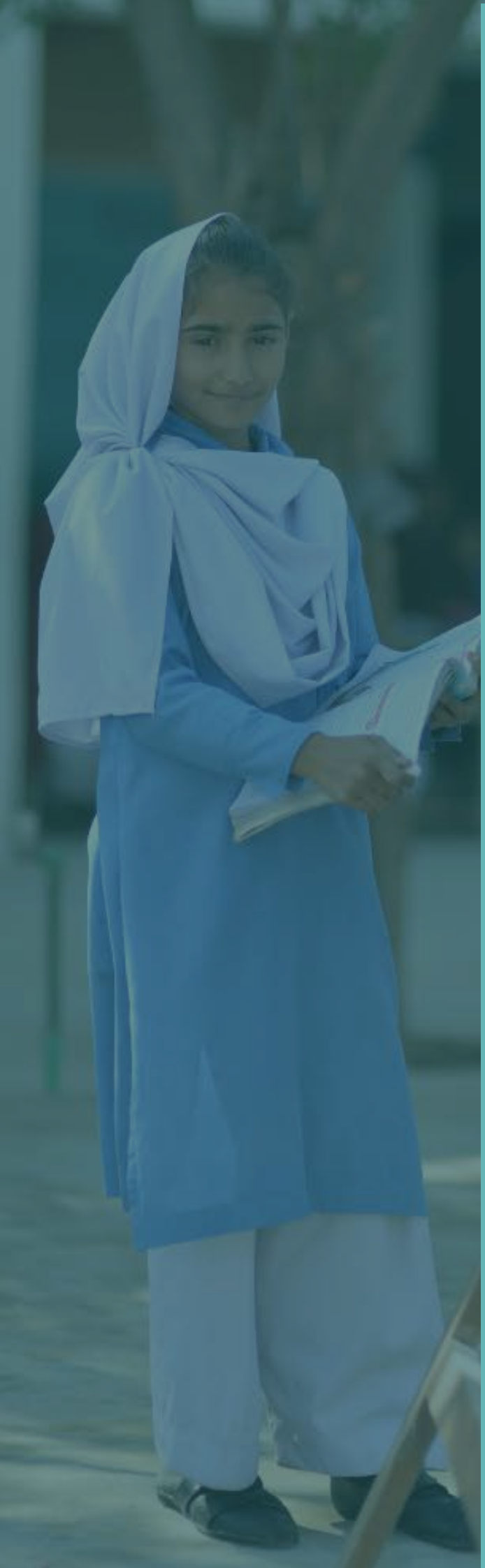
Administering Teachers' Survey

The data collection tool was administered with 22 selected teachers through one-on-one interviews. Protocols established for interviews are also added in annexure-A.

Administering Teachers' Survey

The data collected was compiled and a thematic analysis was conducted covering effectiveness of learning resources provided to teachers, multi-grade teaching strategies being employed in classrooms, mentoring support from AEOs and head-teachers and existing implementation challenges and way forward. Compilation included transcribing the data after a careful reading of the notes. Interesting features were coded, and codes were collated into themes, combining several codes into one theme. Themes were reviewed to ensure they provided an accurate representation of the data. Based on the themes identified, findings and recommendations under each theme were reported.

> ***The report presents findings covering identified gaps, areas of improvement, and recommendations.***



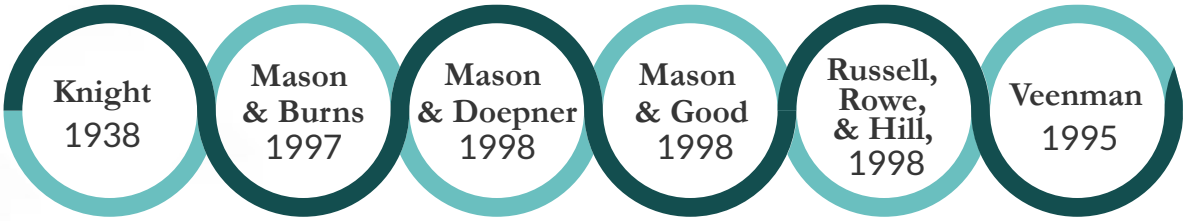
SECTION

3

Literature Review

Literature Review

Multigrade instruction is widespread across global educational systems, especially in developing countries, and is bound to increase because of limited resources and infrastructure to establish separate classrooms in developing countries as well as small population areas making it impracticable to maintain single-grade classrooms for every grade level.



Typically, students in multigrade classes main- their designated grade level and corresponding textbooks and curricula. It often occurs in remote rural areas where enrolment figures don't justify the human and material costs of assigning a teacher per grade level, although fluctuating pupil numbers can lead to this even in urban settings.

Data on the prevalence of multigrade teaching is challenging to obtain and often outdated, particularly in countries where such information isn't systematically gathered (Bergman, 2002; Little, 1996; Maia, 2002). Nonetheless, available data suggests a notable occurrence of multigrade teaching, especially in regions like Europe, Canada, Australia, and developing countries across Asia, Latin America, and Africa. Efforts by international organisations to expand primary education, especially in rural areas, are likely to increase the prevalence of multigrade classes.

Despite the perception that multigrade teaching is more demanding than single-grade instruction (Mason & Burns, 1995; Mason & Burns, 1996; Mason & Doepner, 1998; Veenman, 1995; Veenman & Raemaekers, 1995), contextual factors significantly influence the challenges teachers face. While teaching multiple grades simultaneously presents unique challenges, such as managing diverse learning levels within one classroom, effective single-grade teachings can be applied to their contexts (Miller, 1991; Phillips, Watson, & Willie, 1995; Pratt & Treacy, 1986; Thomas & Shaw, 1992). Although specific competencies may vary between contexts, the core principles of effective teaching remain consistent. Therefore, teacher education programmes should prioritise general teaching competencies while providing opportunities for teachers to adapt these skills to diverse classroom environments, including multigrade settings.

Various terms such as multigrade, mixed year, combination class, vertical grouping, family grouping, composite class, split class, double-graded class, and unitary schools are

employed globally to refer to multigrade teaching situations (Berry & Little, 2006) which vary across countries. In some nations like Nepal, a single teacher instructs multiple levels concurrently, with classrooms potentially being different or the same.

In Malaysia, one teacher manages two or more levels within one classroom and teaches them collectively. Similarly, in Pakistan, more than three levels are combined in one classroom and taught by a single teacher (Birch & Lally, 1995).

Little (2006) and Mathot (2001) highlight several-contributing factors that lead to the adoption of multigrade teaching and emphasise upon the importance of the area's context. In areas with low population density, schools are widely dispersed, and due to low enrolment, one or two teachers assume responsibility for teaching students at different levels. Similarly, in contexts where student enrolment is high but there are shortages of teachers and classrooms, multiple levels may be accommodated in a single classroom and taught by one teacher. Yet teachers often lack the necessary skills to manage and teach multigrade classes during pre-service and in-service training (Mathot, 2001).

Nevertheless, several scholars advocate for comprehensive support for multigrade settings. Vithanapathirana (2006) argues that effective implementation of multigrade teaching requires inclusion in initial and continuing education courses. Similarly, Mathot (2001) contends that governments should establish special units to support multigrade classes, and these settings should receive appropriate status and recognition.

Research indicates that learners in multigrade settings perform equally or better than their single-grade counterparts and may outperform single-grade students in terms of achievements (Miller, 1990). Moreover, due to time constraints, students in multigrade settings typically assume responsibility for their own assessments, which encourages their learning and achievements as it motivates them to develop self-regulated skills (Hargreaves, 2001). Multigrade teachers can acknowledge and utilise the diverse strengths and experiences students bring to these classes to foster a culture of differentiated and intrinsically motivated learning. Reciprocal teaching, an instructional approach where students provide support to each other, is considered crucial in multigrade settings (Veenman, 1995).

The responsibilities of multigrade teachers and the classroom environment as discussed by Miller (1991), include being highly organised and dedicating considerable time to preparation. They must establish clear routines and foster a supportive atmosphere conducive to cooperation and solidarity among students. In developing contexts like Pakistan, the approach to teaching in multigrade settings often involves integrating similar or related concepts across different levels. However, this approach may present challenges, particularly in countries where the curriculum is designed for single-grade instruction. Despite existing challenges, multigrade teaching persists, and efforts to enhance pedagogical skills for such settings, particularly in rural areas, are underway (White & Reid, 2008). Research underscores the complexity and demands of multigrade classrooms, emphasising the need for well-trained teachers capable of effectively managing such environments (Miller, 1991).

Prior examinations of teacher practices and research reviews have resulted in a comprehensive categorisation of curriculum approaches in multi-grade classes (Little, 2004). These approaches include:

» **Multi-year curriculum spans:** Curriculum content is distributed across 2-3 grades instead of one, with all students engaging in common topics and activities.

» **Differentiated curricula:** Students explore the same overarching topic or theme within a subject area, but tasks and materials are tailored to each student's level of understanding and ability within their respective grade groups.

» **Quasi monograde:** Teachers instruct grade groups individually, simulating a monograde setting. Students may study the same or different subjects simultaneously, and teachers may allocate their time equally or unequally among grade groups, depending on the subject or task requirements.

» **Learner and materials-centred:** This approach relies heavily on students and learning materials rather than direct teacher instruction. The curriculum is translated into graded self-study guides, allowing students to progress at their own pace while receiving support from the teacher and engaging in structured assessment tasks. Learning is viewed as a dynamic interplay between the learner, materials, and teacher involvement.

In developing countries like Pakistan, the prevailing approach to teaching in multigrade settings involves accommodating two or more grade levels within a single classroom.

Typically, a teacher instructs one level and then transitions to the next, engaging the first group in activities like reading. While this method is commonly employed, it doesn't fully align with the essence of multigrade instruction, which emphasizes integrating similar or related concepts/themes across different levels.

According to Birch and Lally (1995), integration in multigrade settings can take two forms: integrating pupils from different grades and competencies, and integrating the curriculum by subjects, subject ranges, or topics.

Birch and Lally note that this integration poses challenges for primary school teachers, who must possess comprehensive knowledge across various subjects and grade levels. Integrating concepts from different subjects can be particularly daunting, especially in countries where the curriculum is designed for single-grade instrution.

In contrast to single-grade instruction, multigrade settings often involve grouping two levels together, with teachers preparing activities that allow both grades to collaborate. As Little (2001) suggests, teachers reduce the amount of grade-specific sequential work and establish similar or slightly different objectives for both levels, providing equal learning opportunities for all students. Birch and Lally (1995) highlight a case of multigrade teaching in Pakistan, where attempts were made to integrate subjects like Science, Social Studies, and Islamiat with Urdu to streamline the curriculum. However, this approach encountered challenges, particularly regarding the applicability of Social Studies content across different provinces and districts, and the difficulty of integrating complex Science concepts with other subjects.

In the realm of mathematics education, both formal and non-formal students utilise online resources. Notably, formal students tend to outperform non-formal students in English and Urdu comprehension.

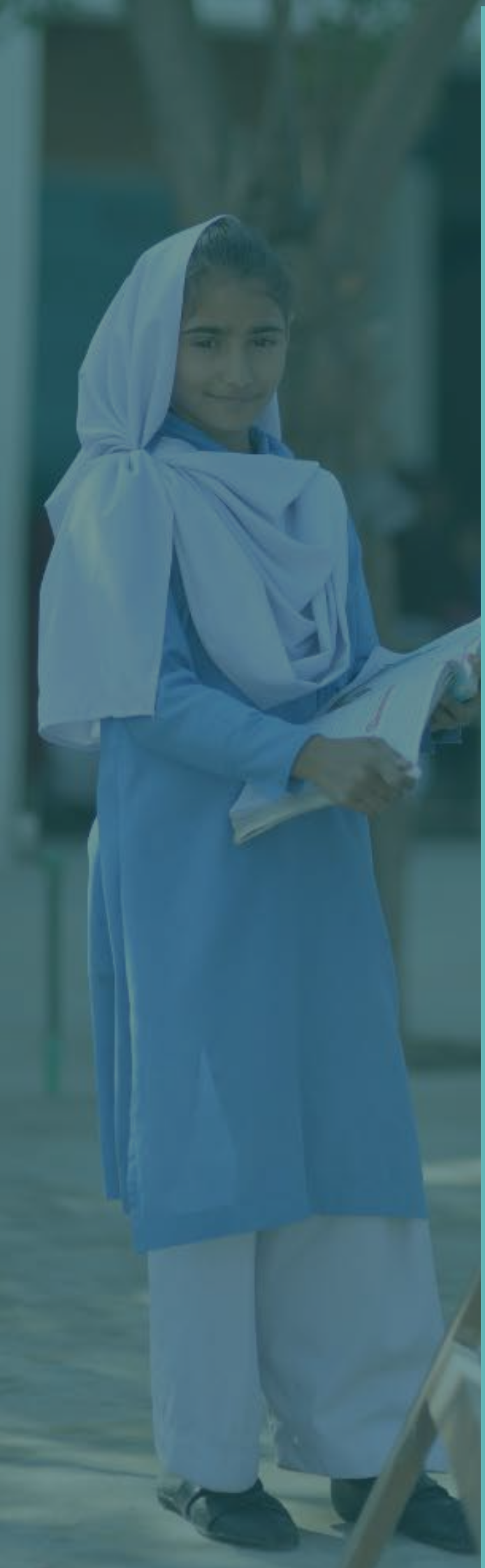
Ahmad & Akhtar (2021) compare performance of students of grade 5 studying in literacy centres of Rawalpindi in a multigrade setting with students studying in formal public schools in a monograde setting, revealing significant variations in performance scores between formal and non-formal students[12]. Formal students demonstrated superior performance particularly in English and Urdu knowledge levels. Interestingly, non-formal students exhibit stronger performance in English comprehension, English application, and Urdu comprehension compared to their formal counter parts.

However, no notable disparities are observed in Math scores between the two groups. Gender-wise analysis indicates consistent superiority of girls across all subjects and levels of knowledge. In formal setups, overcrowded classrooms and limited individual attention pose challenges in both access and quality, whereas literacy centres in Punjab efficiently serve out-of-school children at a lower cost to the government. This underscores the effectiveness of non-formal education in areas lacking formal schooling options.

From a financial perspective, literacy centres represent a cost-effective solution for the government of Punjab compared to formal schools, providing essential education services to underserved communities where formal schooling options are scarce.

Despite the continued existence of multigrade settings in Pakistan, the government's approach to addressing these challenges, especially in rural areas, has been unsatisfactory. Teachers trained for single-grade instruction are often tasked with teaching in multigrade environments. White and Reid (2008) emphasise the importance of tailoring teacher training to the specific needs and realities of the teaching context. Research underscores the complexity of multigrade classrooms, with Miller (1991) noting that they require experienced and well-prepared teachers, stating, "the multigrade classroom is not for the timid, inexperienced, or untrained teacher" (p.11).

[12] 163 students from formal schools and 135 from non-formal literacy centers participated in the study. (https://jehanf.com/pjsel/index.php/journal/article/view/482)



SECTION

4

Desk Review

Desk Review

Multigrade Teaching and Learning Strategy, 2021- Punjab

While the SED remains committed to the provision of 6 teachers and 6 classroom in each school (one teacher for each grade) across the province the teacher shortgae remains a constant challenge resulting in MGT. SED acknowledges that teaching and learning practices in a multigrade setup are different from those in monograde classrooms; hence, a 'Multigrade Teaching and Learning Strategy' was developed in 2021 with the support from PESP-II (E) after several consultations with the key stakeholders. The strategy highlights the need to work on specific araes such as curriculum, assessment, teachers' training and other processes for effective delivery of MGT approaches.

The MGT and Learning Strategy, along with its development process, was guided by a set of overarching principles: Inclusiveness, Excellence, Evidence-based, and Embeddedness. The policy outlines five broad goals aimed at collectively accomplishing the SED's vision for MGT and learning across the province.

The goals and policy actions to achieve SED's MGT and Learning vision are described below:

1. Establish minimum benchmarks for ensuring quality of education through multigrade teaching

» This goal focuses on setting minimum benchmarks for ensuring the quality of education through multigrade teaching.

» Policy actions include combining grades 2-3 and 4-5, determining and notifying minimum benchmarks for classroom materials, reviewing monitoring and oversight mechanisms, reviewing existing funding mechanisms for schools, and developing a technical working group to assess implementation status.

2. *Make curriculum and curriculum materials more appropriate for teaching and learning in multigrade classroom*

» This goal involves mapping the curriculum for grades 2-3 and 4-5, identifying common and differentiated themes, sub-themes, Student Learning Outcomes (SLOs), and competencies. To the extent possible, Katchi, ECE and Grade 1 will be taught separately by existing teachers or by engaging part-time coaches.

» Policy actions include developing academic calendars and lesson plans Led by the PCTB with support from QAED.

*3. Develop and implement a wholistic approach to training and professional development for existing as well as newly inducted teachers with emphasis on skills essential for quality multigrade teaching and learning experi*ence

» This goal aims to review and align teacher training programmes with the skills required for multigrade teaching.

» QAED will develop comprehensive training modules for school leaders and education managers, emphasising oversight, guidance, and support to teachers. Pre-service teacher training curriculum will be reviewed and revised to focus on multigrade teaching.

» Incentive systems, online platforms, and support packages for multigrade teachers will be developed.

4. Align and implement formative assessments in line with the needs of multigrade classrooms alongside providing targeted support at respective level

» This goal involves developing guidelines, item banks, and assessment strategies for formative assessments in multigrade classrooms.
» Policy actions include coordination between PEC and QAED for creating exclusive items and routines to improve the quality of education in multigrade settings.

5. Update system-level mechanisms to facilitate evidence-based decision making for quality teaching and learning in multigrade classrooms.

» The final goal is to update system-level mechanisms for evidence-based decision-making in multigrade classrooms.
» Existing data collection tools (COT) and systems (SIS) will be updated, with a focus on using data to inform policy decisions and enhance monitoring and oversight mechanisms.

The outlined goals reflect a comprehensive and systematic approach to address the unique challenges of MGT and ensure quality education across diverse classroom settings. Once approved, a comprehensive implementation plan will be developed in consultation with the SED and other relevant stakeholders. The plan will determine the short term and long-term goals in line with the overall vision and objectives of the MGT strategy along with a roadmap and a costing plan to successfully implement the activities needed to achieve these goals.

The strategy is pending approval from the SED. On one hand this is because of the policy within the school education department, which mandates the provision of one teacher per classroom. Consequently, there is a reluctance within the department to recognise the prevalence of multigrade teaching and incorporate it into official policies. On the other hand, official adoption of multigrade strategy at the system level would require the department to introduce a whole set of reforms in the long run including provision of separate curricula, development of separate books, introduction of an assessment regime which is responsive to the specific needs of multigrade context and provision of multigrade specific facilities.

> ***Within the current budgetary constraints, the department finds it difficult to make budgets for the financing of these facilities. Hence, reluctance to officially adopt the strategy.***

Multigrade Teaching & Learning Pilot PESP II, (Extended) 2020

Despite the widespread prevalence of multigrade teaching, most teachers lack the knowledge and skills to effectively manage multigrade classes. This gap exists because teachers are primarily trained for single-grade teaching. Both pre-service and in-service educational institutions have made minimal efforts to develop content and strategies that can support teachers in navigating the challenges of teaching in multi-grade classroom situations when necessary.
Against this backdrop and recognising the issues and challenges in MGT, the QAED with support from PESP-II designed a MGT training programme for teachers, drawing upon the best evidence-based international practices. The programme was carefully tailored to cater to the needs of multiple grades simultaneously to help improve teaching quality and successfully achieving the learning objectives. The programme also included aspects on classroom management skills required to engage multigrades in different activities simultaneously. The MGT pilot programme design was endorsed by the SED. The programme focused upon the following aspects:
» Materials/resource pack development for students
» Material development for teachers

» Development of MGT formative assessment strategies
» Training of Lead Master Trainers (LMTs) and Master Trainers (MTs)
» Training of teachers

1. 3006 schools were identified for the pilot across 21 districts of Punjab ensuring representation of both male and female schools as well as urban and rural areas. All schools comprised of 3 functional classrooms with 3 teachers for six grades, i.e. katchi (pre-primary) to grade 5.

2. Based on review of the National Curriculum, literature review and best practices, QAED in consultation with PESP-II (E) TA, clubbed ECCE-grade 1, grade 2-grade 3 and grade 4-grade 5, to ensure that similar SLOs were taught together in progression and that the age gap between grades was minimum to facilitate maximum learning for all students.

3. A multigrade academic calendar was mapped taking the three strands (ECE and grade 1, grade 2 and 3, grade 4 and 5) into consideration, for three months (pilot duration).

4. Comprehensive lesson plans (block lessons and single lessons) and worksheets were developed in four core subjects: English, mathematics, science and Urdu four three months of pilot. A total of 509 lessons were developed.

5. Formative Assessment strategies were developed for three core subjects: English, mathematics and science.

6. An elaborate teacher training guide was developed, aimed at providing the teachers with a clear concept of MGT, its challenges, and classroom management techniques required for robust implementation of the programme. This guide was used in the training workshops of LMTs, MTs, and teachers; participants were introduced with the idea of MGT and then engaged in various hands-on activities aimed at familiarising them with similar situations they might face in their schools.

Table 2 provides details of the modules and content.

No.	Module	Content Coverage
1.	**Module 1:** Introduction to Multigrade Teaching (MGT),	» Introduction to multigrade » Difference between mono grade and multigrade teaching, need for MGT » MGT challenges and solutions » Successful approaches in MGT
2.	**Module 2:** Learning Approaches	» What is learning? » How we learn? » Types of learning styles » Different abilities
3.	**Module 3:** Learning environment and role of teacher	» Learning environment » Classroom management » Classroom layout and instructional material » Role of the teacher in MGT » Student engagement in MGT
4.	**Module 4:** Importance of Planning and Teaching activities in MGT	» Significance of Lesson Planning » Daily routines and planning » Introduction to group work » Types of group work » How to organize group work » Basic principles of MGT
5.	**Module 5:** Lesson planning, teaching methods and assessment strategies	» Lesson planning » Introduction to curriculum » Teaching methods-some strategies » Assessment types and its usage » Feedback and teaching adjustment
6.	**Module 6:** Lesson planning and teaching practice	» Classroom observation tool » Lesson planning » Teaching practice » Planning for the next day

7. Approximately, 9000 teachers were trained on multigrade teaching through a cascade model. For that purpose, 25 Lead Trainers (LTs) were selected on a selection criterion developed by QAED and trained by PESP-II trainers through a 5-day workshop. These LTs in turn trained 289 Master Trainers (MTs) at district QAEDs through a 6-day workshop, who eventually trained 9000 teachers through a 6-day workshop at district QAEDs. Teachers were trained in batches of not more than 30 teachers each to ensure maximum participation.

8. Attendance in the training sessions and difference in the pre- and post-assessment showed that the training programme was successful, and teachers' performance was satisfactory.

Figure 1 shows key components and features of MGT training pilot programme.

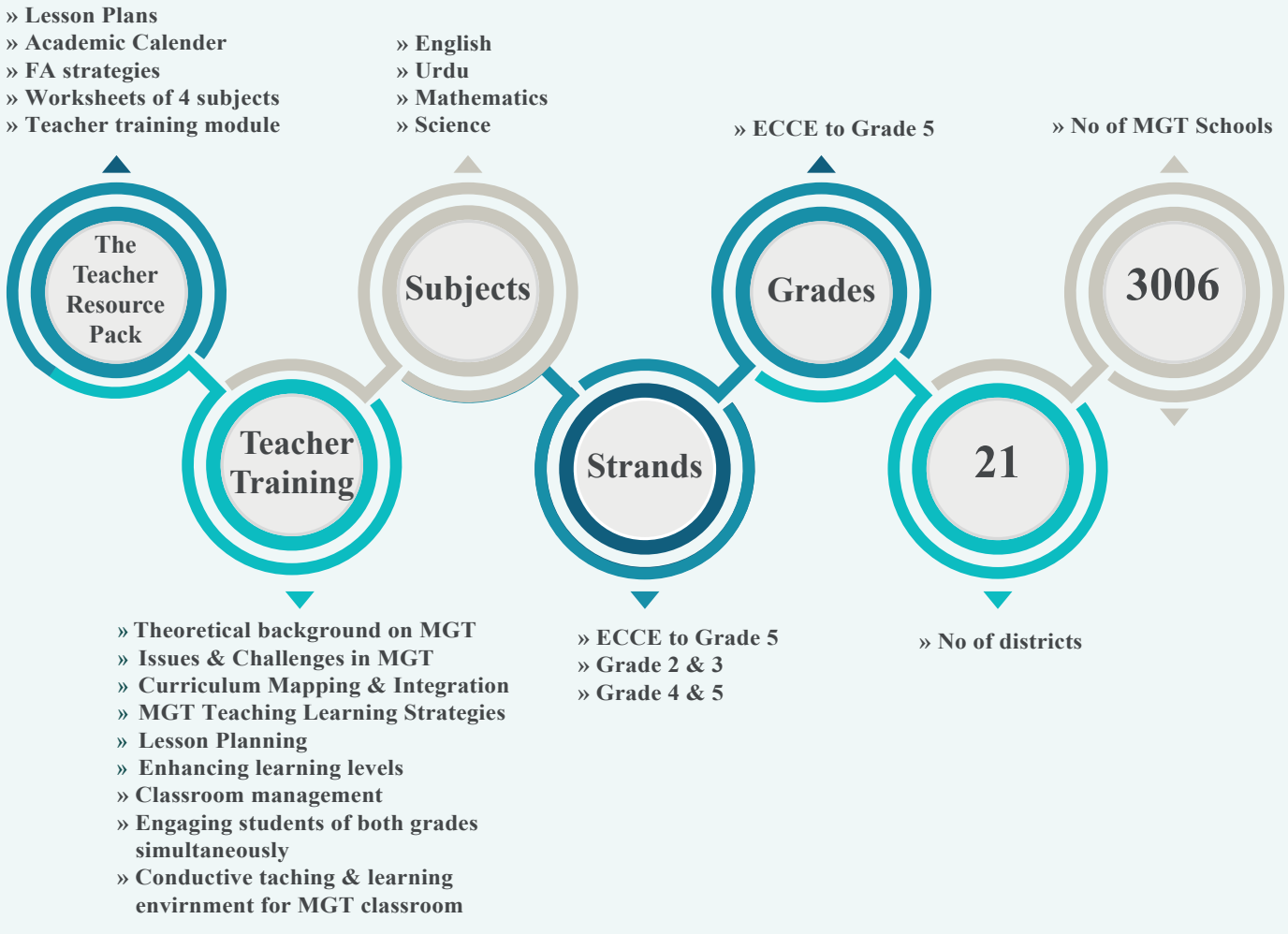


Figure 1: Key design components and features of MGT pilot

After the successful implementation of the pilot supported by PESP II (E), the programme was handed over to QAED. While handing over the programme, it was recommended that QAED should establish a monitoring system to ensure the implementation of lessons learned by teachers in classrooms. Additionally, it was suggested that QAED should continue to offer MGT training workshops for teachers as part of their CPD to keep them updated on the latest teaching strategies and formative

Furthermore, the recommendation included expanding the programme by developing materials for the remaining months in the academic year and providing ongoing support to teachers through classroom visits and online platforms like Zoom/Teams.

SAHE's Evaluation of MGT Pilot Programme in Punjab's Primary Schools, 2021

SAHE conducted an evaluation study of the MGT pilot programme implemented by QAED with support from PESP-II (E). The evaluation study specifically focused on looking at relevance of the training content and T&L material shared with teachers, effectiveness of cascade approach employed for teacher training, improvements in school and classrooms as a result, and effectiveness of the overall programme. The methodology included observations (36 classroom observations in 18 schools) of trainings conducted by QAED at district and tehsil level, school survey, interviews with 51 male and female teachers (who attended 6-days MGT training) in three districts of Punjab, 36 interviews of parents and six focus group discussions with students in three districts.

Below are the findings of the evaluation study:

Training Satisfaction

Overall, about 60% of all teachers reported high satisfaction with the training. However, the level of satisfaction with duration and training resources was lower.

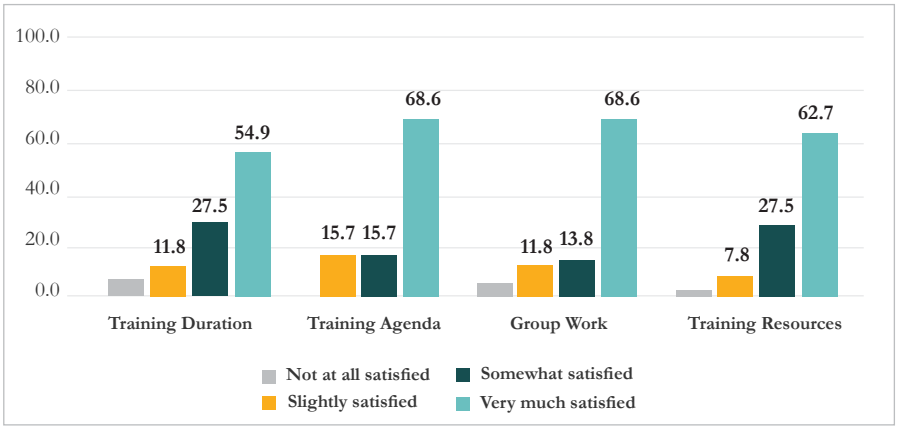


Figure 2: Teachers' level of satisfaction with respect to training

When asked about usefulness of training in addressing MGT challenges and problems, overall, around three-fourths of the teachers reported that the training was very helpful for them. Whereas, about 20% teachers stated that the training was fairly helpful. None of the teachers reported that the training was not helpful at all. This shows high about the utility of training as experienced by the teachers themselves.

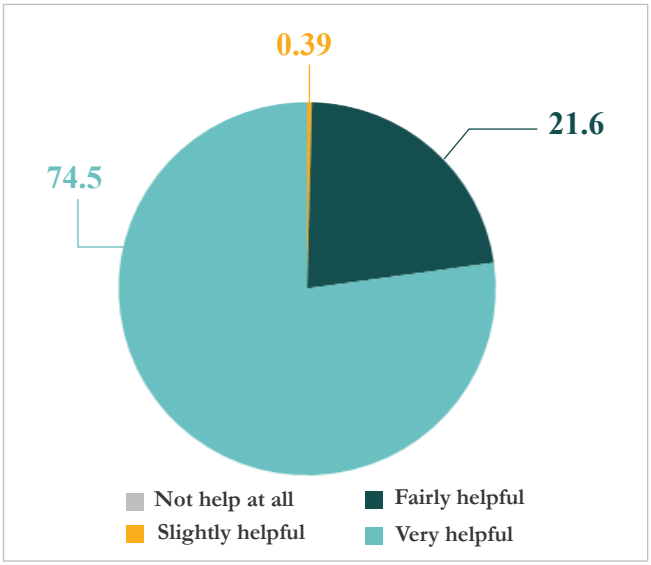


Figure 3: Teachers views about usefulness of training in responding to challenges in MGT

Usefulness of teaching and learning resources

Teachers reported receiving the multigrade T&L resources either completely or partially. The material included academic calendar, lesson plans, worksheets and formative assessment strategies developed specifically to help with MGT. Out of the teachers surveyed, 80% reported utilising them for lesson planning. To this end, nearly 60% of them reported frequent or very frequent use of the T&L resources and found them helpful in the task of planning in MGT. According to nearly 80% of teachers, multigrade T&L resources have enabled teachers to identify common topics in the syllabus and plan lesson delivery for two or more grades concurrently. In the survey, three-fourths of the teachers reported that QAED's multigrade T&L resources are helpful in preparation of lessons for both grades.

Improvements in classroom teaching practices observed:

The study explored how teachers presented content before the students. In more than 80% of the cases, it was found that the voice of the teacher was clear and audible even at the back of the classroom. Almost an equal percentage of teachers explained the ideas with clarity. However, during their presentation, nearly 60% of the teachers did not pay adequate attention to students' questions.

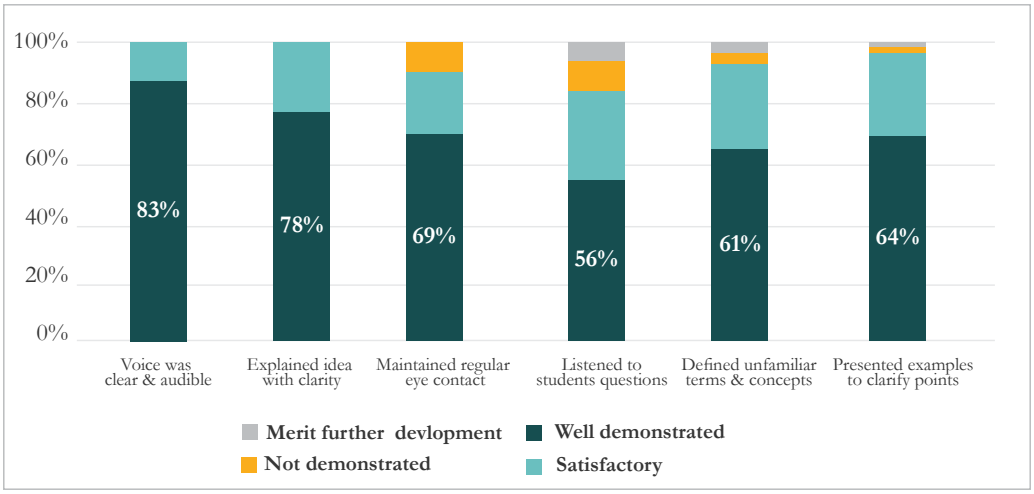


Figure 4: Presentation of concepts in classrooms (%)

It was also reported that materials provided by QAED, and strategies taught during teacher training proved helpful and teachers applied those in their classrooms.

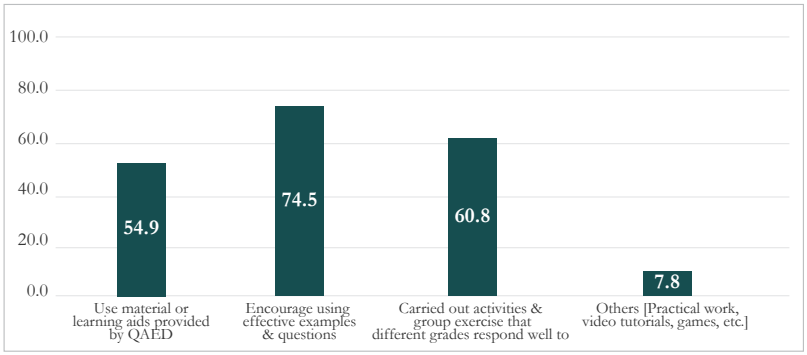


Figure 5: Teachers facilitating knowledge and understanding in the classrooms (%)

Over 80 % of the teachers observed used formative assessment strategies to gauge students' progress. However, only one-fourth used results to improve their lesson planning. Teachers also employed several strategies in classrooms to engage both grades, including grouping mixed ability students together, whole class activities, cooperative learning, demonstration, role play, presentations, among others.

Additional Support Required by Teachers

The study explored areas in which teachers required additional support and training. Over 60% of teachers said that grade-wise content planning and delivery is a key area where support is needed followed by feedback and assessment with 26% responses; time management with 26% responses; and grouping strategies in multi-grade classrooms with 20% responses.

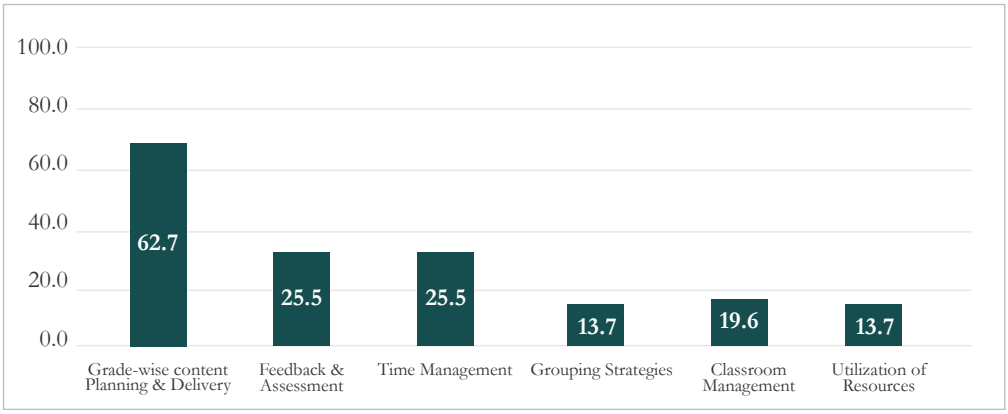


Figure 6: Areas where teachers need additional support

Recommendations

Following recommendations were made by SAHE based on the findings of the evaluation study.

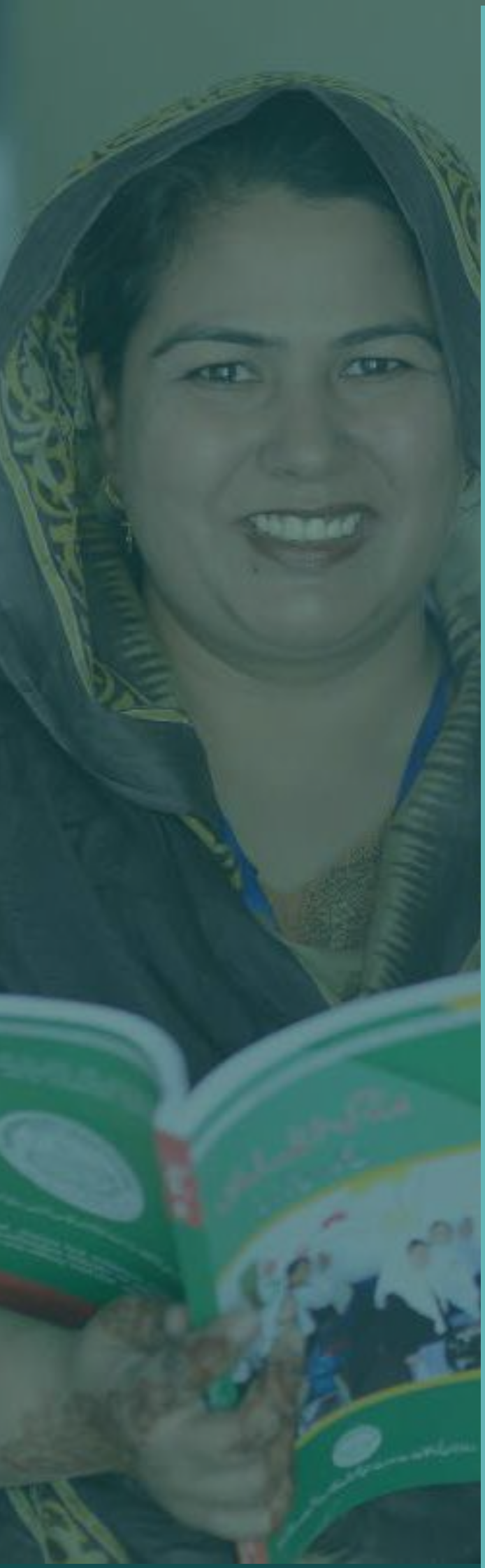
- Introducing more demonstration/microteaching components in the training, and supporting teachers in areas of classroom management, resourcing, and lesson planning can be useful.

- Ongoing professional development should be ensured through teacher support networks and MTs to ease their burden of adapting to the changes in teaching practices, required in the context of the MGT model. Social media and messaging platforms such as WhatsApp can also be leveraged to this end.

- A significant majority of teachers have not attended MGT-related training during pre-service or in-service training. MGT pilot provided 6-days training to the teachers, which was the first of its kind. Organisation of CPD programme and refreshers around specific themes may be useful in facilitating the teaching-learning process.

- Teacher education programmes should include robust components on MGT including the practical dimensions There needs to be special emphasis on content areas in the context of MGT.

- Multigrade T&L resources should be made available to the multigrade teachers as far as possible in printed form. Access to Multigrade T&L resources will help reduce the teacher planning and preparation time, align learning goals of different grades, and promote greater time-on-task and on learning activities directed towards learning goals. The availability of workbooks, supplementary reading materials, low-cost activity material as per content need, SLOs, and unit/topics specifically for MGT schools must be ensured.



SECTION

5

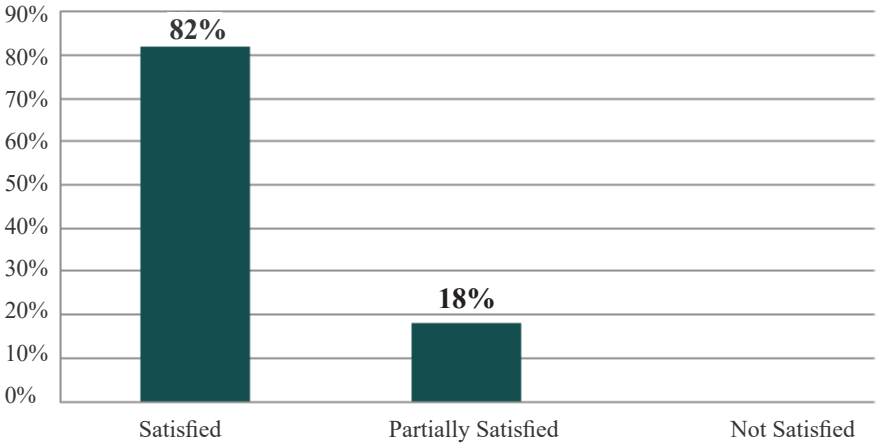
Teacher's Survey Results

Teacher's Survey Results

While SAHE's evaluation study focused on assessing the usefulness and impact of the training in classrooms right after its conclusion, the teachers' survey by B-TAG was carried out almost two years after the pilot training was provided. Through interviews with the teachers, the team gained insights into the current state of MGT, identifying gaps and challenges that teachers experienced as they had time to apply and reflect on their learnings. The survey provided a nuanced understanding of how multigrade classroom teaching evolved two years after the teachers' training.

Among the 22 teachers who were interviewed, 18 agreed that the training was extremely useful.

Below are the findings of the teachers' survey.



The other 4 remarked that the training was beneficial but with room for improvement. In subsequent questions, 20 out of the 22 teachers said that their ability to pay equitable attention to the students of different grades in their classroom, the students' engagement levels in the classrooms, and the students' academic performances "greatly improved" as a result of the training.

Effectiveness of Learning Resources:

The teachers were asked about 4 specific resources that they were provided with during and at the end of the training. Their feedback is as follows:

Feedback on Academic Calendar

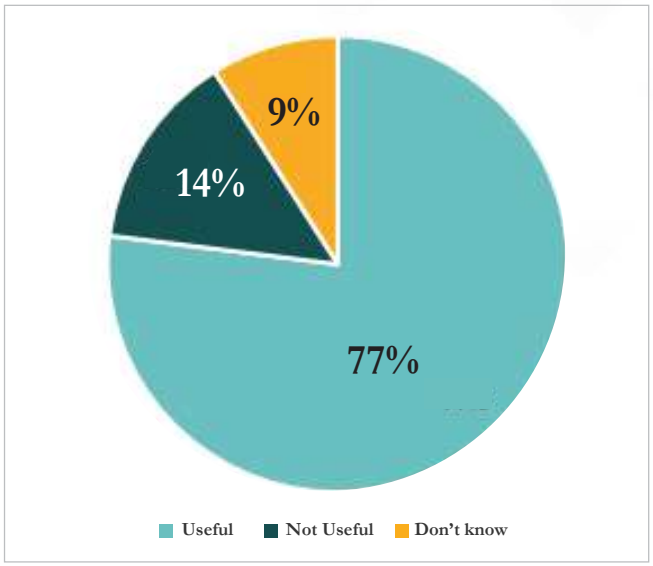


Figure 8: Academic Calendars

On academic calendar, 17 out of 22 teachers agreed that they were useful.

Dividing the academic year in advance according to lessons to be taught in each term helps them organise their lessons better. With the availability of calendar, teachers were able to finish their curricula more efficiently. However, several teachers pointed out that they often had to modify the calendar according to the on-ground situation in their classroom. Two teachers did not recall receiving a calendar, while three found them unhelpful, emphasising redundancy with the curriculum-structured calendars issued by the Punjab Curriculum and Textbook Board.

Feedback on Lesson Plans

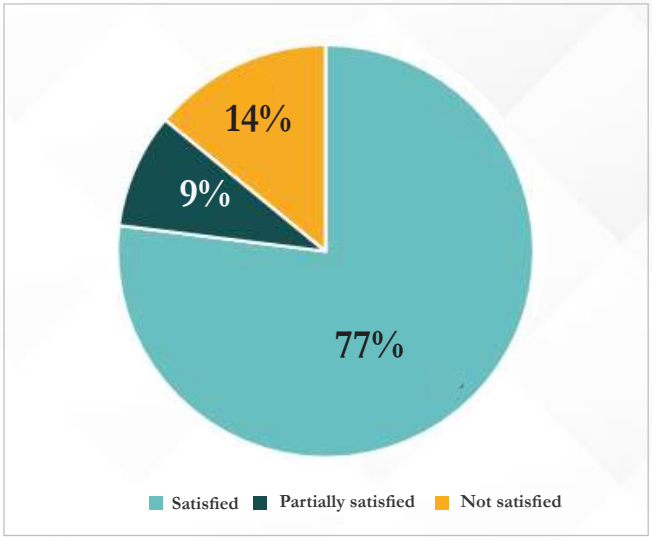


Figure 9: Lesson Plans

As with academic calendars, all the teachers agreed that the training helped them in creating as well as following lesson plans for their classes. However, two teachers highlighted challenges in the implementation of complete lesson plans due to multiple teaching responsibilities and non-teaching duties. Two teachers deemed lesson planning impractical given their workload, while one teacher admitted creating plans solely for documentation purposes.

Feedback on utility of Worksheets

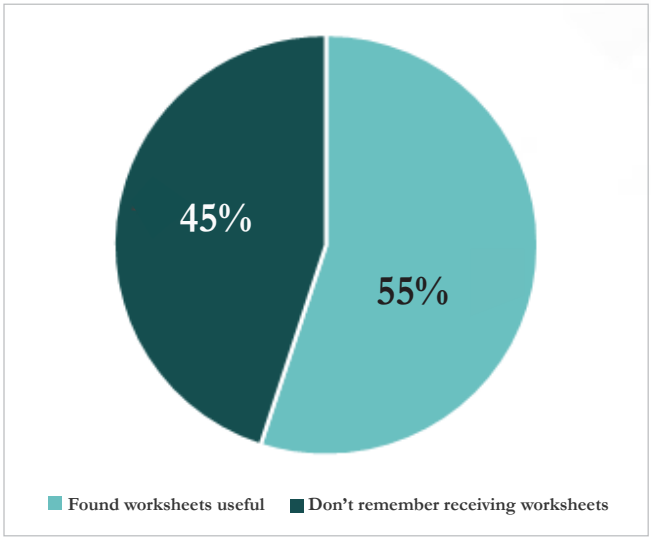


Figure 10: Worksheets

Teachers were divided in terms of utility of the worksheets provided during the training. Of the teachers who were interviewed, only nine commented that they were useful. Interestingly, most of them did not remember having received any worksheets during the training. One teacher commented that since only a small number of worksheets were provided, they offered very limited utility to the teachers.

Among the teachers who found the worksheets useful, one teacher remarked on the usefulness of worksheets as templates for subsequent assignments. Another teacher remarked that the worksheets proved very helpful for assignments in class and that he has continued to download similar worksheets from the internet and use them in his classrooms.

Feedback on Formative Assessment Strategies

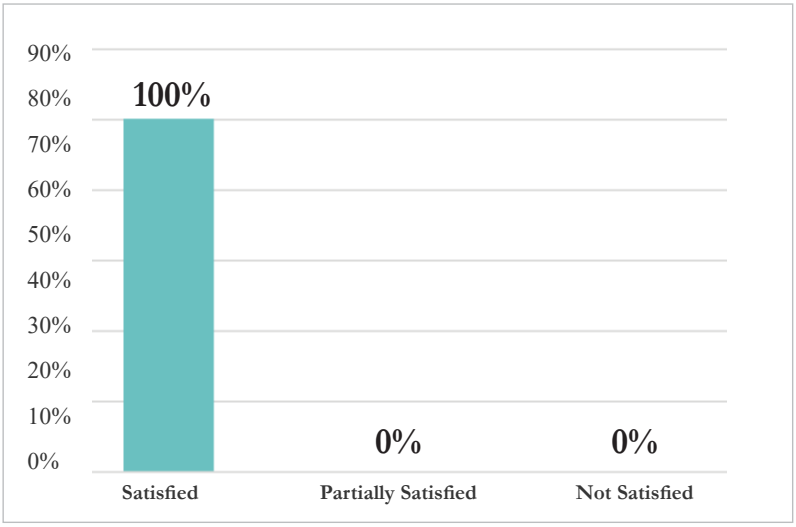


Figure 11: Formative Assessment Strategies

Teachers acknowledged the significance of being able to assess students' progress through formative assessment and obtaining feedback at the conclusion of lessons.

They valued the immediate feedback provided through this approach, as it offered them the chance to improve their teaching methods. The practical demonstrations of formative assessment during their training were well-received by teachers, and they were able to effectively implement these techniques in their own classrooms. A teacher expressed that, "prior to the training, we didn't incorporate formative assessments of students. Assessing their understanding regularly now allows us to gauge the effectiveness of our teaching and make necessary adjustments."

Multigrade Teaching Strategies

The teachers participating in the study identified seven specific strategies that have significantly enhanced their effectiveness in teaching and managing multigrade classrooms since undergoing training. These strategies are outlined below:

Lesson planning:

Teachers reported a renewed understanding of the importance of lesson planning as a positive outcome of multigrade teaching training. Despite facing limitations due to their heavy workload, nearly all teachers appreciated the techniques learned for planning lessons and activities. This included the clubbing together of similar topics for students across multiple grades, enabling better completion of SLOs outlined in the academic calendar. Preplanning lessons and activities also facilitated the grouping of students, contributing to enhanced engagemen through activity-based learning.

Teaching common topics together:

Teaching common topics to students of both grades emerged as a key strategy learned during training. At least 4 teachers described the approach of clubbing and teaching common SLOs together as "a new technique."

> *This innovative method involves introducing a new topic to lower-grade students and concurrently presenting detailed content to higher-grade students.*

The benefits of this approach include improved curriculum coverage, simultaneous engagement of all students, effective peer-learning groups, and the development of confidence and social skills among students across grades. It also allows for more efficient school administration by enabling schools to join the classes with the greatest number of common SLOs, such as the classes 4 and 5.

Employing activity-based teaching:

Teachers learned to implement activity-based teaching during training, such as engaging students in painting, charts making. The teachers appreciated that the training modules themselves were delivered in an activity-based manner. As a result of adopting this strategy, teachers observed increased student interest and improvements in their own ability to manage multigrade classrooms. According to one teacher, "students used to fall asleep in class but now everyone stays alert and willing to participate." Another teacher remarked that students now learn while playing, which was not possible in the older "traditional way of teaching."

> *This approach also allowed teachers to involve one grade's students in an activity before instructing the other class, enabling them to manage their classes more efficiently.*

Grouping students of different grades and abilities:

Teachers shared that the strategy of combining different grades/class students into groups approach has resulted in numerous benefits.

» Collaborative Learning: Grouping students together has encouraged collaboration on various assignments and projects. This collaborative effort exposes students to different perspectives and ideas, fostering a richer learning experience.

» Peer Assistance: Working in groups provides students with the opportunity to help and learn from their peers. Students share their strengths and support each other in different subjects Urdu, English, Mathematics and Science. This promotes a sense of integration and mutual learning.

» Social Skill Development: Interacting with peers in a collaborative setting enhances students' social skills. They learn to communicate effectively, negotiate differences of opinion, work together, share space and resources such as seating, board and other low and no cost materials. These interpersonal skills are crucial for success both in and outside the classroom.

» Improved Classroom Management: When students are engaged in meaningful collaborative activities, there is often a decrease in disruptive behaviour, as they are more focused on the task at hand and the dynamics within their groups.

Arranging the physical space of the class room for more conducive learning:

The benefits of the above-mentioned strategies are best achieved when the physical space of the classrooms is optimally arranged. Several teachers highlighted the significance of well-thought-out seating plans, which prove instrumental in facilitating effective grouping and activity-based learning. Specifically, the adoption of a "u-shaped" seating arrangement was emphasized by teachers as a particularly effective method of organizing the classroom.

Furthermore, teachers underscored the importance of dividing the blackboard or whiteboard into dedicated sections for each grade. This practice not only helps in clearly delineating the distinct SLOs but also ensures that all students could actively participate in the lesson or activity. One teacher shared her method of partitioning the classroom into separate sections for different subjects such as math, science, Urdu, and English. In this arrangement, students sit according to the specific topic being covered during a given period. The meticulous organization of the physical space plays a pivotal role in optimizing the learning environment.

Using low-cost, no-cost teaching aids and printed material:

The teachers also mentioned the effectiveness of utilising low-cost, no-cost teaching aids, such as plants, sand, paper cuttings, and artificial fruits, to enhance their lessons. Moreover, they utilise materials provided by the government, such as printed cards and blocks, for better student engagement. Several teachers also mentioned using charts, worksheets, and small whiteboards in individual and group activities, while at least one teacher mentioned building a digital library for these resources, which can be printed when needed.

Formative assessments:

Teachers recognised the importance of regularly assessing students' learning through formative assessments and gathering end-of-lesson feedback. They appreciated the direct feedback they receive in this manner and the opportunity it provides to improve their teaching practices. The teachers appreciated the practical demonstrations of formative assessments during their training, which they successfully replicated in their classrooms. One of the teachers commented, "we did not use to take formative assessments from students before the training. Regularly assessing if the students are following the lesson really helps us understand what is working and what adjustments we need to make."

Mentoring Support from AEOs and Head Teachers

In the context of multigrade teaching environments, where a single teacher is tasked with instructing students from different grade levels within the same classroom, the HTs and AEOs play pivotal roles. This was acknowledged by majority of the teachers.

HTs and AEOs are instrumental in addressing challenges such as ensuring flexibility in adhering to the curriculum, lesson plans, and academic calendars to accommodate the diverse learning needs within the classroom.

Existing implementation challenges and how to respond to them

The teachers involved in the research highlighted various challenges that they face in multigrade classrooms. These include frequent disparity between actual situations and the idealised scenarios presented in training. To enhance the training's comprehensiveness and align it better with real-life situations, they proposed the inclusion of several additional components.

Strategies for teaching students of different learning abilities and from different economic backgrounds:

Teachers highlighted the diverse learning abilities among students, including those with special needs, as a significant challenge they continue to face. Additionally, they noted the poor economic backgrounds of their students, which leads to students having limited motivation and support from families and contributing to high rates of student absenteeism. To address these challenges, teachers recommended incorporating training components that better prepare them for the varied circumstances encountered in their classrooms.

Strategies for involving students in the instruction process:

One of the strategies teachers mentioned that could prove very helpful in multigrade teaching is involving students themselves in instruction and classroom management. This would divide students into groups and encourage peer learning, allowing the higher-grade students in a multigrade classroom to help the teacher teach a topic to lower-grade students could both ease the teachers' burden and open new opportunities of peer learning and social skill learning among students of both grades.

Real life practicum

Finally, several teachers remarked that there should be at least one day in the training in which they practically engage with primary level students in a real classroom setting, supervised by trainers. This hands-on experience would allow teachers to apply the strategies learned in training, providing an opportunity for both trainers and trainees to reflect on the effectiveness of different training components. Moreover, it will allow for the recognition of, and subsequent adaptation of training for, those aspects of real-life scenarios that teachers pointed out as not being reflected enough in the present training.

Recurrence of training:

The teachers articulated a unanimous recommendation for the recurring provision of professional training for teaching in multigrade classrooms. Emphasising the dynamic nature of education and the ever-evolving strategies and methodologies, teachers highlighted the necessity for ongoing training sessions. They underscored the value of these sessions in continually expanding their knowledge base, receiving crucial feedback, and staying motivated.

Moreover, they pointed out the risk of their skills slowly deteriorating over time and emphasised the need for regular training opportunities to keep their expertise refreshed.

Strengthened monitoring and mentoring mechanisms:

A critical observation made by teachers during the study was the absence of feedback mechanisms regarding the training's practical application and the lack of monitoring mechanisms to assess the effectiveness and areas of improvement for multigrade teaching strategies. The teachers emphasised the importance of implementing robust monitoring mechanisms as a fundamental element in the educational landscape. Teachers also felt that the mentoring support provided to them by the HTs and AEOs can be improved if they are also trained or given an orientation on MGT strategies.

SECTION

6

Recommendations & Way Forward

Recommendations and Way Forward

In this section, we outline a set of recommendations designed to improve MGT in Punjab. These recommendations stem from an analysis of the findings presented in this report and are detailed below.

Officially Adopting the Multigrade Teaching and Learning Strategy

The Multigrade Teaching and Learning Strategy, developed in 2021, outlines five overarching goals aimed at collectively realising the SED's vision for multigrade teaching and learning. It provides a detailed roadmap of policy actions necessary to achieve these goals. To ensure effective implementation of the strategy, its approval and notification are imperative. This will transform interventions directed at MGT in schools from isolated efforts (as observed in the PESP-II Extended Pilot programme) into continuous and sustainable initiatives. Additionally, it will facilitate collaboration with development partners and other donor-led initiatives.

> ***For the government to officially adopt Multigrade Teaching & Learning Strategy, there needs to be stronger advocacy efforts to raise awareness about the benefits of adopting the strategy and the importance of accommodating diverse classroom settings within official policies especially because the current policies are essentially catering to only 15 % monograde schools.***

This could involve engaging key stakeholders, including policymakers, educators, and community members, to garner support for the adoption of the strategy.

Using teachers' feedback and evaluation results to improve MGT Training Content

Based on the feedback received from the participants, evaluation studies and insights from the field, MGT training content should be reviewed and refined as required. Feedback should be considered to shape the training content design and delivery, including the development of T&L materials to better equip teachers for the diverse circumstances they encounter in their classrooms. Conscious efforts should be directed towards aligning the content with on-the-ground realities, emphasising MGT strategies, and addressing real-life challenges faced by teachers, such as classroom management, handling students with varying abilities and low socio-economic backgrounds, and managing large class sizes.

More opportunities should be provided to teachers to present their lessons in front of their peers, trainers, mentors and coaches, fostering a collaborative learning environment.

This practical aspect can significantly enhance the application of learned strategies in real classroom scenarios.

MGT refresher training

As an integral part of teachers' CPD, regular refresher sessions for MGT training are recommended. These refresher trainings should centre on reflection and feedback from classroom teaching, addressing the identified gap in real-life practicum, as emphasised by the participants. A refresher training proves beneficial as it focuses on ever-evolving strategies and methodologies. The sessions will facilitate the continual expansion of teachers' knowledge base, provide crucial feedback, and help maintain high motivation levels. Without consistent refreshers, teaching skills may gradually decline over time, emphasising the necessity for regular training opportunities to keep educators' expertise up to date.

Mentoring by AEOs, supported by the HTs

HTs play a crucial role in providing support and mentoring for teachers. Establishing robust support mechanisms through both HTs and AEOs is imperative. Currently, there is a gap in follow-up and feedback mechanisms for the teachers who receive MGT training once they return to their classrooms after training. AEOs, serving as mentors, should conduct follow-up visits, observing teachers engaging with students in actual classroom settings and implementing MGT strategies learnt through MGT training.

Teachers should be encouraged to maintain reflective journals, documenting the lessons applied, their success stories, encountered challenges, and how they addressed them. AEOs and HTs should engage in discussions based on these reflections, and trainers should incorporate them into subsequent refresher courses.

This approach allows teachers to apply the strategies learned in training, offering an opportunity for both trainers and trainees to reflect on the effectiveness of different training components and get feedback on their practices.

Moreover, this process enables the recognition and adaptation of training based on aspects of real-life scenarios that teachers identified as not being adequately reflected in the current training.

Integration of MGT Training into Teacher Education Programmes

MGT training should be incorporated into pre-service teacher education programmes. Many teachers completing these pre-service

training programmes are often unaware of the unique challenges associated with the MGT. Teacher education programmes need to integrate robust components focusing on MGT, encompassing both theoretical understanding and practical dimensions. Given the number of schools in Punjab where MGT is in practice, there is a need to put a special emphasis on content areas within the context of MGT in teacher education programmes to ensure that teachers are adequately prepared and equipped with the necessary knowledge and skills to teach in MG classrooms.

Scaling up MGT training

Following the MGT training pilot programme conducted by QAED in January 2022, there hasn't been any further expansion. The three-month content was developed for three grade combinations:

ECCE- Grade 1, 2, 3, 4 & 5 approximately 9000 teachers across 21 districts trained.

Drawing from the lessons learned during the pilot, QAED should inform improvements in the MGT pilot content and design and proceed to expand and scale up the program. This scaling-up initiative should involve:

01 Development of content for agreed grade combinations for the remaining academic year, ensuring comprehensive coverage.

02 Scaling up the MGT programme to include four-teacher schools in Punjab, broadening the impact of the initiative.

Revised COT for MGT

In Punjab, the data on teaching practices is collected through COT, employed by the AEOs from the SED. A total of 11 practices have been included in COT and training modules for all 11 practices have been developed to ensure teachers, HTs and AEOs understand these practices and are able to implement and observe them as needed. COT does not consider multi-grade classrooms and AEOs are supposed to use the same tool for classroom observation. This raises a need to review practices in COT for improved alignment with desirable outcomes, make additions as required and develop training modules on new practices to enhance understanding of teachers, HTs and AEOs. Once the training module is developed, it should be disseminated to all primary school teachers, HTs and AEOs for their understanding, use and implementation of the COT.

> ***Furthermore, the results obtained from COT should be analysed and utilised to inform future training sessions, ensuring a continuous improvement cycle based on real-time data insights.***

Capacity Building for AEOs and HTs

AEOs and HTs hold pivotal roles in providing school-based CPD support to teachers. It is essential to provide them with an orientation on MGT strategies, training on best practices, and equipping them with skills and tools for continuous support to multigrade teachers as part of their professional development. The school-based support facilitated by AEOs, supported by HTs, can significantly help teachers in resolving issues, reflecting on their practices, and gradually improving them.

QAED should strategically plan, design, and deliver training sessions to AEOs, focusing on providing teachers with mentoring and coaching related to MGT issues and challenges. This approach will ensure a robust support system that will increase the effectiveness of MGT in schools.

Development of COP for teachers

Ongoing professional development should be ensured through teacher support networks by extending support to teachers to help ease their burden of adapting to the changes in teaching practices, required in the context of the MGT model. Social media and messaging platforms such as WhatsApp can also be leveraged to this end.

> ***It is very important to develop professional communities of teachers who teach in multigrade setting so that they can develop professional network, collaborate with their peers, learn from each others' challenges and success stories.***

Revised MGT Curriculum to respond to multigrade classrooms

Given the prevalence of multigrade teaching in Punjab, the curriculum should be adapted to cater to multigrade classrooms and teaching and learning resources should be developed accordingly. However, developing a completely new stream for MGT might pose challenges and caveats, including the proclaimed commitment of the government to assign one teacher per grade.

Formative Assessment Strategies for MGT classroom

Formative assessment plays a crucial role in supporting student learning and teacher effectiveness. The present formative assessment strategy, as required in Assessment Policy Framework (APF), has been developed in view of the monograde classroom settings. Providing examples or suggestions for specific formative assessment strategies suitable for multigrade settings would enhance teacher capacity and improve student outcomes. Hence, it is crucial to design and develop formative assessment that caters to the needs of multigrade classrooms.

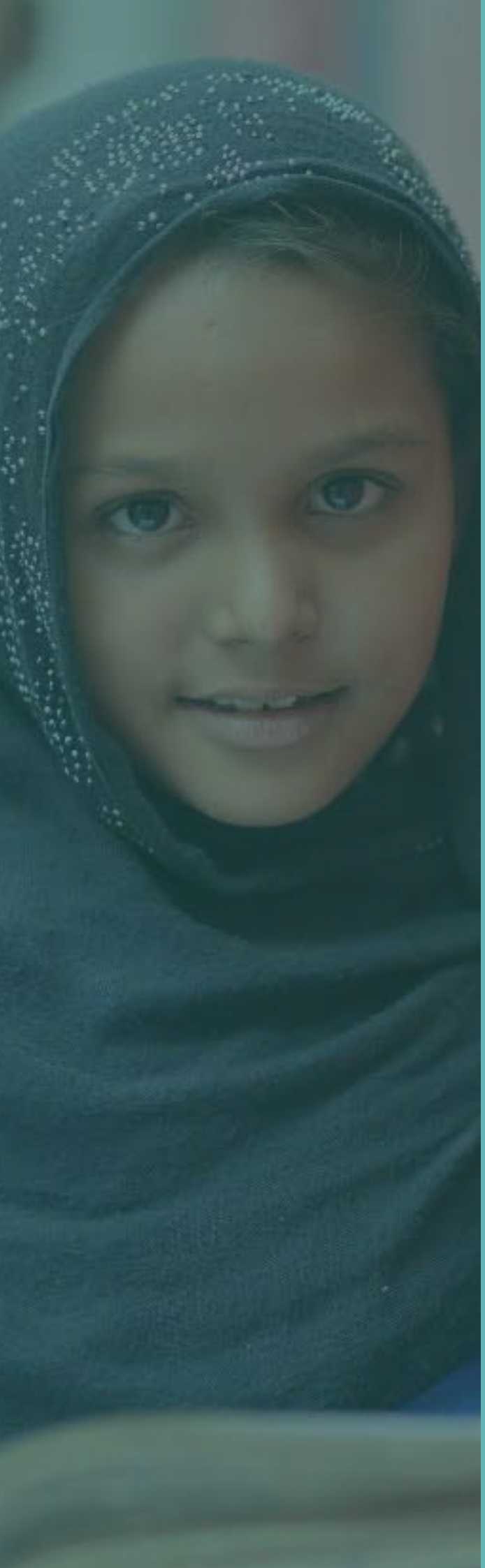
Implementation of these recommendations by QAED and SED holds the potential to bring about improvements in MGT practices across Punjab.

This will result in creating an environment conducive to effective teaching and learning for all children, contributing significantly to improved student learning outcomes and reduced drop-outs, fostering a more enriching educational experience in the context of MGT.

Proposed Solutions:

In line with the recommendations outlined above, below we present the proposed solutions to increase the efficacy of multigrade teaching in the province.

	Proposed Solutions	Responsibility
1.	Engage key stakeholders, such as policymakers, educators, and community leaders, to build momentum for the adoption of the MGT strategy and collaborate with these groups to advocate for government approval and broader recognition of the MGT approach.	TA
2.	Develop a separate COT for multigrade classrooms. Train HTs and AEOs on the tool and use the results from COT to inform future training programmes.	QAED with support from TA
3.	Scale up the MGT training programme based on feedback from teachers and insights from evaluation studies. Deliver the updated content through a blended approach, allowing teachers to learn at their own pace with modular content. Include opportunities for practical classroom application, reflection, and discussions with AEOs and HTs, who will mentor teachers and provide feedback throughout the process.	QAED with support from TA
4.	Develop professional communities of multigrade teachers to foster collaboration and shared learning. Strengthen these communities through a combination of online platforms and in-person meetings, facilitated by AEOs and HTs, to ensure ongoing support and resource sharing.	QAED



SECTION

7

Conclusion

Conclusion

With over 85% of schools in Punjab employing multigrade teaching, it is evident that multigrade teaching has a significant presence in the region. Our comprehensive situation analysis report on MGT in Punjab has shed light on current practices, previous interventions, successes, and implementation challenges, offering valuable insights for future policy decisions and interventions.

The report meticulously examines QAED's Multigrade teacher training pilot programme 2021, which reached out to ~9000 primary school teachers from ~3000 schools. SAHE's evaluation of the programme and the teachers' survey conducted by BTAG revealed overall satisfaction with the training and positive implementation of learned lessons in classrooms. However, teachers also highlighted several challenges they encounter in implementing these lessons, emphasising the need for ongoing support and improved interventions. Additionally, the report underscores the pending approval of the Multigrade Teaching and Learning Strategy 2021 by SED, which holds significant potential for enhancing MGT practices.

Looking ahead, we have outlined a comprehensive set of recommendations aimed at improving MGT practices in Punjab. These recommendations encompass officially adopting the Multigrade Teaching and Learning Strategy 2021, offering refresher courses and scaling up the improved MGT training programme, providing teachers with follow-up support through HTs and AEOs, integrating multigrade training into teacher education programs, developing Communities of Practice (COPs), developing separate Classroom Observation Tool (COT), and developing curricula and assessment strategies tailored to multigrade classrooms. A list of proposed solutions has been presented as well.

It is imperative for QAED and SED to adopt these recommendations and proposed solutions to improve education service delivery in Punjab, with a specific focus on enhancing multigrade teaching practices. By implementing these measures, we can work towards ensuring a more inclusive and effective education system in the region.

Annexure-A
Teachers Interview Questions

Respondent Name: _____
District: _____
Name of School: _____
Teaching Experience (in years): _____

Guide for interviewers

Part 1: Introduction

Help the participant understand how the interview will work and why their feedback is valuable.

1. Introduce yourself.
2. Explain the purpose of this interview and why their input is valued.
3. Get to know the participant.
4. Make them feel comfortable and ask their permission before commencing interview.

Part 2: Questions for data collection

1. Are you teaching multigrade classes currently? (Y/N)

2. If yes, which classes?

_____

3. How useful do you think the training on MG teaching proved to be for you?
(1: Not useful; 2: Somewhat useful; 3: Extremely useful)

4. Are you able to develop executable lesson plans with the help of this training?
(Y/N)

5. Are you able to follow lesson plans more consistently as a result of this training?
(Y/N)

6. Are there any specific strategies you began to use after the training?

_____

7. Did the following resources, provided to you during training, proved useful in your classes:
   a. Formative assessment strategies? **(Y/N)**
   b. Lesson plans? **(Y/N)**
   c. Worksheets? **(Y/N)**

d. Multigrade academic calendar? **(Y/N)**
e. Grouping strategies? **(Y/N)**

8. Has your division of attention to students of each class in your multigrade classrooms improved as a result of the training?
(1: Hasn't improved; 2; Somewhat improved; 3: Greatly improved)

9. How have students' engagement levels changed as a result of the training?
(1: Haven't improved; 2: Somewhat improved; 3 Greatly improved)

10. How has students' academic performance changed?
(1: Haven't improved; 2: Somewhat improved; 3 Greatly improved)

11. According to you, what challenges still exist in teaching multigrade classrooms that were not adequately addressed in the training?

_____

12. Keeping the challenges of multigrade teaching in mind, what are the strategies that you feel should be part of future trainings to better prepare teachers to teach multigrade classes?

_____