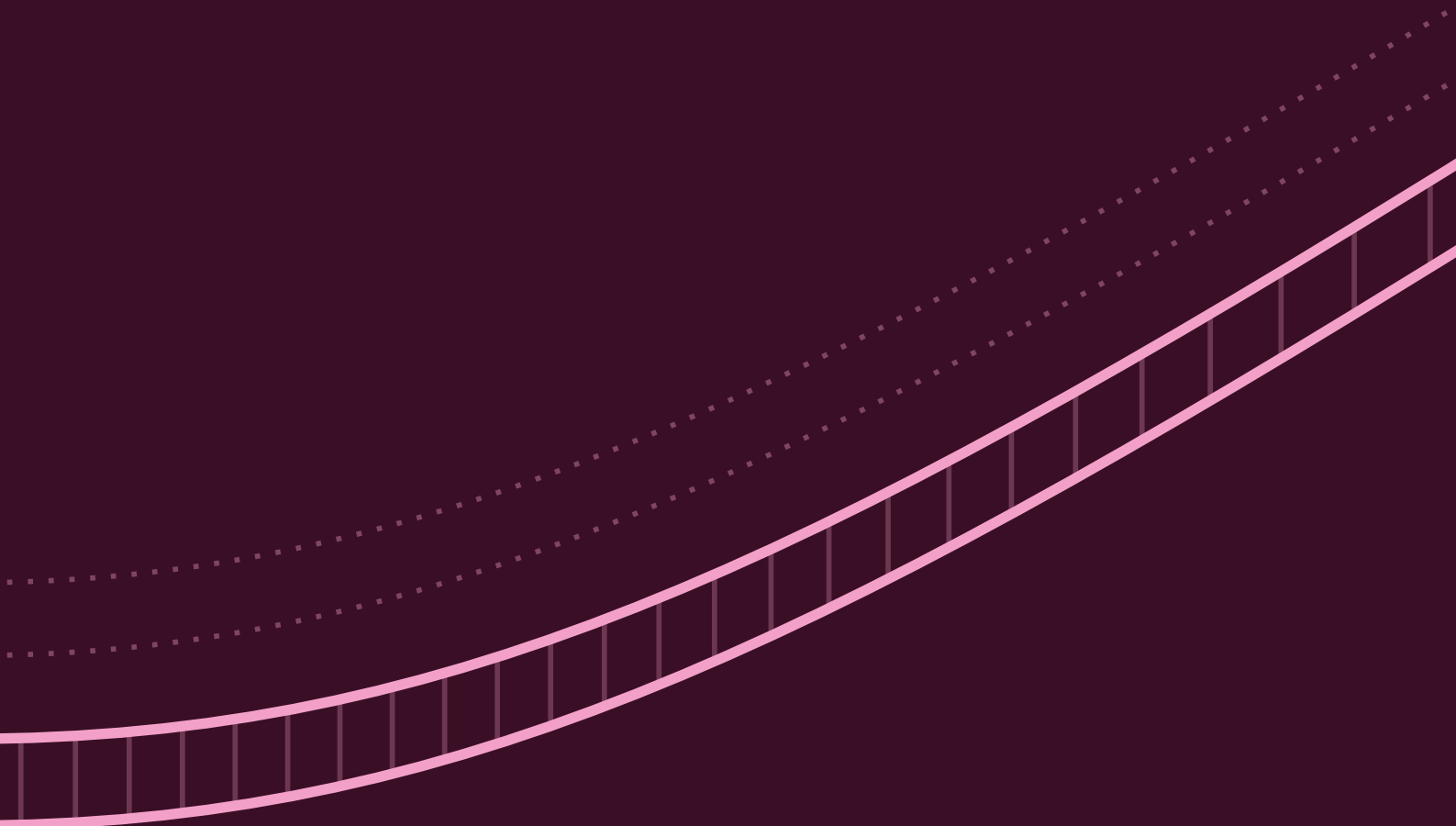




02 / 04

Equity & Inclusion Strategy

Operationalising Twin-Track approaches in emergency EdTech

SOURCE

Radford et al. (2026)
Education in Emergencies EdTech guidance

EDITION

October 2026

SUMMARY

Emergency educational technology (EdTech) interventions operate within pre-existing social, economic, and structural inequalities. As established in the Education in Emergencies guidance by Radford et al. (2026), digital learning solutions are not inherently equitable; without deliberate, equity-focused design, technology risks amplifying disadvantage rather than mitigating it.

Of the estimated 234 million crisis-affected children globally, children with disabilities, forcibly displaced youth, girls, and linguistic minorities face severe compounding barriers to learning continuity.

THE SHIFT REQUIRED

Inclusive learning environments in crisis response require moving from reactive, after-the-fact accommodations toward a systemic Twin-Track framework that pairs system-wide equity mainstreaming with tailored, targeted accommodations.

234M crisis-affected children worldwide	2 tracks run simultaneously: mainstreaming and targeted design	4 mandatory disaggregation vectors in every dashboard	15–20% minimum share of procurement for assistive and multi-modal tools
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ABOUT THIS BRIEF

Synthesised from Radford et al. (2026), Education in Emergencies EdTech guidance. Statistics, field evidence, and framework descriptions are reported as presented in that source. This is brief 02 of a four-part series.

01 Framework of the Twin-Track Approach

The foundational architecture of an equity-focused emergency response rests upon the Twin-Track approach, as articulated by Radford et al. (2026) and aligned with the Inter-agency Network for Education in Emergencies (INEE) Minimum Standards. The framework mandates the simultaneous execution of two distinct operational tracks.

Track 1 establishes universal accessibility baselines across physical and digital learning infrastructure. Track 2 delivers specialised accommodations and assistive devices for highly marginalised cohorts. Both are structured across institutional, technical, and pedagogical dimensions so programme directors and field specialists can act on them.

TRACK 1	TRACK 2
Equity mainstreaming	Targeted design
OPERATIONAL SCOPE System-wide accessibility and structural integration KEY IMPLEMENTATION ACTIONS Accessible learning environments, flexible scheduling, modified assessment protocols, disaggregated tracking, and staff inclusion training TARGET BENEFICIARIES All crisis-affected learners, with emphasis on broad barrier reduction	OPERATIONAL SCOPE Specialised interventions and direct accommodations KEY IMPLEMENTATION ACTIONS Assistive technology deployment, hardware modifications, tailored content creation, and home-language instruction kits TARGET BENEFICIARIES Learners with sensory, motor, or cognitive disabilities, linguistic minorities, and out-of-school girls

Track 1: Equity mainstreaming principles

Equity mainstreaming ensures that every system-wide EdTech intervention incorporates universal design principles from inception. Rather than treating inclusion as an auxiliary feature, mainstreaming embeds accessibility into core procurement, delivery, and governance workflows.

Accessible physical and digital environments	Ensuring temporary learning centres, digital hubs, and software interfaces conform to physical accessibility guidelines and standard Web Content Accessibility Guidelines (WCAG 2.1 AA).
Flexible programme scheduling	Structuring asynchronous learning modules to accommodate domestic caregiving burdens, agricultural labour cycles, and safety and protection constraints that disproportionately affect girls and working youth.
Assessment protocol amendments	Providing untimed testing options, alternative presentation formats (oral, visual, digital), and simplified response mechanisms across formative and summative learning evaluations.
Systemic staff training	Building mandatory equity awareness, inclusive pedagogy, and bias-reduction modules into all teacher professional development pipelines.

Track 2: Targeted design and specialised accommodations

Targeted design addresses the distinct, acute barriers faced by specific marginalised cohorts that universal design alone cannot overcome.

Assistive technology provision	Deploying screen readers, refreshable Braille displays, hearing aid couplings, and alternative input devices (such as switch controls and eye-tracking software) tailored to individual functional needs.
Specialised learning material adaptation	Converting national core curricula into tactile diagrams, pre-distributed hands-on activity kits, sign language video broadcasts, and simplified easy-read formats.
Targeted safety and protection protocols	Incorporating discreet access channels and protection-first privacy controls for vulnerable populations, including out-of-school girls and displaced youth facing gender-based violence (GBV) risks.

02 Diagnostic Mapping & Reaching the Least-Reached Learners

Pro-equity intervention design begins with a rigorous diagnosis of who is excluded and why. Radford et al. (2026) emphasise that initial programme planning must avoid assumptions regarding device ownership or household connectivity, which frequently obscure deep intra-household disparities.

Pro-equity desk reviews and disparity mapping

Before launching technology interventions, implementation teams must conduct detailed contextual diagnostics to uncover subnational and demographic gaps.

Infrastructure and device mapping	Assessing localised access to electricity, cellular networks, broadband stability, and household device ratios, including whether devices are controlled exclusively by male household heads.
Digital literacy and carer capacity	Evaluating baseline technical familiarity among learners, teachers, and carers, noting that low carer literacy can severely restrict home-based remote learning.
Socio-cultural barrier audits	Identifying protection risks, community norms around female technology use, and stigma associated with disability that prevent learners from accessing digital hubs.

Participatory needs assessments

To capture lived realities, programmes should adopt structured participatory tools, such as the UN High Commissioner for Refugees (UNHCR) Toolkit for Participatory Assessments. Engaging displaced communities, youth, and persons with disabilities in structured focus groups ensures that intervention design addresses self-identified priorities rather than top-down assumptions.

Mandatory disaggregation framework

Tracking systems must eliminate aggregated reporting. In accordance with USAID and INEE guidance, all Education Management Information Systems (EMIS) and programme monitoring dashboards must capture disaggregated data across four core vectors.

V01 Gender Tracking access, screen time, and completion rates specifically for girls versus boys.	V02 Disability status Applying the Washington Group Child Functioning Module to disaggregate outcomes by vision, hearing, mobility, cognition, and self-care domain impairments.
V03 Displacement status Categorising learners into internally displaced persons (IDPs), refugees, asylum seekers, returnees, and host community members.	V04 Geography and socio-economic status Segmenting metrics by rural, urban-slum, remote, and hard-to-reach crisis zones.

03 Equity-Focused Pedagogical Design & Multi-Modal Safety Nets

Technology serves as a delivery vector, not a pedagogical strategy. As highlighted by Radford et al. (2026), pairing technology with unadapted, traditional pedagogy replicates existing exclusion. Inclusive EdTech requires pedagogical transformation that lowers barriers to cognitive processing and interaction.

Multi-modal universal design beyond simple accommodations

Rather than retrofitting pre-existing digital content with post-hoc captions or screen-reader tags, inclusive design requires re-architecting learning materials from the ground up.

Multi-sensory engagement channels	Combining auditory explanations, high-contrast visual cues, tactile manipulatives, and interactive prompts to accommodate varied learning profiles.
Alternative navigation and interfaces	Providing voice-command navigation, simplified clean interfaces free of distracting animations, and single-switch compatibility for learners with motor impairments.

Scaffolding and competency-based pathways

Offering self-paced, remedial learning tracks that allow learners with interrupted schooling to master foundational skills before advancing, supported by explicit instruction and worked examples.

Low-tech and asynchronous safety nets

Where internet connectivity is intermittent or absent, high-bandwidth online platforms fail. Programme resilience depends on strong low-tech safety nets that maintain learning continuity during network outages.

SMS + USSD

on feature phones, no internet required

FIELD EVIDENCE / KENYA**ENEZA Shupavu291**

In the Dadaab and Kakuma refugee camps, ENEZA Shupavu291 shows how low-tech cellular channels can deliver equity at scale. Operating via basic SMS and USSD protocols on low-cost feature phones without internet requirements, it gives primary and secondary learners continuous access to national curriculum lessons, quizzes, and live teacher tutoring.

By removing broadband and smartphone prerequisites, the platform delivers affordable, personalised learning to thousands of forcibly displaced children who would otherwise remain disconnected from educational opportunities.

Complementary offline safety nets include:

Interactive Radio Instruction (IRI) and audio lesson bundles

Pre-loading curriculum-aligned audio modules onto low-cost MP3 players or solar-powered radios for remote communities.

Print-digital hybrid worksheets

Pairing physical self-study workbooks with automated SMS progress-check quizzes and phone hotline teacher support.

Home-language instruction

Language barriers present an immense hurdle for crisis-affected children, particularly displaced learners forced into foreign-language instruction environments. Radford et al. (2026) stress that EdTech interventions must prioritise mother-tongue instruction in early grades to build foundational literacy while gradually scaffolding dominant or national language acquisition. Digital platforms should incorporate dual-language toggles, audio narration in regional dialects, and localised glossary pop-ups to ensure comprehension.

04 Economic Rationale, Rights-Based Advocacy & Implementation

Securing sustained funding for inclusive EdTech requires a compelling rights-based and economic case, presented to donors, finance ministries, and humanitarian agencies.

The rights-based normative mandate

Equity and inclusion are non-negotiable human rights obligations. Under Articles 28 and 29 of the UN Convention on the Rights of the Child and the Education 2030 Incheon Declaration, state parties and international actors are legally bound to guarantee non-discriminatory, free, and equitable access to quality primary and secondary education. In crisis settings, where inequities compound rapidly, failing to design proactively for inclusion constitutes a direct breach of international humanitarian and human rights standards.

The economic return on investment

Investing in inclusive EdTech yields large economic and societal returns.

2–3×

higher returns on investment

DISABILITY-INCLUSIVE RETURNS

Accessible education for learners with disabilities

Global review studies cited by Radford et al. (2026) show that individual and societal returns on investment in accessible education for learners with disabilities are two to three times higher than for non-disabled cohorts, driven by lifelong gainful employment and reduced long-term institutional care expenditure.

Up to 10%

GDP increase over a decade

MACROECONOMIC IMPACT

Female literacy and secondary completion

Multi-country economic reviews by Plan International and Citi GPS establish that achieving universal secondary education completion for girls in low- and middle-income countries can increase national Gross Domestic Product (GDP) by up to 10% over a decade.

DO NEXT

Implementation protocol for programme managers

□ 01

Conduct baseline accessibility audits

Evaluate all prospective EdTech software and hardware against WCAG 2.1 AA standards and physical durability criteria prior to procurement.

□ 02

Establish disaggregated tracking protocols

Configure programme databases and monitoring tools to collect disaggregated demographic data using the Washington Group Child Functioning Module from day one.

□ 03

Procure multi-modal and assistive technical tools

Allocate dedicated budget lines (minimum 15–20% of procurement) for assistive hardware, screen readers, local language translations, and low-tech SMS and radio backups.

□ 04

Deploy inclusive teacher training frameworks

Train all educators and facilitators on Universal Design for Learning (UDL), trauma-informed classroom management, and adaptive device utilisation.

□ 05

Establish community safeguarding and feedback loops

Form local advisory committees including women's groups, leaders with disabilities, and refugee representatives to monitor intervention safety and equity continuously.