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TECHNICAL GUIDANCE

A Monitoring and Evaluation Framework for Blended Learning: Pakistan Ministry of Federal Education and Professional Training

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Abbreviations and acronyms

FDE Federal Directorate of Education

MoFEPT Ministry of Federal Education and Professional Training

M&E Monitoring and evaluation

Executive Summary

In November 2020, Pakistan’s Ministry of Federal Education and Professional Training (MoFEPT) requested EdTech Hub’s support to develop a monitoring and evaluation (M&E) framework for a blended learning pilot being deployed in the federal jurisdiction. This support was to comprise three components:

1. Co-develop an M&E framework and guide
2. Capacity development in M&E framework implementation
3. Help MoFEPT to develop specifications to procure a firm to support research.

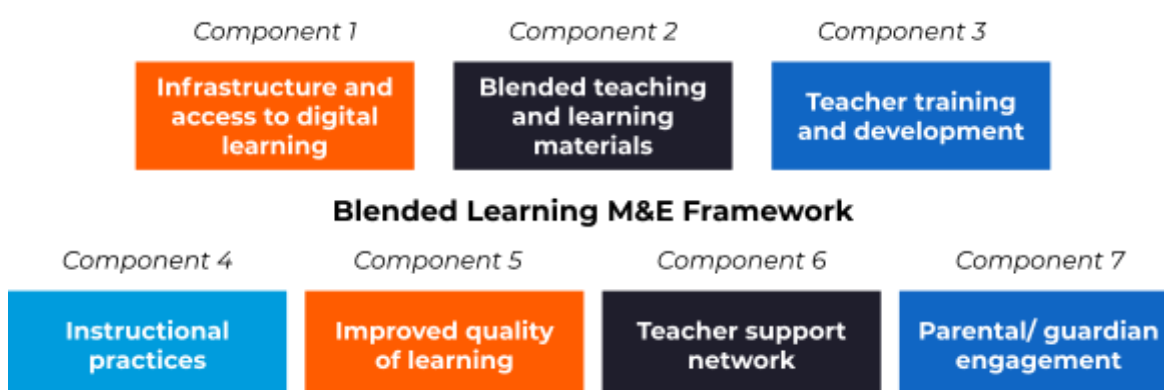
This document addresses the first component — the M&E framework. The second component was also addressed during the framework’s development when EdTech Hub used a co-creation approach to build the capacity of key stakeholders to design and implement M&E frameworks. The third component has been completed but sits outside the scope of this document.

This framework is the result of a two-month-long, iterative, and user-centred design process. During this time, EdTech Hub worked with key stakeholders identified by the MoFEPT. These included representatives from the government, teachers, and content providers. This approach was adopted to:

1. Ensure the M&E framework aligned with the Pakistani context.
2. Foster ownership of the framework among key stakeholders.
3. Ensure a group of stakeholders has the knowledge and skills to support future refinement of the framework.

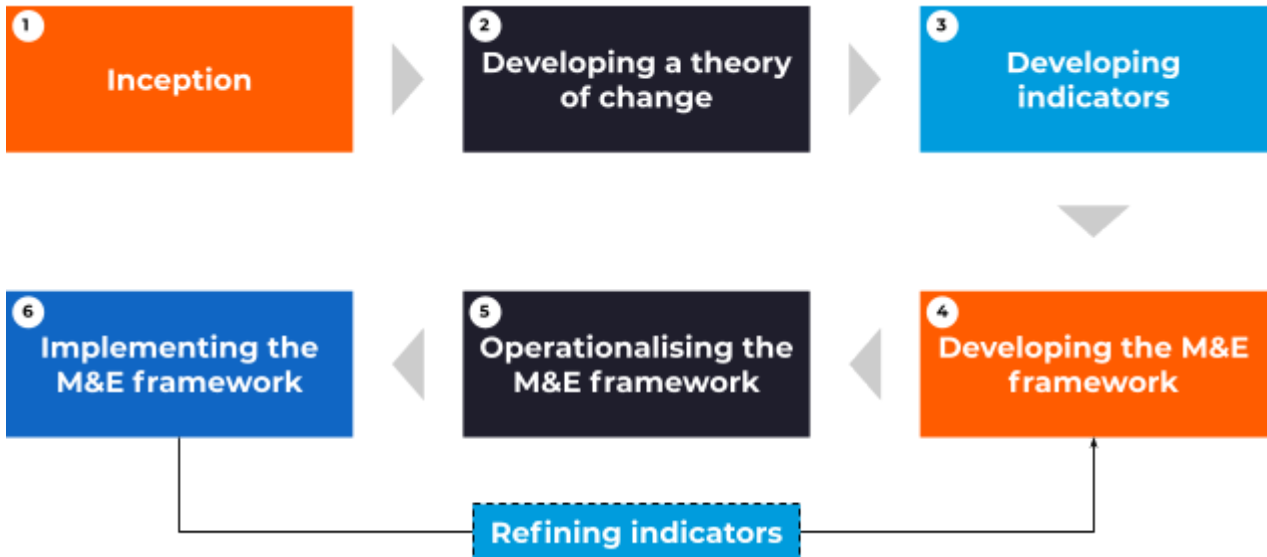
The framework includes the inputs and guidance received from this team of stakeholders, with further refinements informed by international good practices. The result of this process is summarised in Figure 1. The framework comprises seven components, which address the key pedagogical, infrastructural, and procedural objectives of the blended learning project.

Figure 1. *Blended learning M&E framework components.*



While this document presents a first iteration of the M&E framework, the work completed to date and this document are only one part of a larger process. This process is outlined in Figure 2 below.

Figure 2. Process followed for developing and implementing a monitoring and evaluation framework.



EdTech Hub support has focused on steps 1–4 of this process, with this document outlining the output of Step 4. The remaining steps (operationalising the framework and implementing the framework) will be executed by the MoFEPT in the future. With this in mind, this document attempts to provide some guidance to support the work to be undertaken in later steps.

Figure 1 also highlights how designing and implementing an M&E framework is a cyclical, iterative, process. The framework presented in this document should therefore serve as a living document that can be updated beyond this first iteration. Lessons learned during Steps 5 and 6 are expected to be used to refine the framework as the intervention progresses.

Finally, it is important to note that this document serves two purposes. First, the document presents the framework for monitoring and evaluating Pakistan’s blended learning pilot project. Second, while the document has been designed to focus on the Pakistan context it also presents the same design as a global public good. It thus presents content in a way that will help other countries consider how to monitor blended learning programmes / projects at the K-12 level.

1. Background

Pakistan's Ministry of Federal Education and Professional Training (MoFEPT) is embarking on a series of ambitious projects aiming to leverage technology to support education service delivery. One major project is a blended learning pilot in a set of schools in the federal jurisdiction in Islamabad Capital Territory.

The delivery of this pilot requires the MoFEPT to rapidly deliver a range of cutting-edge implementation strategies that have not been previously tested in Pakistan. This includes the procurement and deployment of technology, training of teachers, and implementation of blended pedagogical approaches. To support this initiative the MoFEPT requires a robust monitoring and evaluation (M&E) framework to help them assess whether the initiatives produce the expected impact. The MoFEPT sought support from EdTech Hub to help them design this M&E framework.

Figure 3. *Definitions of monitoring and evaluation.*

Monitoring is the periodic oversight of the implementation of an activity, which seeks to establish the extent to which input deliveries, work schedules, other required actions and targeted outputs are proceeding according to plan so that timely action can be taken to correct deficiencies detected.

Evaluation is a process that attempts to determine as systematically and objectively as possible the relevance, effectiveness, efficiency, and impact of activities in the light of specific objectives.

Subsequently, the EdTech Hub team worked collaboratively with a team identified by the MoFEPT to develop the M&E framework presented in this document. The main M&E approach is presented in Sections 2 and 3. Section 2 presents an M&E matrix of the indicators and sub-indicators to be examined in the M&E process. Section 3 provides a detailed description of each of these indicators and sub-indicators, including related elements such as data source, data collection methods, etc. Section 4 provides an overview of the M&E framework development process. This outlines the work that has been carried out to date, but also provides guidance and templates that can support the remaining work — operationalising and implementing the M&E framework.

2. Monitoring and evaluation matrix

Below is the M&E matrix for the blended learning project. Further details on each indicator are contained in Section 3.

Monitoring and Evaluation Framework — Blended Learning							
Ministry of Federal Education and Professional Training, Government of Pakistan							
Core Component	Indicator #	Indicator	Sub-indicator #	Sub-indicators	Data Required	Data Source	Frequency
Infrastructure and access to digital learning	1	Access to digital learning infrastructure	1.1	Percentage of the students with access to electricity, internet, computers, and digital gadgets	The number of students in schools and homes with electricity, internet, computers and digital gadgets	Infrastructure data by the FDE team	At beginning of project
	2	Access to digital teaching infrastructure	2.1	Percentage of the teacher population with access to electricity, computers, and other digital tools	The number of teachers in schools and homes with electricity, internet, computers and digital gadgets	Infrastructure data by the FDE team	Yearly
Blended teaching and learning materials	3	Blended learning material availability	3.1	Amount of learning materials available to students by grade and by type (multimedia, text, audio, videos, etc.)	The number of blended learning materials available online and in schools	Learning resources (online) data from the blended learning solutions provider and from the FDE / schools (in-schools)	Project initiation and then monthly
	4	Blended teaching resource availability	4.1	Amount of teaching materials available to teachers by grade and by type (multimedia, text, audio, videos, etc.)	The number of teaching materials available online and in schools.	Teaching resources (online) data from the blended learning solutions provider and from the FDE / schools (in-schools)	Project initiation and then monthly
			4.2	Number of scripted blended learning lesson plans available to teachers by grade	The number of lesson plans available online and in schools.	Teaching resources (online) data from the blended learning solutions provider and from the FDE / schools (in-schools)	Project initiation and then monthly
	5	Blended learning material use	5.1	Percentage of students using blended learning resources by grade and subject	Usage statistics for the blended learning materials	Attendance sheets (in-school) and web / mobile analytics (online)	Monthly
			5.2	Completion rate of blended learning lessons by subject and grade	Usage statistics for the blended learning materials	Classwork data from teachers (in-school) and analytics (online)	Project initiation and then

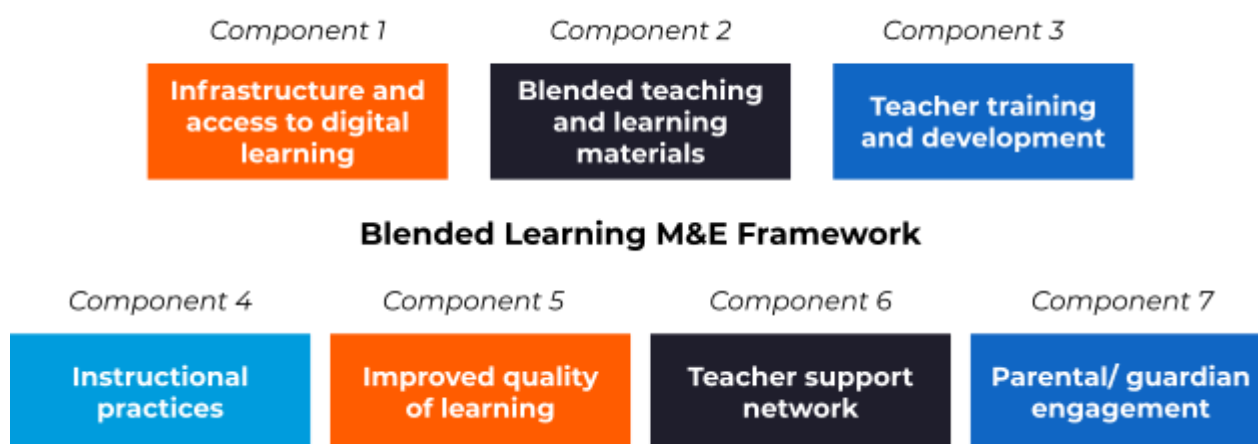
	6	Inclusiveness of blended learning materials	6.1	Percentage of learning materials designed to be inclusive for different genders, special needs, language and religion	The number of learning materials that meet the inclusiveness criteria for gender, special needs, language and religion.	Learning resources (online) data from the blended learning solutions provider and from the FDE / schools (in-school)	quarterly
			6.2	Percentage of blended learning materials that carry clear learning objectives with real-life examples	The number of learning materials that meet the criteria for clarity of objectives.	Learning resources (online) data from the blended learning solutions provider and from the FDE / schools (in-school)	Project initiation and then quarterly
Teacher training and development	7	Teacher training on blended learning	7.1	Percentage of teachers trained by grade, subjects and gender	Number of teachers attending training sessions — both face-to-face and remotely	Attendance records from training sessions provided by the FDE, and / or blended learning providers.	Project initiation and then quarterly
	8	Teachers accessing peer-learning	8.1	Percentage of teachers accessing peer-learning opportunities by grade, subjects and gender	Number of teachers accessing peer-learning opportunities both face-to-face and remotely.	Attendance records from training sessions provided by the FDE, and / or blended learning providers.	Quarterly
Instructional practices	9	Understanding blended learning teaching approaches	9.1	Percentage of teachers able to use blended learning approaches by grade, subject, and gender	Blended learning usage data of teachers	Monitoring records from the FDE and / or blended learning providers as well as survey results from teachers	Quarterly
	10	Mastering blended learning teaching approaches	10.1	Percentage of blended learning sessions based on clear learning objectives with real-life examples and in adapted teaching styles	Observation of blended learning sessions for teaching styles	Monitoring records from the FDE and / or blended learning providers as well as survey results from teachers	Monthly
			10.2	Percentage of blended learning sessions engaging students in activities that can help students understand the topics	Observation of blended learning sessions for student engagement	Monitoring records from the FDE and / or blended learning providers as well as survey results from teachers	Monthly
	11	Performance assessment and feedback to students	11.1	Percentage of performance assessments that capture an array of knowledge, skills and behaviours	Assessments used by teachers	Assessment activities and rubrics provided by teachers	Quarterly
			11.2	Percentage of assessment activities, tasks and rubrics that are equitable, inclusive and accessible to all students	Assessments used by teachers	Assessment activities and rubrics provided by teachers	Quarterly
11.3			Percentage of teachers whose	Feedback used by teachers	Feedback notes provided by	Quarterly	

				feedback guidance specifies what good performance is		teachers	
			11.4	Percentage of teachers providing quality information to help students improve	Feedback used by teachers	Feedback notes provided by teachers	Quarterly
			11.5	Percentage of teachers using the scripted blended learning lesson plans	Blended learning plans —usage statistics	Lesson notes provided by teachers (in-school) and app / web analytics usage data provided by the service provider.	Monthly
Teacher support network	12	Support to teachers	12.1	Percentage of head teachers providing classroom support to teachers to implement blended learning	Number of head teachers providing support to teachers	Schools, FDE	Quarterly
			12.2	Percentage of Area Education Managers providing academic support to implement blended learning in the school	Number of Area Education Managers providing support to schools	Schools, FDE	Quarterly
	13	Teacher support networks	13.1	Percentage of teachers participating in online and in-person blended learning / EdTech forums	Number of teachers' contributions to online and in-person forums	Logs and analytics from online forums	Quarterly
Parent / guardian engagement	14	Support of parents / guardians	14.1	Percentage of parents / caregivers recognising the importance of blended learning and supporting the initiative	Number of parents / caregivers who are involved in blended learning activities	Survey and focus group records from parents / caregivers	Six Monthly
Improved quality of learning	15	Learning outcomes	15.1	Percentage of students showing an improvement in learning	Data on students' performance via report cards	Schools and teachers	Quarterly
	16	Digital literacy / skills	16.1	Percentage of students showing improvement in technological competencies	Data on the digital competencies of young people	Tracking logs from app / web systems and observation records from blended learning sessions	Quarterly
	17	Student engagement	17.1	Percentage of students feeling that blended learning is positively changing their learning	The attitudinal data on blended learning from students	Survey and focus group records from young people	Quarterly

3. Components of the blended learning M&E framework

This section describes the components of the M&E framework. The framework was designed around the seven components shown in Figure 4 (the same as Figure 2 given above, reproduced here for the sake of convenience).

Figure 4. *Blended learning M&E framework components.*



In this section, we define each of these components, note the indicators that comprise the components, outline the definition of these indicators, describe the kind of information that should be collected for each indicator, and provide a link to draft tools that have been created, and which can be used to support the collection of data relevant to each indicator.

3.1. Component 1: Infrastructure and access to digital learning

Infrastructure is a prerequisite for any form of blended learning. This component measures the availability of digital infrastructure to both teachers and students in a blended learning project. This includes electricity, devices, internet connectivity, and other digital tools.

Indicator 1: Access to digital learning infrastructure

Insights into this indicator can be informed by assessing Sub-indicator 1.1 — Percentage of the students with access to electricity, internet, computers, and digital gadgets.

Data for this indicator should, for the most part, be collected from the Federal Directorate of Education's (FDE) data system. Where this data is not available additional surveys can be conducted (see, for example, the [Classroom](#)

[Observation Checklist](#) and [School Support Visit Form](#) in Annex 5). Data will likely be in a quantitative format. It is important that any data is disaggregated by key socio-economic metrics (e.g., grade, gender, school location, etc.). This data should be collected once, at the beginning of the project.

As a crucial prerequisite, this indicator should be measured early on and consistently monitored. This allows efforts to be made to correct swiftly any shortcoming(s). As such, any shortcomings in this area should be reported directly to the project managers.

Indicator 2. Access to digital teaching infrastructure

Insights into this indicator can be informed by assessing Sub-indicator 2.1 — Percentage of the teacher population with access to electricity, computers, and other digital tools.

Data for this indicator should, for the most part, be collected from the FDE's data system. Where this data is not available additional surveys can be conducted (see, for example, the [Classroom Observation Checklist](#) and [School Support Visit Form](#) in Annex 5). Data will likely be in a quantitative format. It is important that any data is disaggregated by key socio-economic metrics (e.g., grade, gender, school location, etc.).

As a crucial prerequisite, this indicator should be measured early on and consistently monitored to rectify any shortcoming(s) and or apply swiftly any corrective measure(s) required. As such, any shortcomings in this area should be reported directly to the project managers.

3.2. Component 2: Blended teaching and learning materials

Ensuring the availability of relevant teaching and learning materials is an important part of supporting effective blended teaching and learning practices. This component focuses on measuring the availability of synchronous and asynchronous blended teaching and learning materials for both teachers and students. This includes, but need not be limited to, scripted lesson plans for teachers, audio and video, multimedia teaching and learning activities, digital and printed assessment activities and rubrics. The component also notes the need to measure access to inclusive and gender-sensitive materials in order to cater to the teaching and learning needs of students with diverse backgrounds.

Indicator 3: Blended learning material availability

Insights into this indicator can be informed by assessing Sub-indicator 3.1 — Amount of learning materials available to students by grade and by type (multimedia, text, audio, videos, etc.).

Data for this indicator should mainly be gathered through material distribution lists completed by blended learning service providers, school inventory registers, and monitoring checklists, or surveys completed by school Area Education Officers. Most of the data will likely be in a quantitative format. It is important that data is disaggregated by grade and subjects, and further disaggregation can also be done by school location, for example.

Data for this indicator should be collected on a monthly basis to help rapidly identify and mitigate any shortcomings in the availability of materials.

Indicator 4: Blended teaching resource availability

Insights into this indicator can be informed by assessing Sub-indicator 4.1 — Amount of teaching materials available to teachers by grade and by type (multimedia, text, audio, videos, etc.) and Sub-indicator 4.2 — Number of scripted blended learning lesson plans available to teachers by grade.

For Sub-indicator 4.1, we recommend that the concerned government actors or a review committee authorised by the MoFEPT should use a checklist to monitor resource availability. An example that can be adapted is contained in the [Blended Learning Material Review Checklist](#) in Annex 5. The data collected for this sub-indicator is more analytical and qualitative and should be presented to the ministry through a content review report form.

For Sub-indicator 4.2, data can be gathered using material distribution lists provided by the service providers. School inventory registers, and monitoring checklists or surveys can also be used for this purpose. The data collected for this sub-indicator is likely to be in a quantitative format and should be disaggregated by grade, type of school and subjects, school location, etc.

Data for this indicator should be collected on a monthly basis to help rapidly identify and mitigate any shortcomings in the availability of materials.

Indicator 5: Blended learning material use

Insights into this indicator can be informed by assessing Sub-indicator 5.1 — Percentage of students using blended learning resources by grade and subject, and Sub-indicator 5.2 — Completion rate of blended learning lessons by subject and grade.

For both sub-indicators, data should mainly be gathered through classroom observation, school support visit tools, or surveys by head teachers and ministry staff (see, for example, the [Classroom Observation Checklist](#) and [School Support Visit Form](#) in Annex 5). Most data will be quantitative and should be disaggregated by grade, gender, and subject. Further disaggregation can be done by school location. Data should be recorded, analysed, presented, and reported in statistical tables or reports having a brief

qualitative commentary for each theme or sub-theme. For Sub-indicator 5.1, data should be collected monthly. For Sub-indicator 5.2, data should be collected at the beginning of the project and then quarterly. This timing will ensure that if materials are not being used by students, this can then be identified and addressed immediately.

Indicator 6: Inclusiveness of blended learning materials

Insights into this indicator can be informed by assessing Sub-indicator 6.1 — Percentage of learning materials designed to be inclusive for different genders, special needs, language and religion, and sub-indicator 6.2 — Percentage of blended learning materials that carry clear learning objectives with real-life examples`.

The data for both these sub-indicators should be collected using a content analysis checklist (see, for example, [Blended Learning Material Review Checklist](#) in Annex 5). The concerned directorates of the MoFEPT or a review committee authorised by the MoFEPT should use the proposed or similar checklist. A content analysis review report should be generated for presentation and submission to the ministry.

Data for both sub-indicators should be collected at the beginning of the project and then quarterly. The findings and recommendations of the review report will be useful for the ministry to address any shortcomings in the relevance / contextualisation of the material.

3.3. Component 3: Teacher training and development

Teacher professional development (or training) is at the heart of nearly any pedagogical intervention. This component aims to capture insights into teacher professional development processes at two levels: the number of teachers receiving training events or programmes organised, arranged and delivered by the MoFEPT, and teachers accessing peer-learning.

Indicator 7: Teacher training on blended learning

Insights into this indicator can be informed by assessing Sub-indicator 7.1 — Percentage of teachers trained by grade, subjects and gender.

The data for this indicator should be gathered by using tools and reporting templates such as (see [Participation Registration Form](#) and [Professional Development Training/Event — Narrative Report](#) in Annex 5). The data is mostly in a quantitative format. Statistical reports with brief commentaries on each session or theme introduced in the training events will provide sound information about this indicator. The data should be disaggregated by subject,

gender, type of school (rural and urban), and the duration of each event / session will be important to allow program managers to gain more insight about the indicator and will empower the ministry and service providers to make informed decisions about the design and delivery of the training programme so that the professional learning needs of teachers are well catered for.

Setting indicators related to teacher professional development depends heavily on the design of the professional development opportunities. These should be included as part of the pilot project design. As such, this section should be revised once the design of the training programme is clearer. We have included an overview of effective teacher professional development in Figure 5 to support the design of these activities.

Figure 5. *Effective teacher professional development.*

Strong teacher professional development should serve as the backbone of most educational interventions. Poorly designed training programmes can therefore prevent even the most promising interventions from improving learning outcomes. In *Characteristics of effective teacher education in low- and middle-income countries: What are they and what role can EdTech play?* ([Allier-Gagneur, et al., 2020](#)) the Hub outlines 12 characteristics for effective teacher education, listed below.

1. Encourage teachers to focus on their students' learning.
2. Share effective practices with teachers using modelling.
3. Acknowledge and build on teachers' existing knowledge, views, and experiences.
4. Focus on developing practical subject pedagogy rather than theoretical general pedagogy.
5. Empower teachers to become reflective practitioners and structure teacher education around practice-based cycles of trial and refinement.
6. Incorporate peer support.
7. Ensure teacher education programmes motivate teachers.
8. Prioritise school-based teacher education.
9. Schedule regular, ongoing teacher education.
10. Provide supporting teaching and learning materials.
11. Ensure support from school leaders.
12. Create a coherent policy environment.

Regardless of the design of the peer-learning activities, data for this indicator should be collected at the beginning of the project and then quarterly.

Indicator 8: Teachers accessing peer-learning

Insights into this indicator can be informed by assessing Sub-indicator 8.1 — Percentage of teachers accessing peer-learning opportunities by grade, subjects and gender.

The data for this indicator should be gathered through survey tools or checklists by ministry staff, on a quarterly basis. The data should be disaggregated by subject, age, gender, school type (rural and urban) to provide insight to project managers. The collected data is likely to be available in a quantitative format. The statistical analysis of the data should support the refinement of teacher support systems to ensure effective teaching practices. The information will allow the MoFEPT to further synergise the support mechanisms for teacher professional development.

Setting indicators related to teacher peer-learning depends heavily on the design of the peer-learning opportunities. These should be included as part of the pilot project design. As such, this section should be revised once the design of the training programme is clearer. Regardless of the design of the peer-learning activities, data for this indicator should be collected at the beginning of the project and then quarterly.

3.4. Component 4: Instructional practices

This component focuses on the teaching practices used during the blended learning pilot. The component tracks teachers' ability to use blended learning teaching approaches in the classroom. It also captures information regarding teachers' mastery and adaptation of blended learning approaches in their teaching practices and focuses on information related to teacher behaviour, inclusiveness and equitable learning practices in the classroom. It also provides insights on the quality of the assessment of student performance and the feedback for learning conducted and provided by the teacher.

The information gathered for the components enables the MoFEPT and the service provider to facilitate, equip, and ensure quality blended learning teaching practices in the project's target schools. The data collected for these indicators also empower teachers to reflect on their teaching practices and make pedagogical decisions catering to the needs of students.

Indicator 9: Understanding blended learning teaching approaches

Insights into this indicator can be informed by assessing Sub-indicator 9.1 — Percentage of teachers able to use blended learning approaches by grade, subject, and gender.

Classroom observation and school support visit tools are the best tools for capturing the required information (see, for example, the [Classroom Observation Checklist](#) and [School Support Visit Form](#) in Annex 5). The head teachers, MoFEPT and service provider staff should use these tools to collect information. The collected information is likely to be available in quantitative and qualitative format. This data should then be analysed qualitatively and quantitatively to determine the type, frequency, and duration of using different blended learning teaching approaches by the teachers.

Disaggregated data such as subject, gender, type of school, and grade are important to provide depth of information. The analysis, findings, and reports will enable the respective teachers, head teachers and the MoFEPT to ensure better and timely support and effective implementation of the project.

Indicator 10: Mastering blended learning teaching approaches

Insights into this indicator can be informed by assessing Sub-indicator 10.1 — Percentage of blended learning sessions based on clear learning objectives with real-life examples and in adapted teaching styles, and Sub-indicator 10.2 — Percentage of blended learning sessions engaging students in activities that can help students understand the topics.

Data for both sub-indicators should be collected using classroom observation and school support visits by the MoFEPT staff and service providers using pre-defined tools (see, for example, the [Classroom Observation Checklist](#) and [School Support Visit Form](#) in Annex 5). The data is disaggregated by subject, gender, type of school, and grade to gain in-depth information about the indicator. The collected data is likely to be available in a qualitative and quantitative format. Therefore, the analysis should be done in both formats. The analysis, findings and reports should be shared with the respective teachers, head teachers and the MoFEPT for ensuring better and timely support and effective implementation. The data for both sub-indicators should be collected on a monthly basis.

Indicator 11: Performance assessment and feedback to students

Insights into this indicator can be informed by assessing Sub-indicator 11.1 — Percentage of performance assessments that capture an array of knowledge, skills and behaviours, Sub-indicator 11.2 — Percentage of assessment activities, tasks and rubrics that are equitable, inclusive and accessible to all students, Sub-indicator 11.3 — Percentage of teachers whose feedback guidance specifies what good performance is, Sub-indicator 11.4 — Percentage of teachers providing quality information to help students improve, and

Sub-indicator 11.5 — Percentage of teachers using the scripted blended learning lesson plans.

Data for these indicators should be collected by using classroom observation, analysis of teacher-led scripted lesson plans, assessment rubrics and activities, and student report cards or feedback notes prepared by the teacher (see [Classroom Observation Checklist](#) and [School Support Visit Form](#) in Annex 5). The collected information will likely be available in a qualitative and quantitative format. Data should be disaggregated by subject, gender, grade, and type of school to provide in-depth information. The qualitative and statistical report should be shared with the ministry and service providers, and also with parents. These reports will allow for improvement in blended learning / teaching and assessment practices and will increase the level of parent involvement. Data is collected by the ministry staff, on a quarterly basis except for Sub-indicator 11.5, which is collected monthly.

Similarly to teacher professional development, instructional practices are difficult to assess without an understanding of the pedagogical approaches of the blended learning project. For this reason, these indicators should also be reviewed once a design for material and teacher training programmes is clearer. Figure 6 presents some aspects of effective instructional practices.

Figure 6. *Effective instructional practice.*

The [Education Endowment Foundation](#) has highlighted several low-cost, high-impact teaching and learning strategies that can improve student learning outcomes. Most notably, these include:

- **Feedback:** Providing timely and constructive feedback to students on where they are relative to their learning goals.
- **Metacognition and self-regulation:** Supporting students to understand and manage their own learning processes, through teaching monitoring and planning strategies.
- **Reading comprehension strategies:** Teaching students strategies to better understand written text, such as phonics or inferring meaning from context.
- **Mastery learning:** Making sure that students only progress to working on new learning outcomes once they have become proficient with the previous learning objectives.
- **Collaborative learning:** Students working together in groups to complete learning activities together.

Many of these practices can be embedded within a blended learning model, and technology has the potential to enhance some of these teaching strategies. Tutoring systems, for example, can provide immediate and

specific feedback to students. Similarly, tablets can be used as a tool to encourage collaboration rather than just individual learning.

3.5. Component 5: Teacher support network

Head teachers, principals, and education managers play an instrumental role in supporting teachers to introduce and sustain any changes in in-classroom teaching approaches. This component covers two main aspects of the teacher support systems for the blended learning project. It assesses the support provided by school leaders and education managers in implementing blended learning in classrooms. It also assesses peer-based support and learning opportunities for teachers via EdTech forums.

Indicator 12: Support to teachers

Insights into this indicator can be informed by assessing Sub-indicator 12.1 — Percentage of head teachers providing classroom support to teachers to implement blended learning, and Sub-indicator 12.2 — Percentage of Area Education Managers providing academic support to implement blended learning in the school.

The data for this indicator is largely collected through classroom observations, school support visits (see, for example, the [Classroom Observation Checklist](#) and [School Support Visit Form](#) in Annex 5). The data will likely be available in qualitative and quantitative formative. The data should be disaggregated by grade, gender, subject, and school location.

Data should be reported quarterly to inform the ministry and service providers about any shortcomings in teacher support that need to be addressed in order to effectively implement the blended learning project at classroom and school level.

Indicator 13: Teacher support networks

Insights into this indicator can be informed by assessing Sub-indicator 13.1 — Percentage of teachers participating in online and in-person blended learning / EdTech forums.

Data for this indicator should be collected by using records of teachers' logins on different tools, which should provide insights into duration and frequency of teacher use, and of the type of tools / platforms that teachers logged into. A survey tool will also be useful for collecting and documenting this information. The data will most likely be available in a quantitative format.

The data should also be analysed quarterly via a statistical report shared with the ministry and service providers. This will allow the ministry to make the

required adjustments and alignments in the content and technological tools available to teachers if needed.

3.6. Component 6: Parental / guardian engagement

3.6.1. Definition

Parental involvement and support play an important role in making blended learning successful. This component focuses on the engagement of parents and caregivers with the blended learning pilot.

Indicator: 14: Support of parents / guardians

Insights into this indicator can be informed by assessing Sub-indicator 14.1 — Percentage of parents / caregivers recognising the importance of blended learning and supporting the initiative.

Data for this indicator should be collected through a survey and / or focus group discussions (see [Focus Group Discussion with Parents on the effectiveness of blended learning](#) in Annex 5). The ministry staff or service providers' monitoring staff should collect the data. The data will likely be available in a qualitative and quantitative format.

This indicator should be analysed every six months. The qualitative and statistical analyses will help the ministry ensure that parental support is leveraged to generate momentum and enthusiasm for the project, which is more likely to result in enthusiastic uptake.

3.7. Component 7: Improved quality of learning

3.7.1. Definition

This is at the heart of what the pilot aims to achieve: better learning for students through a blended learning intervention. The component comprises three indicators and a sub-indicator for each one. The component measures the percentage of students who have improved their learning through blended learning and the percentage who have improved their digital literacy skills, while also seeking student feedback on their learning experiences during the pilot.

Indicator 15: Learning outcomes

Insights into this indicator can be informed by assessing Sub-indicator 15.1 — Percentage of students showing an improvement in learning.

Data for this indicator should be collected by tracking students' progress report cards. Other systematic studies e.g., baseline, midline and endline

assessments for student learning should be administered. The tracked information will most likely be available in a quantitative format. The captured information should be analysed and disaggregated by subject, gender, grade, and type of school. The statistical report should be shared with the ministry and service providers.

Data should be gathered by the ministry's staff on a quarterly basis. This will help highlight changes in performance, which can be used to understand whether inputs and outputs are generating positive impacts on learning.

Indicator 16: Digital literacy / skills

Insights into this indicator can be informed by assessing Sub-indicator 16.1 — Percentage of students showing improvement in technological competencies.

Data for this indicator can be gathered through tracking logs embedded into the blended learning tools. These logs can help track the duration and frequency of use by students and the type of tools they logged into and used. The data will most likely be in a quantitative format. This data can be used to categorise the learning with the level of proficiency and self-efficacy. The data is tracked on a quarterly basis and collected by the ministry staff.

Capturing information for this indicator will assist teachers and service providers to offer specified and differentiated teaching and learning support to students. This will boost the confidence and efficacy of learning in using technology.

Indicator 17: Student engagement

Insights into this indicator can be informed by assessing Sub-indicator 17.1 — Percentage of students feeling that blended learning is positively changing their learning.

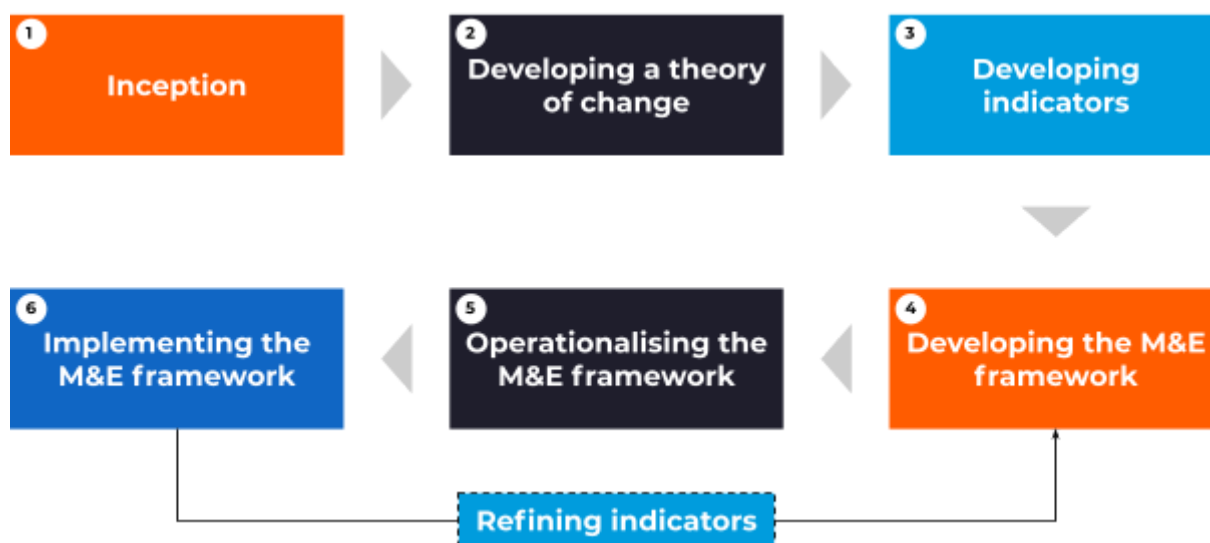
Data for this indicator should be collected using students' login software, which records duration and frequency of use and the type of tools they logged into and used. This information will likely be available in a quantitative format. The data should be analysed to categorise the learning with the level of proficiency and ease of using blended learning resources. Tracking information for this indicator helps the teachers, schools, ministry and the services providers to ensure timely and differentiated support is made available to the students.

The data is tracked on a quarterly basis and is collected by the ministry staff.

4. Developing and implementing M&E frameworks

This section lays out a six-step process for designing and implementing an M&E framework. These six stages are set out in Figure 7 (this is the same as Figure 2 given above, repeated here for convenience).

Figure 7. Process to develop and implement an M&E framework. (The present document contributes to Step 4).



As can be seen in Figure 7, the creation of this framework is Step 4 in the broader process. In terms of Steps 1 to 4, this section describes both the general purpose of each stage and the specific work done as part of this technical assistance to develop this M&E framework. It then provides an overview of the work that still needs to be done in Steps 5 and 6, providing specific examples of activities that can support this future work.

As can also be seen from Figure 7, this process is not simply sequential. It is important to note that M&E is an ever-evolving activity. As such, this framework should be treated as a live document. It should be changed and iterated using the process outlined below, as the ministry's understanding of the programme and the realities on the ground evolve.

4.1. Inception

The inception phase is designed to create a robust foundation for the M&E framework development process. In this stage, stakeholders are convened, expectations harmonised, the purpose of the framework defined, and the work plan and responsibilities laid out for all those involved.

In the inception phase for the Pakistan M&E framework, the EdTech Hub and MoFEPT teams held a meeting to clarify expectations, identify the framework's purpose, and define the context of operation / implementation. The teams worked together to identify key stakeholders, who would either be involved in implementing the M&E framework or would / may be impacted the most by implementing the framework. The participants included a wide range of stakeholders, from ministry staff to content developers, to teachers and heads of schools. A list of representatives from these key stakeholder groups is available in this document as [Annex 2](#). This team was brought together to perform Step 2 in the process: Developing a theory of change.

4.2. Developing a theory of change

A theory of change is a framework to help users understand, test, and refine the assumptions that form the linkages between the various elements of an intervention — inputs, activities, outputs, and outcomes. A theory of change is built on stakeholders' assumptions of how a programme / project is expected to achieve its goals. More details on theories of change can be found in [Annex 1](#) and an example of how a theory of change has recently been built for a remote learning programme can be [found here](#).

In Pakistan, the EdTech Hub team worked closely with the team of participants identified in the inception phase to develop a theory of change for the blended learning project. The theory of change was identified over the course of two virtual workshops, which focused on developing an understanding of user needs with the aim of developing user-centred theories of change. The two workshops were:

- Workshop 1: User needs and personas;
- Workshop 2: User theories of change.

Workshop 1: User needs and personas

During this workshop, the main users and beneficiaries of the blended learning project were identified. User goals and needs were then defined in relation to the project. These details were used by the EdTech Hub team to create initial user personas. The list of users identified is given in Table 1 below.

Table 1. *Users of the Blended Learning Project.*

User group	Details
Students	Including students of different ages (primary, secondary, etc.), students with special educational needs, high- and low-achieving students, and students from disadvantaged areas.
Teachers	Including teachers with different teaching experience (new and veteran teachers), and experience with technology (tech-lovers and those who are afraid of technology).
Ministry staff	Including different government agencies (MoFEPT and FDE) and different jurisdictions (at Federal level). School leaders were also included in this category.
Content Developers	Including the companies hired to develop and deploy the blended learning material.
Parents	Including disadvantaged families.
Researchers	Including people evaluating the project as well as academics who would use this to inform EdTech practice in Pakistan.

Workshop 2: User theories of change

The M&E framework is being designed to assess the deployment and impact of the blended learning project. The three most relevant user groups were selected as the focus of the theories of change: students, teachers and ministry staff. A theory of change was developed for each of these users. These are included in [Annex 2](#).

Following these two workshops, the EdTech Hub team developed a preliminary theory of change for the pilot based on a synthesis of the user-centred theories of change.

Figure 8. *Virtual workshops.*

Due to social-distancing measures resulting from the Covid-19 pandemic, all workshops were conducted virtually via Zoom.

In order to recreate the collaborative nature of in-person workshops, the participants were provided with several ways of providing input:

1. Taking part in break-out room discussions
2. Inserting insights and comments onto the virtual whiteboard during the workshop
3. Writing their comments into the chat function of Zoom when technical difficulties prevented speaking or using the whiteboard
4. Offline participation via providing feedback on interim deliverables via email

This draft theory of change was refined in line with international examples of other blended learning programmes, which provided input into the structure of the theory of change and helped identify potential gaps.

4.3. Developing indicators

After developing a theory of change, the next step in creating an M&E framework is to define the indicators that need to be measured to understand whether the theory of change is in fact reflected in the realities on the ground. This process should focus on identifying indicators that are pivotal to providing insights into the success of an intervention. A spread of input, process / activity, output, and outcome indicators helps to provide insights into both implementation fidelity (is the initiative being implemented correctly?) and impact (is the intervention generating the expected impacts?).

After developing the aforementioned theories of change the EdTech Hub team worked with the stakeholders to identify indicators against which to measure progress. The team conducted two further workshops to do this.

Workshop 3: Clarifying and unpacking objectives

This workshop was guided by the question '*What do the objectives highlighted in the theory of change look like on the ground?*' This workshop deliberately avoided using the term 'indicator' so as not to limit participants' thinking to easily measurable benchmarks, such as satisfaction surveys.

Workshop 4: Developing and prioritising indicators

After defining the objectives, the EdTech Hub team developed and shared an initial indicator list with the participants. These were then discussed and reviewed by the participants according to their importance and how well they reflected their definitions of the objectives developed in the previous workshop.

After the prioritisation exercise, the EdTech Hub team developed an M&E matrix and populated it with indicators using the information gathered through Workshops 3 and 4. The Hub team validated the populated matrix with participants and proposed the methods for data collection, the unit responsible for the particular indicator and how often the M&E processes should be conducted for the indicator in question.

This set of indicators was then further refined based on a series of discussions with the MoFEPT team and comparisons with international examples. Feasibility and cost were also key factors in refining the indicators at this point.

Figure 9. *The role of international effective practice.*

While using international experience can allow for more effective practice, misusing 'global best practice' to develop an M&E framework can lead to a non-contextualised and generic set of indicators not fit for purpose. For this reason, this process carefully uses international benchmarks at specific points to ensure the output aligns with the context. These points include:

- **The initial process:** international effective practice has indicated that having participatory and iterative approaches to the development of M&E frameworks leads to more effective M&E processes.
- **Structuring the theory of change and filling gaps:** Due to the user-centred approach to developing the theory of change, the initial draft did not cover some of the system-level activities and objectives. Exploring similar theories of change allowed the team to fill those gaps and structure the theory of change so that it is user-centred and maintains a systems-level lens.
- **Examples of indicators:** Once the objectives were agreed upon, the team explored examples of indicators used to measure similar objectives. Some of these were included within the final M&E matrix.

4.4. Developing and refining the monitoring and evaluation framework

Monitoring and evaluation frameworks are designed to guide the M&E processes related to a specific programme / project. They should document the metrics to be monitored in order to understand the success or otherwise of project delivery. However, to the extent possible, they should also go beyond metrics and discuss the 'how and why' of data collection. This is the point at which this document was developed.

After working closely with MoFEPT counterparts to develop and refine the M&E matrix, the EdTech Hub team developed this M&E framework. It is important to note that this should not be treated as a final report. Instead, it should be viewed as a live document open to change and evolution as the project is refined.

Additionally, there are a number of steps that must still occur to ensure this M&E framework can be utilised to generate insights into Pakistan's blended learning project. These steps — operationalising the M&E framework and implementing the M&E — are detailed below.

4.5. Operationalising the monitoring and evaluation framework

Operationalising an M&E framework is a key step in ensuring that the framework generates useful insights into relevant programmes / projects. In order to operationalise this framework, the following steps need to be taken.

4.5.1. Identify and engage stakeholders

The first step in operationalising an M&E framework successfully is to accurately understand, identify, and engage the M&E stakeholders. Different stakeholders will engage with the M&E framework and activities and it is important to capture their interests and involvement as early as possible in the process. Stakeholders in an M&E framework include the intended users of the framework (e.g., MoFEPT) and others who will be involved in project delivery (e.g., content providers), as well as those who will be affected by the decisions made during and after the M&E processes (teachers, parents, students, etc.). The primary intended users are those who will be making the decisions based on the data collected.

4.5.2. Establish the decision-making processes

There are many decisions to be made during M&E processes. These include decisions on how data will be collected and analysed, who is responsible for different activities, and how results will be disseminated, among other things. Therefore, a key step in operationalising the M&E framework is to establish a decision-making process so as to ensure agreements can be reached on how decisions will be made. A possible way to operationalise this is to have an advisory or steering group tasked with reviewing materials and making suggestions to those who make final decisions.

4.5.3. Identify who is responsible for monitoring and evaluation activities

It is important to decide who will be responsible for M&E activities. This could include contractors, permanent staff, or a combination of these. While an

external consultant may be viewed as independent and credible by funders or other stakeholders, involving ministry staff is vital for internalising lessons learnt as well as capacity building.

4.5.4. Identify and secure resources for monitoring and evaluation activities

The resources needed to carry out rigorous M&E activities are often underestimated. It is important to identify both internal resources such as staff time, money, and skills, as well as external resources such as participants' time. The budget available could have an impact on the scope and rigour of the M&E activities. It is therefore important to first see what is available and what can be achieved with the resources. It is often better to do fewer activities of higher quality than more activities that are less robust.

4.5.5. Define ethical and quality standards

It is important to clearly define what the ethical and quality standards are for the M&E process and what will be done to ensure these standards are met. Examples to consider include defining transparency, independence, and impartiality requirements. Ethical standards include specifying the details about data collection, data protection, and data use. After these have been specified, it is then important to determine what actions need to be taken to ensure standards are met.

4.5.6. Strengthen evaluation capacity

To get the best results from M&E processes, it is important that personnel have the capacity and knowledge to deliver on all activities. This goes beyond one-off training or sensitisation. It involves working with personnel to identify competency gaps and designing capacity building activities targeted at filling these gaps. Some common areas include M&E plan design, data collection, data analysis, logic model, and theory of change creation.

4.6. Implementing the monitoring and evaluation framework

A key goal of the M&E framework is to inform the design and refinement of the blended learning project. The process for collecting and analysing data should therefore be linked to the project design and decision-making processes. This means there should be a direct reporting line to project designers as well as mechanisms to pivot and change the direction of the project as needed.

The following steps outline the key activities required to implement the M&E framework in a way that fully achieves these purposes.

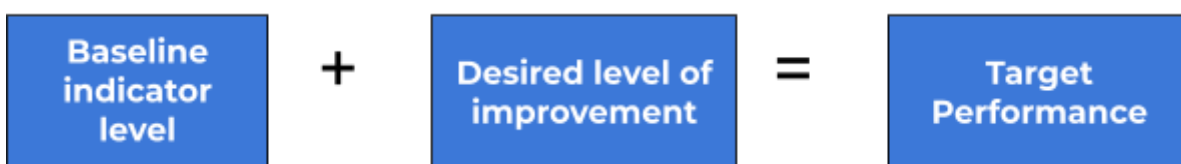
4.6.1. Establish and gather baseline indicator data

An M&E system needs a baseline to serve as a reference point for the purpose of comparison as activities progress during a project. Reference points are often set at the start of a project (or an activity), however, for various reasons, it might not be possible to do this. It is therefore possible to set it at other times during implementation. Depending on the indicators, baseline data could be quantitative or qualitative, but they must provide a robust measure of the indicators identified in the framework. [Kusek and Rist](#) suggest eight items to identify:

1. Data source
2. Data collection method
3. Who will collect the data
4. Frequency of collection
5. Cost and difficulty of collection
6. Who will analyse the data
7. Who will report the data
8. Who will use the data

4.6.2. Set specific targets for the indicators

In addition to establishing baselines, end targets should be established for all indicators. Each indicator should only have one target over a specific period of time. The end target specifies the measure of success for that particular indicator. In setting targets, the standard practice is to start with the current baseline indicator value and include the desired level of improvement as depicted:



Targets should take the expectations of the stakeholders into consideration, but also be realistic and reasonable while considering other factors like resources, capacity, personnel, funding, and budgets throughout the target period.

4.6.3. Collect data

After setting the targets, the next step is to collect data to monitor performance and evaluate the project impact. The indicator types will influence the choice of data-collection techniques. For example, quantitative data collection is suitable for statistical indicators while qualitative insights are useful to gain insight into how or why something occurs. Another factor to consider here is the frequency of the data-collection activities. It will be determined by the resources allocated

to the M&E process as well as other commitments such as the reporting requirements from funders. It is worth noting that while some data would have to be newly collected, some kinds of data might already be available. We recommend leveraging existing data where possible. When possible, it is also important to pilot data collection instruments and procedures, especially where there are new tools or processes that personnel are not familiar with. Piloting helps to rapidly identify problems (e.g., ambiguity in collection instruments) before full data collection is underway. This step in the implementation process needs to generate a table along these lines.

Indicator name	Data source	Data collection frequency	Monitoring or evaluation or both?
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4.6.4. Analyse the data

After data has been collected, it is necessary to analyse them to generate results. Just like the data-collection techniques, the data-analysis methods will be determined by the type of data collected. Typically, qualitative data will need to be analysed qualitatively using software like NVivo or Atlas.ti, while statistical tests might be used to analyse quantitative data using software such as SPSS. The analysis will generate results and findings that can be used for monitoring or (and) evaluation processes.

Wherever possible, Steps 3 (data collection) and 4 (data analysis) should be done as frequently as possible. The more frequently they are done, the more certain the team can be of trends, directions, and results, and the more the findings can influence the M&E processes.

4.6.5. Monitor results

For indicators designed to monitor implementation, results should be used to better inform the decision-making process, provide continuous evidence on project performance, and flag any modifications that may be necessary as the project progresses. Monitoring results should at the very least provide the following sets of information:

- Direction of change
- Pace of change
- Magnitude of change.

Finally, as data is being collected and analysed, project managers and other personnel responsible for M&E should ensure that efforts to monitor activities capture unanticipated changes so as to feedback into the project planning process.

4.6.6. Evaluate findings

While monitoring results provides ongoing information on changes, it does not provide the basis for attribution and / or causality for change. The results also do not provide evidence on how changes are happening. They only provide information on whether or not changes are taking place. This is the gap that this step in the implementation of the M&E system should address. [Evaluation](#) is an assessment of a planned, ongoing, or completed intervention to determine its relevance, efficiency, effectiveness, impact, and sustainability. The goal is to use evaluation to find answers to questions around performance and achievement of project outcomes — establishing the links between impact, outcomes, outputs, activities, and inputs in order to determine the success or otherwise of the project.

4.6.7. Report findings

As with the data-collection and data-analysis activities, the audience for reporting findings will determine the choice of presentation. For example, a project steering committee may need to get monthly reports on progress being made in order to make critical decisions on future activities, while donors may only require quarterly reports on the general progress of the project. The M&E team should agree on presentation templates and frequency based on initial agreements with stakeholders.

4.6.8. Use the findings

Using the results and findings to improve project performance is the main purpose of developing an M&E system. The M&E process only becomes useful when the results and findings lead to the promotion of knowledge and learning during and after the project. The learning acquired during M&E should feedback into the programme cycle and be made available to all relevant stakeholders in order to become applied knowledge. [Kusek and Rist](#) suggest that M&E findings can be used in a variety of ways including helping to formulate and justify budget requests, making informed decisions about resource allocation, and supporting strategic and long-term efforts. For example, in the case of the Pakistan blended learning project, a key focus of the use of findings will be to inform regular updates to the design of both the technology and implementation approaches used in the blended learning pilot project. Another key use of M&E findings is identifying and sharing effective practices. This is important so similar projects can benefit from the lessons learned from this project.

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Annex 1. Theory of change

1. What are the components of a theory of change?

Inputs are resources that are provided for the implementation of blended learning programmes / projects. An input can include the internet, software for teaching and learning different subjects, staff, students, and print and digital blended learning resources (lesson plan, teacher manual, assessment rubrics, etc.).

Activities that contribute to achieving the project output or objectives. Activities can include developing lessons, utilising digital and print resources by students and teachers, attending training sessions, conducting assessment activities, preparing students' test results, and discussing students' performance with parents.

Outputs are viewed as tangible and intangible results of the project activities / interventions that lead to the intermediate outcomes and ultimate goal. Outputs can include teachers trained, lesson plans developed, tests or assessment activities conducted, and technology integrated.

Outcomes are viewed as changes or improvements that have occurred within the target group over time. An outcome may include increased teacher confidence in delivering blended learning, improved lesson planning skills, improved access to blended learning resources, and improved interaction between students and teachers.

Impact The high level or the ultimate goal to be achieved at the end of a programme / project. Impact may include improved student learning gains, improved teacher behaviour and confidence, enhanced pedagogical and technological content knowledge of teachers, and increased access to blended teaching and learning resources.

2. Tracking inputs, activities, outputs and outcomes

Tracking the core components of a blended learning project empowers the individuals and the system to do the following.

Assess the progress

In relation to indicators, information about the inputs and activities helps stakeholders to assess whether actions and occurrences are leading to the desired outputs and immediate results.

Assess the effectiveness

The analysis of information gathered in relation to inputs and activities can help project staff determine the efficacy of immediate progress and directions of achievements e.g., in what way and to what extent the desired results have been achieved and where gaps exist. This will enable the project to take immediate corrective actions.

Ensure the project sticks to the plans

Documentation is central to this process. Tracking the resources, occurrences, and interventions as inputs and activities through tools, staff, and other data gathering sources is essential. This will also produce evidence for the stakeholders, and make it possible to use these sources to improve practices, process, and policies.

Deliberate and Disseminate

Did we do it? If yes, what did success look like? This question is central to the entire M&E framework. Using the documented evidence or information can assist project staff to answer this question. Answering this question, or thinking about how to answer it will help those involved in the project to consider how to increase the impact of the intervention or scale it.

Align and Scale

Another important aspect of tracking these components or indicators is that they can enable project staff to adjust the interventions to be more impactful, to use resources judiciously, to know what and which interventions worked well during the pilot phase and which ones can be adopted or scaled.

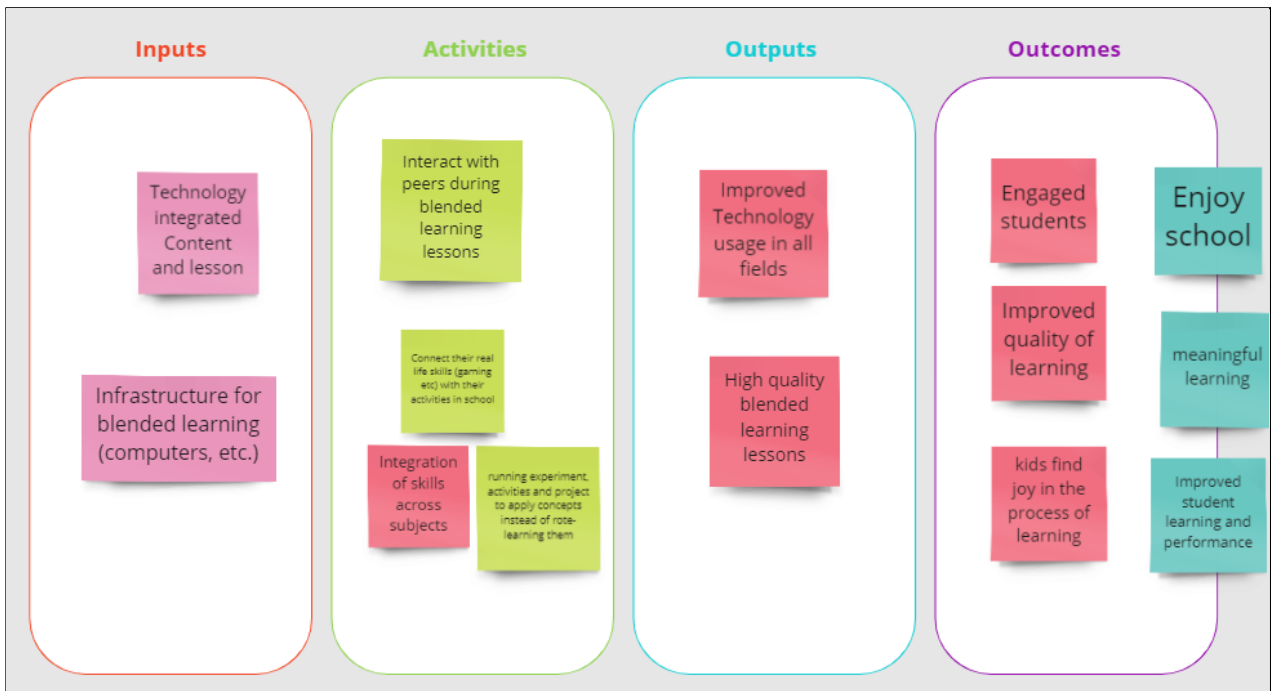
Coordinate and Communicate

Typically, education interventions are not undertaken in isolation. A lot of activities are undertaken in parallel by many actors and stakeholders. Cohesive coordination of progress to and amongst the key partners is critical to the success of a project.

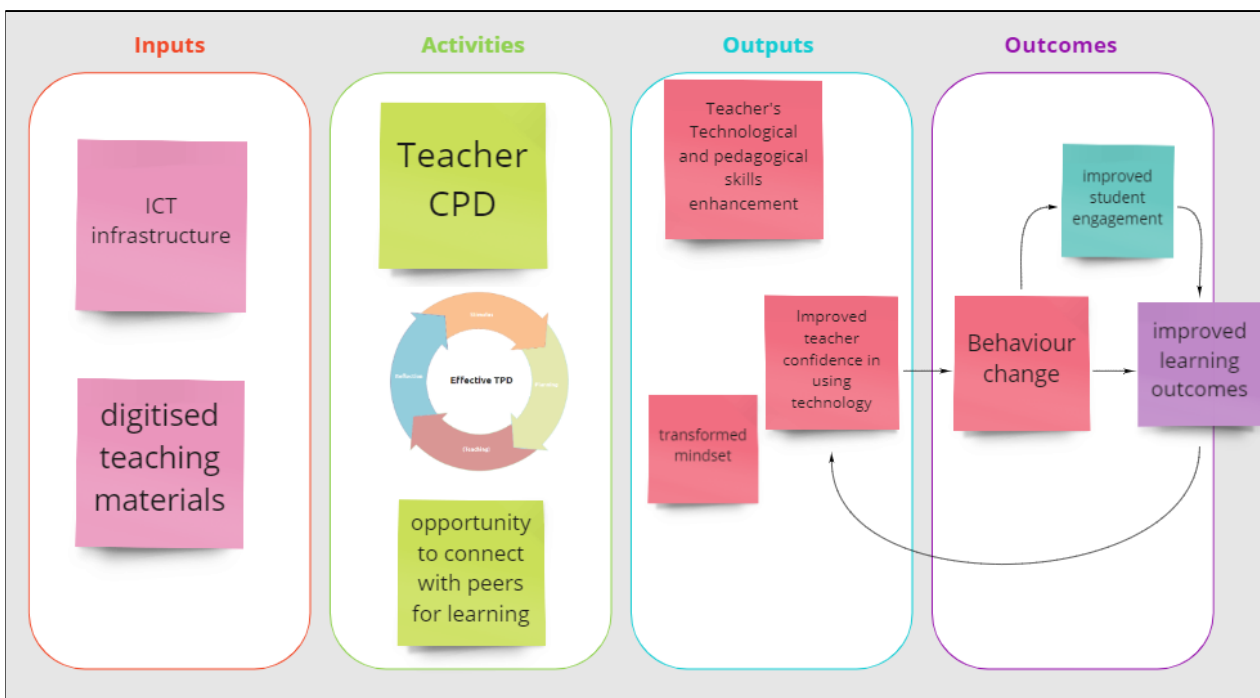
Annex 2. User-focused theories of change

One of the key steps in developing the M&E framework is the development of a theory of change. In the interests of developing a user-centred understanding of the programme / project, separate theories of change were developed for each of the key users: students, teachers and ministry staff. Below are the theories of change for each of the users.

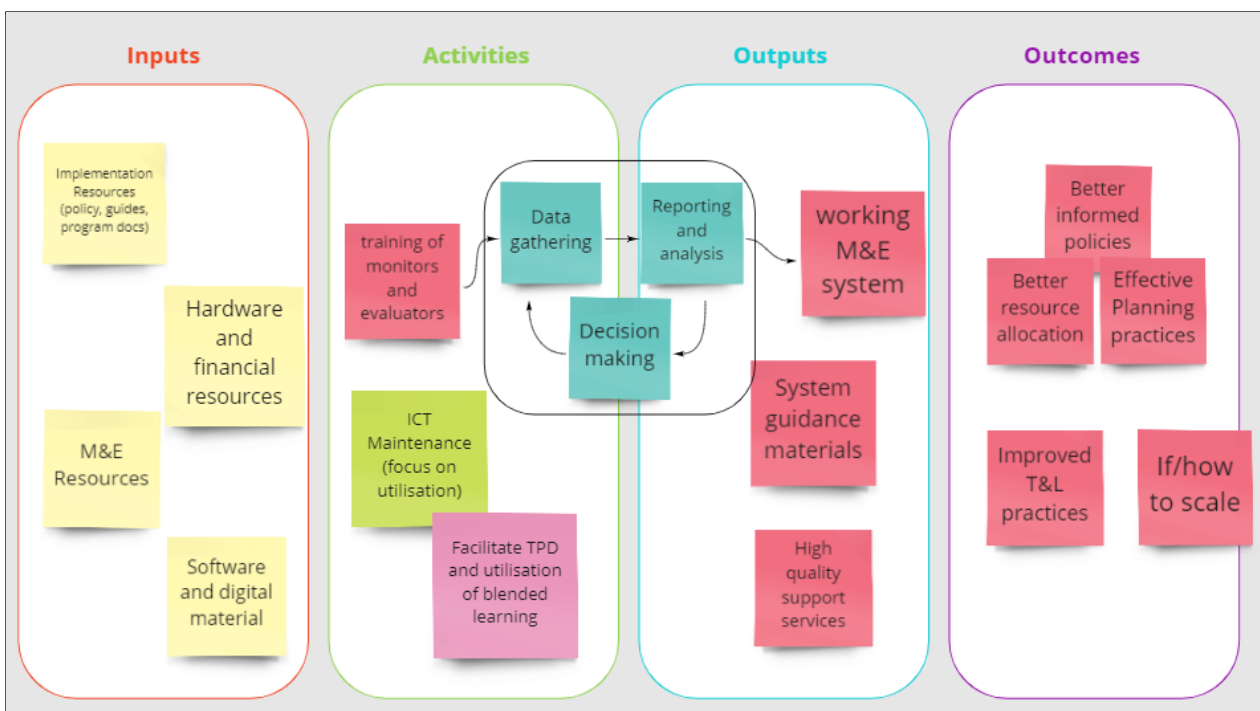
Theory of change for students



Theory of change for teachers



Theory of change for ministry staff



Annex 3. List of participants

S#	Name	Designation	Institute
1	Zulfiqar Shaikh	Assistant Education Advisor	Ministry of Federal Education and Professional Training
2	Sanam Ali	Assistant Education Advisor — (National Curriculum Council)	Ministry of Federal Education and Professional Training
3	Saba Saleemi	Section Officer Distance Learning	Ministry of Federal Education and Professional Training
4	Saqib Farooq	Education Coordination Specialist	Ministry of Federal Education and Professional Training
5	Rasheed Ahmed	Test Development Specialist	National Education Assessment system
6	Saqib Shahab	Director (IT) Infrastructure and Planning	Federal Directorate of Education
7	Inaam	Director (IT) Infrastructure and Planning FDE	Federal Directorate of Education
8	Sadia Adnan	Director Academics	Federal Directorate of Education
9	Sabah Faisal	Principal, IMCCG	Federal Directorate of Education
10	Javed Mehar	Teacher	Federal Directorate of Education

11	Nosheen	Teacher	Federal Directorate of Education
12	Kamran Iftikhar Lone	Deputy Chief of Party	Alight Pakistan
13	Sabina	Content Developers and Producers	Taleemabad
14	Daniyal		Taleemabad
15	Hassan bin Rizwan	CEO	SABAQ / Muse
16	Marium		SABAQ / Muse
17	Fakhira Najib	CEO	FM Power 99 Radio

Annex 4. Virtual workshop schedule and agenda

Workshop #	Workshop Title	Date	Agenda
1	Discovery: Brainstorming / Needs understanding	02 Feb 2021	<p>Introductions</p> <p>Introductions by all team members</p> <p>Introduction to EdTech Hub</p> <p>Introduction to the blended learning project</p> <p>Developing user personas (overview)</p> <p>3. Identifying the users of the blended learning project?</p> <p>4. Defining user needs?</p> <p>5. How are we addressing user needs?</p>
2	Theory of change workshop	09 Feb 2021	<p>Recap of last meeting</p> <p>Introduction to M&E components</p> <p>Introduction to the theory of change</p> <p>Theory of change in groups</p> <p>Group presentations — Representatives from each group</p> <p>Recap of upcoming sessions</p>
3	Alpha-1: Defining Monitoring and	15 Feb 2021	Recap of what we've done

Evaluation Matrix

Presenting the draft theory of change

Introduction to indicators

Group work — Setting indicators

Group presentations — Representatives from each group

Recap of upcoming sessions

4

Alpha-2: Review of First cut Monitoring and Evaluation Matrix

22 Feb, 2021

Introducing the alpha matrix

Prioritising indicators

Group work, discussing the Definitions, frequency, and responsibility of each criterion.

Share with group

Recap / Next Steps

Annex 5. Process monitoring tools

Blended Learning Material Review Checklist

<p>Subject: _____</p> <p>Grade: _____</p> <p>Title / Theme / Topic: _____</p>	<p>Date of Review</p> <table border="1" style="width: 100%; text-align: center;"> <tr> <th style="width: 15%;">Day</th> <th style="width: 15%;">month</th> <th style="width: 15%;">Year</th> <th style="width: 15%;"></th> <th style="width: 15%;"></th> <th style="width: 15%;"></th> </tr> <tr> <td style="height: 20px;"></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table> <p>Location:</p>	Day	month	Year									
Day	month	Year											

Analysis Components

Items	Yes	No	N/A	Remarks if Any
1. Curriculum:				
1. The content is aligned with the National Curriculum	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2. The content follows the scope and sequence given in the national curriculum	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2. Content				
1. The units / chapters are graded according to complexity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2. The content focuses on the components of blended learning	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3. The activities are motivating, interesting, engage students, and encourage questioning	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4. The activities are grade- and age-appropriate	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
5. The content is contextually appropriate (language, religion, and culture)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
6. The content is gender-balanced (text, pictures, and illustrations)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3. Pedagogy				
1. Methodology supports the use of blended learning resources	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

2. Methodology supports peer-learning approach (group work, pair work, and whole-class tasks)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3. Facilitates independent learning	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4. Material engages students to reflect on their own learning	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
5. Methodology considers different learning styles (kinaesthetic, auditory, verbal, visual, social, and independent)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
6. Content of material reflects a student-centred approach	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4. Assessment				
1. Material includes blended learning (digital and print) ongoing assessment, reflective tools, and peer assessment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2. Material has well-defined blended learning (digital / print) tasks with clear objectives	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3. Are the assessment tools helpful in identifying the varying level students?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4. Are the assessment tools / activities / materials gender sensitive and inclusive?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
5. General Attributes				
1. Material curated is responsive to the devices' operating system	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2. Material includes a table of contents with headings, subheadings, and necessary links	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3. Easy to navigate, browse, and search	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4. Material is user-friendly (information and instructions are clearly written and free of error)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
5. Easy to read with appropriate language(s)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
6. Cites the references of the materials used from other resources.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

7. A glossary of terms is available	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
8. Material carries illustrations / manipulatives to enhance students' comprehension.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Any specific comments / suggestions (Please add more rows to the table below if needed)

S#	Type (Digital/ Print)	Page #/ Topic	Row# / time segment	Comments and suggestions

Reviewed by:

S#	Name	Designation	Institution	Signature

Classroom Observation Checklist

Start time: <input type="checkbox"/> : <input type="checkbox"/>	End Time <input type="checkbox"/> : <input type="checkbox"/>	Date of Observation										
		<table border="1"> <tr> <td>Day</td> <td>month</td> <td>Year</td> <td></td> <td></td> </tr> <tr> <td><input type="text"/></td> <td><input type="text"/></td> <td><input type="text"/></td> <td><input type="text"/></td> <td><input type="text"/></td> </tr> </table>	Day	month	Year			<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Day	month	Year										
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>								
School Name: _____ _____		Type of School: <input type="checkbox"/> Urban <input type="checkbox"/> Rural Level :										

<p>_____</p> <p>_____</p> <p>EMIS Code: _____</p>	<p><input type="checkbox"/> Higher Secondary School <input type="checkbox"/> High School</p> <p><input type="checkbox"/> Middle School <input type="checkbox"/> Primary School</p> <p><input type="checkbox"/> Other (specify) _____</p>
<p>Name of Teacher _____</p> <p>Gender: <input type="checkbox"/> Male <input type="checkbox"/> Female</p> <p>Subject: _____</p>	<p>Student Enrolled: _____</p> <p>Present on the day of observation: _____</p>

Resources:

Digital Devices	Allocated	Available	Working	Used
Tablets				
LCD				
Flash Drives				
Adaptors / Chargers				

Items	Yes	NO
1. Are there blended learning resources (synchronous and asynchronous material) available in school for the grade's students?	<input type="checkbox"/>	<input type="checkbox"/>
1.1. If yes, is it accessible to the grade students?	<input type="checkbox"/>	<input type="checkbox"/>
1.2. If yes, how much time is allocated in the teacher's lesson plan to use the material?	<input type="checkbox"/>	<input type="checkbox"/>
1.3. If yes, do students use blended learning resources?	<input type="checkbox"/>	<input type="checkbox"/>
2. Is the internet connection provided with the project available in the classroom?	<input type="checkbox"/>	<input type="checkbox"/>
3. Is the internet connectivity provided with the project working in the classroom?	<input type="checkbox"/>	<input type="checkbox"/>

4. Does the teacher maintain student online / offline log records?	<input type="checkbox"/>	<input type="checkbox"/>
5. Does the physical classroom have other supplemental blended resources? For example, are charts, pictures, and other engaging resources displayed?	<input type="checkbox"/>	<input type="checkbox"/>
6. Does the teacher display students' artefacts / work pieces in the physical or blended learning classroom spaces?	<input type="checkbox"/>	<input type="checkbox"/>
7. Does the classroom seating arrangement facilitate the blended learning activities?	<input type="checkbox"/>	<input type="checkbox"/>

Curriculum:

8. Is there any provision of teaching through blended learning in the school's time table?	<input type="checkbox"/>	<input type="checkbox"/>
8.1 If yes, how much time is allocated to blended learning on a weekly basis? _____ period / week		
8.2 If no, does the teacher (self-initiate) focus on blended learning while teaching the subject-specific content?	<input type="checkbox"/>	<input type="checkbox"/>
8.2.2 If yes, then How? For example: _____		
9. Does the school order book / logbook carry instructions / guidelines for teachers teaching reading?	<input type="checkbox"/>	<input type="checkbox"/>

Pedagogy and assessment

10. Did the teacher set expectations very clearly at the beginning of the lesson?	<input type="checkbox"/>	<input type="checkbox"/>
11. Which aspects / component(s) of blended learning is / are focused / taught by the teacher? Please tick the following boxes. <input type="checkbox"/> Online <input type="checkbox"/> Offline <input type="checkbox"/> Open resources <input type="checkbox"/> Integration of two / more		
12. Does the teacher have a blended learning lesson plan?	<input type="checkbox"/>	<input type="checkbox"/>
13. Does the lesson plan focus on components of teaching the specific subject through blended learning?	<input type="checkbox"/>	<input type="checkbox"/>
14. Does the teacher organise an activity(ies) for active learning by students to learn the component skills of reading?	<input type="checkbox"/>	<input type="checkbox"/>

15. Does the teacher conduct a variety of blended learning activities for active learning that offer students the opportunity to learn the subject matter concepts / skills?	<input type="checkbox"/>	<input type="checkbox"/>
16. Does the teacher provide students opportunities to reflect on their own learning?	<input type="checkbox"/>	<input type="checkbox"/>
17. Does teacher questioning stimulate students' curiosity for learning to use blended learning materials for the specific concept / skills?	<input type="checkbox"/>	<input type="checkbox"/>
18. Does the teacher provide feedback to students for improving their learning outcomes / clarifying concepts / improving skills?	<input type="checkbox"/>	<input type="checkbox"/>
19. Does the teacher use a variety of blended learning assessment approaches to assess teaching and learning of the subject matter concepts / skills / ideas?	<input type="checkbox"/>	<input type="checkbox"/>
20. Does the teacher give students home-based tasks related to blended learning?	<input type="checkbox"/>	<input type="checkbox"/>
21. Does the teacher maintain student assessment records online / offline / in print (forms)	<input type="checkbox"/>	<input type="checkbox"/>

Observers (e.g., Academic Coordinator / Head Teacher) Signature _____	Verified by
	Designation: _____ Signature: _____

School Support Visit Form

(Education Officer/ Project Managers)

School Name: _____ _____ EMIS Code: _____	Date <table border="1" style="width: 100%; text-align: center;"> <tr> <td style="width: 25%;">Day</td> <td style="width: 25%;">month</td> <td style="width: 50%;">Year</td> </tr> <tr> <td style="width: 25px;"> </td> <td style="width: 25px;"> </td> <td style="width: 25px;"> </td> </tr> </table>	Day	month	Year			
Day	month	Year					
Name of Teacher: (Optional) _____ Gender: <input type="checkbox"/> Male <input type="checkbox"/> Female	Type of School: <input type="checkbox"/> Urban <input type="checkbox"/> Rural Level : <input type="checkbox"/> Higher Secondary School <input type="checkbox"/> High School <input type="checkbox"/> Middle School <input type="checkbox"/> Primary School <input type="checkbox"/> <input type="checkbox"/> Other (specify) _____						
Grade: _____	Subject: _____						

Resources:

Digital Devices	Allocated	Available	Working	Used
Tablets				
LCD				
Flash Drives				
Adaptors / Chargers				

Items	Yes	No
1. Are blended learning resources (synchronous and asynchronous material) available in school for the grade's students?	<input type="checkbox"/>	<input type="checkbox"/>
1.1. If yes, are they accessible to the grade's students?	<input type="checkbox"/>	<input type="checkbox"/>

1.2. If yes, how much time is allocated in the teacher's lesson plan to use the material?	<input type="checkbox"/>	<input type="checkbox"/>
1.3. If yes, do students use the blended learning resources?	<input type="checkbox"/>	<input type="checkbox"/>
2. Is the internet connection provided with the project available in the classroom?	<input type="checkbox"/>	<input type="checkbox"/>
3. Is the internet connectivity provided with the project working in the classroom?	<input type="checkbox"/>	<input type="checkbox"/>
4. Does the school maintain student online / offline log records?	<input type="checkbox"/>	<input type="checkbox"/>
5. Does the teacher maintain student online / offline log records?		
6. Meeting with the head teacher(s) at the beginning of the classroom observation.	<input type="checkbox"/>	<input type="checkbox"/>
7. Observed blended learning classroom Note: If yes, please fill the rest of this tool. If no, please sign it off and submit for further process as guided.	<input type="checkbox"/>	<input type="checkbox"/>
8. Meeting with teachers at the beginning of the classroom observation.	<input type="checkbox"/>	<input type="checkbox"/>
9. Has the teacher identified / selected an area for his / her professional growth in teaching using blended learning materials?	<input type="checkbox"/>	<input type="checkbox"/>
10. Did the teacher use the blended learning scripted lesson plan provided by the project ?	<input type="checkbox"/>	<input type="checkbox"/>
10.1 If yes, please give the title and reference number of the material as applicable Title:_____ Reference No. (e.g., activity / page no.)_____		
11. Did the teacher use the project to provide technological resources?	<input type="checkbox"/>	<input type="checkbox"/>
11.1 If yes, please mention the type of technology and the duration it was used for. Type:_____ Duration: _____ minutes		
12. Did the teacher encourage students to use	<input type="checkbox"/>	<input type="checkbox"/>

blended learning materials?		
13. Did the teacher offer variety by using different blended learning teaching strategies, (e.g., independent work, group work, enquiry-based learning, etc.)	<input type="checkbox"/>	<input type="checkbox"/>
14. Did the students use the technology provided with the project?	<input type="checkbox"/>	<input type="checkbox"/>
14.1 If yes, please state the type of technology and the duration it was used for. Type: _____ Duration: _____ (minutes)		
15. Did the teacher assess student learning by using blended learning resources?	<input type="checkbox"/>	<input type="checkbox"/>
16. Did the teacher offer support to students of different levels?	<input type="checkbox"/>	<input type="checkbox"/>
16.1 If yes, please mentions the type of support offered: _____		
17. Did the teacher use technology for student learning assessment activities?	<input type="checkbox"/>	<input type="checkbox"/>
18. Did the teacher prepare feedback notes based on the student learning assessment?	<input type="checkbox"/>	<input type="checkbox"/>
19. Did the teacher make assessment results available to the students?	<input type="checkbox"/>	<input type="checkbox"/>
20. Did the school make assessment results available to the students?	<input type="checkbox"/>	<input type="checkbox"/>
21. Did the teacher provide a blended learning home task to students?	<input type="checkbox"/>	<input type="checkbox"/>
Any other comments: _____ – _____ – _____		

Observers (Education Officer / Project Officer)

Verified by

Village: _____		
Contact details: Telephone (Office): _____ Mobile: _ _____ Email: _____		
Participant's Signature Date: _____	Reviewed by Facilitator Name & Signature: _____ Date: _____	Verified by Manager Name & Signature Date: _____

Professional Development Training / Event Narrative Report

(Note: To be prepared by trainer / facilitator for all participant training programme activities)

Title of Training: _____	Subject: _____ Grade: _____
Venue: _____	Start Time: _____ End Time: _____

a) **Training Objective(s):**

-
-
-
-

b) **Day-wise activities (in bullets):**

-
-
-
-
-
-

c) **Voices from the training event / workshop shared by the participants (if any):**

d) **Trainer’s / Facilitator’s Key Notes** (also including recommendations, if any, for any improvements i.e, methodology, material, duration, logistics, etc., for future training based on current training experience and participant’s feedback)

-
-
-

e) Photo Gallery (if allowed to take photos of the event) — use captions e.g., date, session type, activity, person by designation.

List of Participants :

S. No.	Name	Designation	Gender	School Name	CNIC #	Contact #	Signature

<p>Prepared by:</p> <p>Signature: _____</p> <p>Name: _____</p> <p>Designation: _____</p>	<p>Reviewed by:</p> <p>Signature: _____</p> <p>Name: _____</p> <p>Designation: _____</p>
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Focus group discussion with parents on the effectiveness of blended learning

Start time: <input style="width: 20px; height: 20px;" type="text"/> : <input style="width: 20px; height: 20px;" type="text"/>	End Time <input style="width: 20px; height: 20px;" type="text"/> : <input style="width: 20px; height: 20px;" type="text"/>	Date of Discussion <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <tr> <td style="width: 15%;">Day</td> <td style="width: 35%;">month</td> <td style="width: 50%;">Year</td> </tr> <tr> <td style="width: 15px; height: 20px;"></td> <td style="width: 15px; height: 20px;"></td> <td style="width: 15px; height: 20px;"></td> </tr> </table>	Day	month	Year			
Day	month	Year						
Location / Venue: _____								
Participants: _____ _____ _____								
Discussion Moderator(s): _____								

Introduction

Please describe your understanding of blended learning?

Please give your opinion of blended learning?

How did the school or teachers provide their support for learning-at-home tasks?

How did you support your child(ren) with blended learning at home?

What type of support or resources did you provide to your child at home for blended learning?

How was (were) your child (ren) involved using / learning through blended learning?

How would you describe the role of the PTA in supporting blended learning initiatives at school?

Which elements of blended learning do you think your child liked the most and why?

Which elements of blended learning did you like the most and why?

How do you support students who move at a significantly quicker pace?

What would you recommend to the school for making blended learning more effective?