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Key Learnings from UNRWA's Blended Learning Programme in the West Bank

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Contents

Abbreviations and acronyms

BLP	Blended Learning Programme
CFIR	Consolidated Framework for Implementation Research
FCDO	Foreign, Commonwealth and Development Office (UK)
ICT	Information and communication technologies
UNRWA	United Nations Relief and Works Agency

Introduction

In 2025, EdTech Hub conducted a qualitative implementation study of UNRWA's Blended Learning Programme (BLP), which had been piloted in 30 schools in the West Bank. The full study was commissioned by FCDO to support UNRWA's internal learning and strategic decision-making as it considers the adaptation, consolidation, and potential scale-up of blended learning across the West Bank and other fields of operation. It focuses on how the programme was experienced by stakeholders and highlights the individual-level, organisational and contextual conditions that enabled or constrained implementation.

Purpose and scope

This document is a summary of the full implementation study report. It summarises the study's findings for external audiences and distils details of the programme's key features. It also presents the study's methodological approach and lessons for others seeking to design and implement blended learning in fragile contexts.

The research objectives of the study are to:

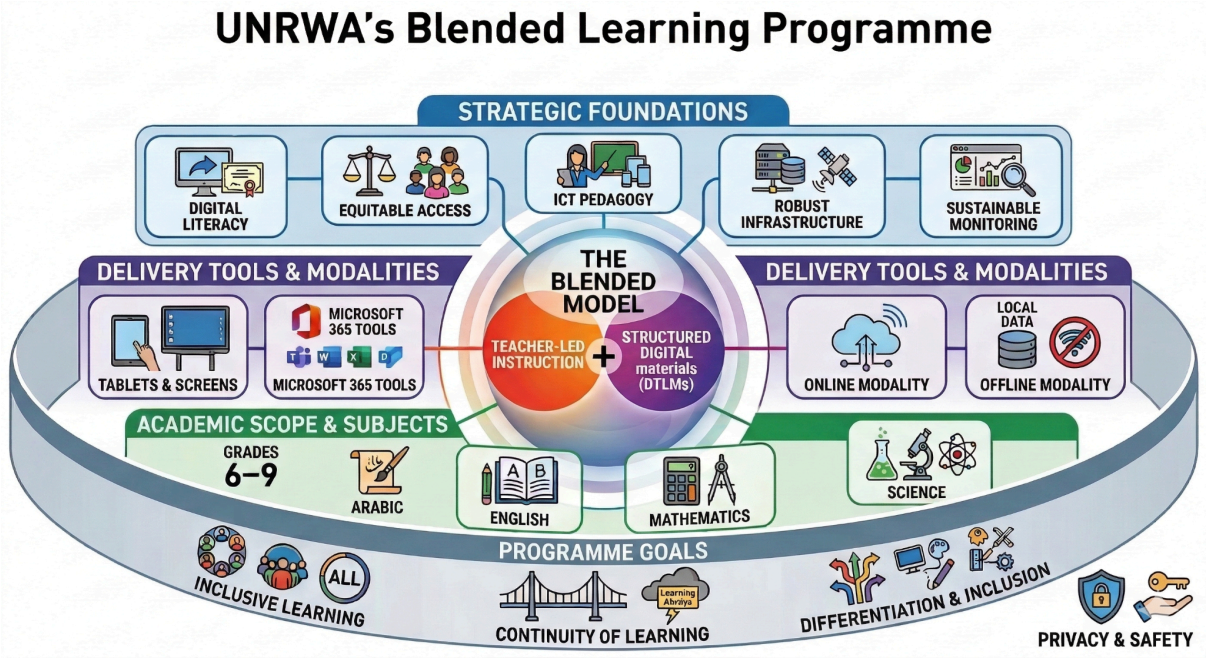
- Document the implementation process and stakeholder experiences in light of programme objectives: *What happened and to what extent was this as planned?*
- Establish the perceived effectiveness and longer-term impact of the programme: *How successful was it?*
- Explore why and how this level of success was achieved: *What were the internal and external enablers and barriers?*
- Offer recommendations for UNRWA's future programmes and monitoring based on the evidence generated: *How can the programme be improved?*

Blended learning programme description

UNRWA's Blended Learning Programme is a system-wide initiative designed to strengthen digital literacy, equitable access to quality digital content, information and communications technology (ICT)-integrated pedagogy, infrastructure, and sustainable monitoring while promoting inclusive learning for students in Grades 6–9 across Arabic, English,

mathematics, and science. The model blends teacher-led instruction with structured Digital Teaching and Learning Materials (DTLMs) delivered through tablets, interactive screens, Microsoft 365 tools, and both online and offline modalities. These elements are combined to enable continuity of learning during disruptions, support inclusivity, and ensure privacy and online safety.

Figure 1. *UNRWA's Blended Learning Programme (generated by the authors using Google Gemini)*



Infrastructure investments equip schools to operationalise this approach at scale, and implementation has progressed through phased expansion:

- **Phase Zero (Early 2024):** Foundational pilots introduced tablets, interactive boards, Microsoft 365 tools, and initial teacher training on technology use.
- **Phase One (August–December 2024):** The pilot was launched in 15 schools across three Areas (UNRWA fields of operation); central and school-level training was delivered; 1,466 digital lessons were recorded.
- **Phase Two (January–June 2025):** The pilot was extended to 30 schools following the training of trainers; 1,695 lessons were delivered with growing teacher confidence despite contextual constraints.
- **Phases Three & Four (2025–2026):** Scale-up to 72 schools is now underway, with more structured routines, strengthened monitoring,

and closer field-level coordination, marking a transition toward system-wide integration.

Methodological approach

The study adopted an exploratory qualitative design, guided by the Consolidated Framework for Implementation Research (CFIR), to assess programme characteristics, organisational readiness, and contextual influences shaping delivery across UNRWA's 30 pilot schools. Data collection combined a documentation review with primary research, capturing perspectives from students, teachers, school leaders, caregivers, and UNRWA staff in the field and at headquarters.

Primary data collection included:

- Eight focus group discussions with 59 participants (students, teachers, and caregivers)
- Key informant interviews with 23 participants (teachers, caregivers, school leaders, field staff, and HQ staff)
- An anonymous online survey completed by 193 teachers.

These methods were designed to capture both collective and individual perspectives on classroom practice, leadership decisions, system-level coordination, and contextual constraints. The teacher survey complemented qualitative insights by identifying broader patterns related to technology access, engagement with blended learning materials, perceived usefulness, and implementation barriers.

All qualitative data was transcribed, anonymised, and analysed using a deductive–inductive thematic approach aligned with CFIR domains, enabling structured comparison across stakeholder groups while remaining responsive to context-specific dynamics. Survey data was analysed descriptively and used to triangulate qualitative findings. Consistent with the study's implementation focus, findings are based primarily on stakeholder perceptions and prioritise depth of understanding over statistical generalisability.

Summary of study insights

Here we present a summary of stakeholder perceptions of the Blended Learning Programme (BLP), what they reveal about implementation, and how they are reflected in the wider literature. First, we present findings

relating to perceived programme purposes and programme successes. We then discuss the different factors that stakeholders believe influence programme success at the individual, organisational, and broader contextual levels.

Perceived purposes of the blended learning programme

Stakeholders view the Blended Learning Programme (BLP) as a multipurpose reform spanning learning recovery, digital transformation, equity, and system resilience.
The findings indicate that stakeholders view the programme not as a single reform initiative, but as a convergence of multiple ambitions. Across system levels, the BLP is framed simultaneously as a response to learning loss, a vehicle for digital transformation, a mechanism for professional development, a strategy for equity and continuity, and a tool for institutional governance and resilience. In relation to the latter, teachers and school leaders in particular interpret blended learning as enabling instructional continuity during absences or crises and fostering students' independent learning skills. This positions the BLP not only as a classroom innovation but also as part of a broader institutional shift towards crisis-responsive and future-ready education.

Stakeholders may need additional clarity and definition of programme outcomes and indicators to enable coherent scale-up.
At the same time, this multiplicity of purposes introduces strategic and operational ambiguity. While improved learning outcomes were consistently cited as a central objective, stakeholders rarely articulated how these outcomes would be defined, measured, or distinguished from existing curriculum goals. Learning improvement primarily serves as a widely accepted rationale for technology integration, rather than as a clearly operationalised framework with shared indicators. Similarly, equity was most often framed in terms of classroom participation and flexibility, rather than explicit strategies targeting specific learner groups.

While the BLP's strategic narrative is ambitious and broadly endorsed across stakeholder groups, for blended learning to function as a consolidated system-level capability, greater clarity may be needed regarding its core instructional model, priority objectives, and mechanisms for monitoring progress. Aligning the programme's multiple aspirations with a more explicit and shared outcome framework could strengthen

coherence across classrooms, schools, and system levels as UNRWA considers adaptation and potential scale-up.

Programme success

The Blended Learning Programme is widely associated with stronger learner engagement, with early signals of potential learning gains. Findings indicate that the BLP had notable positive impacts on learner engagement and inclusion, teacher confidence, and flexible access to learning. Across stakeholder groups, respondents described heightened classroom participation, increased enjoyment, and stronger motivation during digital lessons. Caregivers routinely highlighted changes they had noticed in their children's motivation to study, while 86 per cent of surveyed teachers agreed that students were engaged when digital content was used. Teachers frequently attributed these gains to opportunities for repetition and low-stakes trial-and-error, the use of visual and interactive tools to clarify abstract concepts, and more immediate formative feedback processes enabled through digital platforms, while caregivers emphasised the game-based format of some learning activities as motivational.

While these findings do not, by themselves, provide concrete evidence of improved learning outcomes, the numerous reports of perceived educational progress, especially among students who struggle academically, constitute an early indication of learning gains. This is consistent with recent literature on educational technology that suggests that affective and behavioural changes, such as increased motivation, engagement, and satisfaction, often precede or may exist independently of measurable academic improvement (↑Kuzminykh et al., 2021; ↑Yu et al., 2025). At the same time, descriptions of heightened excitement, enjoyment, and motivation are consistent with patterns identified in the broader EdTech literature, suggesting that novelty can play a meaningful role in stimulating initial engagement, but that its effects are typically temporary and diminish over time unless supported by sustained pedagogical integration and instructional coherence (↑Miguel-Alonso et al., 2023).

Blended learning supports inclusivity, comfort, and learning continuity, leading to enhanced equity and well-being benefits. Beyond perceived learning gains, behavioural, equity and well-being gains were widely recognised, which may be considered particularly important in a context characterised by disruption and diverse learner needs. Teachers and school leaders highlighted the capacity of digital tools to

support inclusivity within large or heterogeneous classrooms, including through adaptable tasks and accessibility features for learners with disabilities. Caregivers noticed reduced fatigue and increased learning confidence in their children, while students themselves emphasised improved continuity of learning access through online materials. Flexible access to lessons beyond the classroom was perceived as strengthening preparedness for disruption and reducing learning gaps associated with absenteeism. This aligns with research highlighting blended learning as a critical tool for fostering inclusivity and a sense of relatedness in resource-constrained or disrupted environments (↑Shaya et al., 2025).

Teachers report increased digital skills and confidence, pedagogical versatility, and improved classroom atmosphere.
After a period of adjustment to using technology in the classroom, teachers reported marked increases in their digital competency and confidence, as well as their pedagogical practice more broadly. Many cited increased creativity and variety in their instruction, facilitated by digital resources. Teachers and school leaders reported positive changes in classroom atmosphere and teacher–student relationships, which they attributed to the increased possibilities for interactive participation created by digital games and tasks. In parallel, survey findings indicate that most teachers feel confident using blended learning, which likely had a significant positive effect on their digital lesson delivery (↑Ye, 2025). These findings suggest that programme benefits extend beyond student engagement to broader teacher professional growth. Shifts in teacher practice may represent one of the programme's more durable contributions, particularly if sustained through ongoing support and institutional alignment.

Influencing factors (individual level)

Individual digital skills, motivation, and decision-making strongly shape the quality of implementation.
The findings suggest that the prior skillsets, motivations, and adaptive capacities of individual stakeholders have a significant cumulative impact on blended learning success. Variation in digital literacy among teachers, students, and caregivers emerges as a particularly influential factor. Teachers with stronger digital skills were key facilitators; these individuals were appointed as digital coordinators, cascading training and troubleshooting support to colleagues. Meanwhile, digitally fluent students engage more confidently with online materials and take the initiative to support their peers (under teacher supervision), and tech-savvy caregivers

provide crucial follow-up support at home. Conversely, limited digital literacy results in instructional time being diverted towards navigation support and operational tasks, slowing lesson pace.

Programme success was also perceived to be significantly mediated by individual initiative and the dedication of school leaders, whose positive attitudes towards digital learning are seen as essential for creating an environment in which both teachers and students can adopt new practices confidently and consistently. Principals' decisions to designate appropriate digital learning spaces, ensure that classrooms are equipped for effective technology use, and offer their staff regular, tailored support are key to smooth implementation. In some schools, leadership support translated into additional planning time or the creation of peer-support mechanisms such as student digital teams. The identification of middle management and school principals as crucial gatekeepers aligns with research on educational leadership, which posits that school leaders shape the climate of implementation through motivation and resource allocation (↑Harris & Jones, 2019). The perceived impacts of individual leaders' decisions are also consistent with other scholarship, indicating that, in resource-constrained environments, effective educational technologies are those that enable adaptive use rather than rigid fidelity to a single model (↑Bozkurt & Sharma, 2020).

Persistent equity gaps in home connectivity highlight the continuing relevance of the 'homework gap'.
In addition to the impact of caregiver digital literacy, students' ability to consolidate digital learning at home was consistently linked to levels of home internet connectivity, thereby creating a dependency on caregivers' ability to provide the necessary internet and device access beyond school (↑Hill & Reimer, 2022). The reliance of sustained blended learning on family circumstances highlights the continued relevance of the 'homework gap', referring to unequal access to reliable internet, devices, and supportive learning conditions beyond school. While the blended learning programme is designed to be limited to school-based classroom learning (with take-home devices only provided in emergencies), the reality is that vital consolidation work takes place outside of school. Some learners may therefore require greater out-of-school support, through loan schemes or offline access strategies (↑Auxier & Anderson, 2020), to reinforce the learning gains afforded by blended learning in the classroom.

Influencing factors (organisational level)

High-quality, sustained teacher training and support are essential success factors for blended learning.
Teachers frequently identified the significant enabling effect of high-quality digital skills training and ongoing support from school-level digital coordinators, principals, and UNRWA staff at the field and HQ levels. They also flagged communities of practice within and between schools as critical enablers in delivering the BLP. By leveraging internal expertise, including tech-savvy teachers, digital coordinators, and in some cases student support teams, the programme fosters an emerging culture of continuous professional learning that complements formal training structures (↑Prestridge, 2019).

However, teachers also highlighted gaps in the length, frequency, quality, and practicality of the training they received, underscoring the need for more sustained professional development integrating technology, pedagogy, and content. Furthermore, variation in how teachers interpreted and operationalised the programme highlights the importance of pedagogical coherence, understood as a shared understanding of instructional goals that is unlikely to develop through episodic workshops alone (↑Amemasor et al., 2025). Consistent with this, research shows that effective professional development requires sufficient duration and opportunities for active learning to support changes in classroom practice (↑Darling-Hammond et al., 2017). From this perspective, teacher readiness appears to depend less on exposure to tools and more on structural conditions that enable iterative reflection, stable staffing, protected preparation time, and ongoing supervisory support.

Rising workload and the risk of 'technostress' highlight the need for structural adjustments to support sustainable teacher adoption.
Another critical insight is the tension between ambitious implementation expectations and the realities of teacher capacity. The findings consistently indicate that the BLP introduced additional cognitive and temporal demands without a corresponding reduction in existing responsibilities. Increased lesson preparation time, troubleshooting demands, reporting requirements, and platform navigation added pressure to already heavy workloads. This dynamic, often described as 'technostress' or 'initiative overload', suggests that without structural adjustments to timetables, staffing, or protected planning time, digital adoption risks undermining sustainability and teacher well-being over time, as well as potentially compromising teachers' ability to deliver lessons effectively and monitor student well-being (↑Dong et al., 2020; ↑Wang et al., 2023). This mirrors

global evidence that sustainable EdTech integration depends not only on initial training but also on ongoing, job-embedded professional development that supports pedagogical integration alongside technical competence (↑Hennessey et al., 2021; ↑Rodriguez-Segura, 2022).

Infrastructure investments laid critical foundations, yet 'second-level digital divide' challenges continue to shape the depth of use. Infrastructure and platform design further shaped not only whether digital tools were available, but also how they were used in practice. While substantial investments in connectivity and devices laid important foundations, persistent constraints, including device sharing, limited digital classrooms, software glitches, subject-specific formatting challenges, and uneven integration of monitoring systems, restrict the depth of use in some schools. These patterns resonate with the literature on the 'second-level digital divide' (↑Hargittai, 2002; ↑Van Deursen & Van Dijk, 2019), which highlights how inequalities persist even after basic access is achieved, shaped by quality, reliability, and autonomy of use. In contexts where connectivity was unstable or devices were limited, digital lessons were compressed or tightly scheduled, or teachers reverted to low-tech alternatives to maintain continuity. As reflected in UNRWA's ICT4E Strategy (↑UNRWA, 2022), reliable infrastructure operates as a foundational enabler rather than a purely operational input.

Reliance on donor funding cycles raises questions about the sustainability of the Blended Learning Programme. Financial commitment and partnerships were identified as critical enablers for implementation. Donor funding was described as foundational to programme delivery, particularly in enabling the provision of essential infrastructure and devices required for the programme. Partnerships with donors, including the German Development Bank (KfW) and the UK's Foreign, Commonwealth and Development Office (FCDO), were frequently cited as central to sustaining the programme at scale. At the same time, this reliance on donor funding was repeatedly raised as an issue that casts doubt on the programme's longer-term sustainability. This aligns with other research on education in emergencies, which warns that short-term project cycles, while enabling rapid innovation, often struggle to build the institutional capacity required to sustain digital ecosystems once external support diminishes (↑Zakharia & Menashy, 2020).

Strengthening system coherence across monitoring, communication, and cross-functional collaboration will be key to long-term sustainability.
Finally, the findings highlight the importance of system coherence across monitoring, communication, and cross-departmental collaboration. While strong monitoring and feedback practices were evident at field and school levels, fragmentation across data systems and parallel reporting processes limits real-time visibility and increases administrative burden. Similarly, while communication between field and HQ levels was often described as constructive, instances of misalignment between field and HQ staff, and variation in school–caregiver communication, suggest that organisational integration remains an evolving process. The primacy of both strong operational coordination and coherent monitoring and evaluation processes is flagged in the wider literature as a significant success factor for digital education programmes in low-resource or fragile settings (↑Pacitto et al., 2023; ↑Iriqat et al., 2025).

Influencing factors (broader context level)

An infrastructure–reality gap means that reported access did not consistently translate into reliable classroom use of digital tools.
Despite high levels of reported uptake and engagement, and the fact that internet access was reported to be generally available at the school level, the findings also reveal that connectivity frequently becomes unstable during whole-class synchronous use, particularly when multiple devices connect simultaneously. Electricity instability further compounds these challenges, with reported power cuts and voltage fluctuations disrupting interactive screens and classroom hardware. Infrastructure upgrades have reached most targeted schools, yet bandwidth limitations and device strain create fragile digital conditions that constrain instructional flow. At the household level, similar instability limits students' ability to review materials consistently, reinforcing disparities in access beyond school hours. This suggests that digital transformation in this context is often shaped by an infrastructure–reality gap, where internet, electricity, and device availability do not consistently translate into functional instructional reliability during high-demand classroom usage.

Broader contextual instability and systemic inequities amplify uneven implementation.
Finally, the findings highlight how systemic inequity and contextual instability—factors beyond UNRWA's direct control—amplify implementation challenges. Security-related disruptions, including

movement restrictions, periodic school closures, and displacement in certain areas, further reduce the number of available instructional days and interrupt blended learning routines. These contextual constraints, along with previously identified factors such as digital readiness and families' financial capacity, shape uneven implementation conditions across schools. Together, these dynamics point to a potential Matthew Effect, in which learners with greater prior exposure and stronger home support benefit disproportionately unless targeted mitigation strategies are in place (↑Reich, 2020).

Conclusion

The study findings indicate that UNRWA's Blended Learning Programme has so far demonstrated meaningful early progress in integrating digital tools within a context characterised by recurrent disruption, infrastructure constraints, and uneven access to learning resources. Across stakeholder groups, blended learning is associated with increased learner engagement, strengthened teacher confidence, and enhanced instructional flexibility. The programme has also played an important role in supporting learner well-being by providing consistent and predictable access to learning despite contextual challenges, underscoring the significant protective value of education in emergencies. While infrastructure fragility and contextual pressures continue to shape implementation realities, the programme has shown that digital integration is feasible under constrained conditions when supported by committed leadership, adaptive school-level practices, and emerging professional learning communities.

At the same time, the findings underscore that effective blended learning depends less on technology alone and more on the coherence of the system in which it is embedded. Sustained impact requires reliable infrastructure, protected time for teacher preparation, practical and continuous professional development, clear governance frameworks, and integrated monitoring systems. Where these enabling conditions are stronger, implementation friction is reduced, and instructional benefits are more consistently realised. Where they are weaker, teachers and school leaders rely on resilience, local adaptation, and peer support to maintain progress.

Taken together, the evidence suggests that blended learning can contribute to resilience, inclusion, and pedagogical renewal when embedded within a broader institutional strategy rather than treated as a

standalone innovation. As UNRWA considers adaptation and potential scale-up, consolidating governance structures, strengthening human capacity, and reinforcing infrastructure reliability will be critical to translating early engagement gains into sustained, equitable system-level improvements.

Summary of learnings for implementers in comparable contexts

As this summary demonstrates, the study's findings are broadly consistent with the existing literature on blended learning implementation in fragile contexts. The specific learning points from this study are presented here to strengthen the current body of knowledge in this area and to inform future blended learning implementations in comparable contexts.

1. Prioritise robust, coherent monitoring and evaluation systems

This includes ensuring that all stakeholders agree on and adopt shared definitions, success indicators, and system-wide tools and processes. Without this coherence, the monitoring system becomes fragmented and ultimately less useful for informing programming decisions.

2. Prioritise strong communication across stakeholders

This can be achieved by connecting regularly with stakeholders, using plain-language communication and establishing accessible feedback mechanisms to co-construct a shared understanding of the programme purpose, underlying principles, and delivery approach. This clarity promotes consistent delivery that can be mutually supported and strengthened by all involved.

3. Manage connectivity and device usage intelligently

Given the infrastructure limitations in many low-resource or fragile settings, internet and device use must be carefully managed to reduce system overload and device faults. This can include prioritising offline-first resources and limiting the number of devices used simultaneously, guided by a device management protocol. Rotational pedagogy models, in which devices and digital resources are available to different learners at different times, can also play an important role. They can both mitigate connectivity limitations and support differentiated learning, as teachers can use

technology to set separate tasks for small groups of learners based on their ability levels.

4. Establish preventative maintenance routines and foster student device stewardship

Preventive maintenance routines, clear repair and escalation pathways, and predictable support arrangements can reduce device downtime, protect instructional time, and improve the longevity of existing hardware. In parallel, with light guidance and short training sessions, trained students can assist with charging routines, device setup, login support, and routine checks, reducing teacher workload and improving device uptime without requiring additional staffing.

5. Ensure teacher time is directed towards high-impact instructional activities by reducing administrative burdens and creating resource libraries

Prioritising structural measures that optimise workflows can help ensure that teacher time is directed towards high-impact instructional activities. Administrative processes should also be simplified through improved system integration and automation, ensuring that digital tools reduce reporting and compliance burdens rather than increase them. In parallel, collating previously developed resources systematically in a digital repository can significantly reduce the time teachers spend developing lessons from scratch.

6. Integrate psychosocial support into teacher support structures

Teacher well-being should be treated as an operational necessity rather than an individual responsibility. Teachers in crisis-affected settings often carry substantial psychosocial burdens while supporting students' well-being alongside instructional demands. Integrating psychosocial support into teacher support structures, promoting peer learning communities, and establishing clear boundaries around digital availability can help mitigate fatigue and sustain engagement over time.

7. Institutionalise digital safeguarding and data protection

The deployment of digital learning technologies in conflict-affected environments introduces distinct protection risks, with vulnerable populations facing heightened exposure to data misuse, commercial exploitation, and physical safety threats arising from geo-tagging or

unsecured communication channels. This includes mandating 'privacy by design' and 'closed ecosystem' policies and ensuring that technical experts are available to implement and communicate these measures thoroughly.

8. Ensure equitable programme access through strong equity frameworks and practical strategies such as loan schemes

Defining access, equity, and inclusion in operational terms and mapping these principles to concrete blended learning practices can help ensure that inclusivity is sustained and standardised rather than left to individual initiative. This framework for identifying equity gaps can be operationalised through practical initiatives, such as needs-based device loan schemes, to ensure that those with more limited connectivity or device access at home are not left behind.

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These references are available digitally in our evidence library at https://docs.edtechhub.org/lib/B77WZW29

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