

24 India, Pakistan, Zambia, Kenya and Lebanon: Education above all's internet free education resource bank

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General description

In response to the COVID-19 induced closures of school buildings around the world, Education Above All (EAA) developed the [Internet Free Education Resource Bank \(IFERB\)](https://resources.educationaboveall.org) to promote the continuity of education for the world's most marginalised learners. The EAA is a Qatari non-governmental foundation whose mission is to measurably improve access to high-quality education for vulnerable and marginalised people in developing countries, as an enabler of broader human development. The Innovation Development Directorate team at the EAA recognised the disproportionate impact school closures would have on the world's most underserved learners for whom alternative learning solutions, such as open source learning materials that can be used for self-study, were lacking. This prompted the creation of the

IFERB – a growing collection of over 120 project-based learning (PBL) resources and an activity bank for students with disabilities that can be implemented using minimal materials while requiring virtually no Internet connection. All of the resources within the bank have been developed by the EAA's Innovation Development Directorate team in collaboration with education experts over 9 months after the start of the pandemic and cover approximately 85% of the learning standards of 5 different international curricula including Australian, Indian, Qatari, UK and US curricula.

The IFERB was developed to serve as a temporary solution to prevent learning loss and provide learners in underserved contexts the opportunity to continue learning where responses to educational continuity have been inadequate. It contains a range of interdisciplinary projects that were designed to meet the learning needs of 4-14 year-old learners in subjects including science, maths, language arts, social sciences, economics and environmental studies. Most projects also have embedded literacy and numeracy practice. Additionally, the IFERB empowers learners to not only continue engaging academically during school building closures, but to also gain some skills that might not be the focus in traditional classroom settings. Most of the projects include activities that build 21st century skills including critical thinking, creativity and communication. Through the projects, students are afforded the space to exercise agency and entrepreneurship owing to the projects' student-centred design and opportunities for independent inquiry.

By November 2020, the IFERB resources were being piloted with over 120 000 learners through 22 implementation partners that are either non-governmental organisations (NGOs) or schools in 5 countries including India, Kenya, Lebanon, Pakistan and Zambia, the longest pilot lasting 24 weeks. The projects from the IFERB bank of resources are being used for:

1. distance education
2. blended learning where schools are partially open
3. as a supplementary resource where schools are completely open.

The IFERB resources can be implemented using a variety of media depending on the context, including phone calls, SMS or other text-messaging applications using feature phones or smartphones, radio and in-person classes. The NGOs involved in projects piloting the resources were chosen based on an open call for applications for 12-week long IFERB pilots implemented with targeted training and support from the EAA. The main selection criterion for the pilots was the potential for impact given the magnitude of the disruption, the need for an alternative educational response and the ability to sustain the approach. Pilots typically take four weeks to roll out during which resources are adapted.

Some partner organisations implementing the IFERB projects are featured below.

Mantra for Change Rural Consortium: This consortium targeted over 100 000 learners from tribal and rural areas across 9 states of India who are enrolled through 16 local partner organisations. It includes both students with no prior schooling and those whose education was disrupted due to COVID-19. The NGO connects with students primarily through community-based volunteers or coaches, and also uses phone calls, printed materials and publication of student projects in newspapers, among other means.

British Council: This is an ongoing pilot in Pakistan working with 1 000 students aged 4-10 in semi-urban and rural contexts. All students are enrolled in school and have had their education disrupted due to COVID-19. The facilitators reach students through teachers and community volunteers who assist parents and students remotely with implementing projects in learners' homes.

Zambia Open Community Schools: This is an ongoing pilot with 2 150 students 8-14 years old in two rural Zambian provinces where schools are partially open. Students have had their education disrupted due to COVID-19. Study groups of five to eight learners are provided radios and SD cards with pre-recorded PBL lessons.

Lebanese Alternative Learning: This ongoing project targets 2 000 Syrian refugee and Lebanese children across semi-urban and rural contexts. The students are between 4 and 14 and have had their education disrupted due to COVID-19. Teachers reach students remotely using WhatsApp.

Dignitas Foundation: This ongoing pilot targets 1 500 children in Nairobi, Kenya. The students are aged 4-11 and have had their education disrupted due to COVID-19. Teachers engage students remotely using WhatsApp, which is accessible to 60% of students.

Ektara School: This is a private school based in urban contexts in India working with 670 economically disadvantaged girls. This ongoing pilot has completed 24 weeks working with students across all age groups using more than 70 projects from the bank. Teachers engage students remotely using WhatsApp, which is accessible to 70% of students. They also engage with students through daily phone calls.

Case studies of the 22 pilots will be available from the EAA once the pilots are completed.

Main problems addressed

Resource and connectivity barriers. While the majority of learners in privileged contexts have shifted to online schooling in response to school closures, most global households have been left behind due to their low Internet connectivity. The student populations targeted by the EAA's programmes face crippling compounded challenges, including lack of Internet and digital connectivity, low literacy or unavailability of parental support, and the absence of educational resources at home. Given the absence of alternatives for continued learning, over 20 million of these vulnerable students will fall even further behind and will likely be at risk of dropping out of the education system. These learners face several barriers to the adoption of currently available alternatives: online remote or hybrid learning requires stable access to the Internet and technology; TV and radio instruction relies on access to hardware and is usually not personalised or interactive; SMS-based learning does not allow for deep learning given the 160 characters limitation of many feature phones; and activity-based learning is typically effective as part of a lesson and often does not result in meaningful learning without educator support. All of these alternatives typically require some level of access to technological devices, leaving over 485 million learners unable to benefit from them.

Empowering learners to overcome contextual challenges. The EAA works across varied contexts including: remote rural geographies where schools have been closed; disconnected tribal areas with marginalised caste children and forest-dwelling communities where learning infrastructure is underdeveloped; semi-urban settlements with refugee learners and urban poor student populations in low-cost private schools that are now closed. In addition to the digital divide, the EAA's students also live in severely resource-deprived contexts. The complete lack of educational resources and tools including books, paper and writing implements makes it challenging to create educational programmes at home. There was a need to devise a solution that addresses the resource and connectivity barriers outlined above while ensuring a meaningful learning experience that is engaging and student-driven to the extent possible. It was important to also circumvent these contextual challenges while simultaneously empowering learners to draw from their environments and engage their families and community in their education. With the IFERB projects, learners explore academic and non-academic concepts through hands-on experiments and activities that require readily available resources and adult guidance that does not burden caretakers with having to play the role of educators.

Mobilising and developing resources

Partnering to pilot resources with limited costs. The cost of deploying the PBL approach is incremental, as a majority of the focus is around reallocating staff and existing resources. The additional costs vary across pilots, but can include: monitoring and evaluation; basic connectivity costs of phone calls or SMS or printing; initial human capital in adapting and translating the projects (if required); some basic learning resources (including paper, pens, etc.); and stipends for volunteers where teachers are not available. For 90% of the pilot projects, the EAA covers the deployment costs of USD 3 per child per month while partners cover all routine expenses. To reach learners, the EAA offered technical support to the implementing partners who are part of the local education network. The EAA created simple pedagogical and practical training and tools for teachers or volunteer facilitators to empower them to support learning.

Developing training resources. The EAA designed practical and easy training resources to help implement these approaches for volunteer coaches and community facilitators, many of whom are high school diploma holders in the learners' villages. While some challenges persist, especially given the absence of trained teachers who can differentiate instruction and build student inquiry, IFERB pilots have been successful in reaching students quickly and effectively. All pilots were launched after only four weeks of planning with over 80% completion and satisfaction rates.

Fostering effective use and learning

Each project was developed by the EAA's Innovation Development Directorate taking into consideration key factors that include:

- **Ensuring engagement and relevance.** In "ABC by Me", for example, learners create their own alphabet book and learn vocabulary that is part of their everyday life. Students in the pilot with Vidhyalaya Udhyaam have used their ABC books to build community libraries in under-resourced communities.
- **Integrating core skills and conceptual learning.** For example, the "Shadow Play" project promotes both science and literacy by providing learners with the opportunity to explore the scientific principles of light that are later used in the creation of their own shadow puppet play. The R-Zamba pilot found that this project improved learners' confidence as well.
- **Promoting self-directed learning while providing opportunities for caretakers of all literacy levels to contribute.** For example, in "Grandmother's tales", grandmothers or elders play an important role by orally narrating folk stories to learners who then reimagine them, adding their own modern twist. This highlighted the importance of partnering with the community and making student growth and learning more visible and explicit to secure buy-in for this method of teaching and learning from parents and communities.
- **Ensuring global relevance and building key life and 21st century skills.** Through the "Setting up a Store" project, learners set up their own shops and practice entrepreneurship as they hone their communication, critical thinking and creativity skills and learn about profit and loss and other mathematical concepts.
- **Minimising the need for textbooks and other educational materials.** Learners use readily available household objects to implement the activities associated with each project, including "Water is Life", through which learners use basic materials to understand the water cycle, states of matter and water purification, among other concepts.
- **Contextualising learning.** Partners can [freely access open source content](#) or work closely with the EAA to implement IFERB resources. The EAA provides initial support by selecting the right projects and levels from the extensive bank based on learning goals, available resources, methods

of reaching learners and previous learning experiences. Partners are then trained to contextualise the selected projects to ensure that they are relevant, practical and appropriately challenging for learners. This involves making sure that examples are culturally or contextually relevant, incorporating curricular materials where possible, and adding clarifying prompts for educators to facilitate implementation. All contextualised projects are reviewed by the EAA, then projects are finalised by implementing teams and translated if needed. Partners are also supported in adapting the monitoring, evaluation and learning system, including the IFERB question bank, survey tools and other instruments.

Implementation challenges

The low-resource contexts on the ground, combined with the lack of mobility due to COVID-19 and related safety measures created many challenges. Additionally, the novelty of the IFERB approach for beneficiary communities presented another set of challenges.

Some resistance to PBL from beneficiaries. Most of the EAA's implementing partners had no previous exposure to PBL and students, parents and teachers were somewhat sceptical about such an approach. Some pilots initially struggled with ensuring student autonomy as students had to unlearn familiar authoritative teacher-student dynamics and rote learning. To address this, all IFERB projects explicitly feature the expected learning and assessment criteria, which many partners closely link to their local curricula. Partners were encouraged to add conventional learning materials such as worksheets where possible. Teachers gradually began to gain confidence in their ability to implement PBL after several cycles of the process of adapting and building on projects as they worked with their students remotely. Students also began to enjoy the opportunity to explore the multi-disciplinary and creative aspects of the projects. Over time, stakeholders grew satisfied with the academic and non-academic learning that a PBL approach made possible.

Teaching unfamiliar concepts with limited visual support. When Ektara (a pilot partner) began using SMS and phone calls to convey the details of the projects, the lack of visual media made it challenging to teach new and unfamiliar concepts. In response, the task and activity instructions were simplified, making them easier to explain remotely without the need for illustrations. For other projects, the focus of the learning outcomes was shifted to experiential learning. Reflection on activities was promoted and "textbook content" minimised. For example, in "Adventures in the plant kingdom", students in Lebanon learnt about plant parts and plant life cycles by exploring plant life around them and germinating chickpea seeds rather than reading a textbook. The EAA and implementing partners also developed alternatives for sharing instructions easily, including the distribution of printed instructions or video instructions.

Lack of qualified teachers. In one pilot project that caters to tribal and rural learners, no teachers were available and parents are often semi-literate, placing the majority of the burden of learning on the children. It was therefore necessary to design stimulating, fun, relevant and simple learning experiences to empower students to lead their own learning. Most of the student learning projects are designed with four elements: 1) game-based learning; 2) deep conceptual exploration; 3) relevance to real life; and 4) a final product that gives students a sense of ownership. Instructions are simple since most of the learning happens through exploration and application and with minimal emphasis on theoretical knowledge that students might have less access to.

Rethinking assessment. It was also important to rethink IFERB assessments as a check for understanding and orienting stakeholders to a more formative feedback approach. Assessing students in the absence of in-person interaction necessitated the establishment of an academic code of trust, empowering teachers to evaluate students' learning based on conversations when students could not take pictures of their completed work and encouraging student self-reflection. For example, educators can ask students to answer simple questions from a question bank in order to gauge conceptual understanding.

Understanding previous learning levels. Due to the lack of mobility and the need to provide a rapid response to COVID-19, the EAA was not able to conduct a needs assessment and began piloting the partner selected projects without a complete understanding of students' previous learning levels. This resulted in compromised academic rigour and high baseline scores. To address this, project levels were adjusted during the pilot by incorporating challenging activities and tasks. Differentiated options were also added for enrichment and simplification.

Monitoring success

To date, the EAA has directly worked with over 120 000 students from the “hardest to reach” segment of learners. Almost none of them were productively engaged in other learning prior to this intervention during the COVID-19 pandemic. The monitoring, evaluation and learning system used for this initiative centres on understanding IFERB's reach, completion rates of the projects, and student learning and growth. Satisfaction and feedback on the resources are also being tracked, although in some contexts there was some resistance to data collection due to low digital literacy and connectivity issues.

Most IFERB projects enable learners to build conceptual learning and skills through exploration, experimentation and application. The combined challenges of carrying out assessment remotely and by facilitators and volunteers makes it difficult to design and conduct assessments. Nevertheless, a question bank was developed to support implementing organisations in assessing student learning and growth in three categories: 1) general knowledge about project topics; 2) knowledge application skills; and 3) project-related concepts.

Implementing organisations conduct baseline and endline assessments using a list of selected questions from this bank to measure students' performance and growth on a pre- and post-basis. A separate assessment tool was developed to measure performance and growth in 21st century skills using a simple three-level rubric for assessing students' creativity, critical thinking and communication skills. Despite continued efforts to simplify the assessment resources and protocol, assessing student learning remains a challenge given that nearly none of the teachers participating in the pilots have experience with PBL or 21st century skills and require extensive training on various other competencies.

It is challenging to measure the effectiveness of the IFERB PBL approach, especially as a distance learning alternative delivery. The monitoring, evaluation and learning system relies heavily on qualitative and narrative feedback, including self-reported stakeholder measures of learning and engagement, pictures of student work, and testimonials as evidence of preliminary success. Designing a controlled research study to gauge the impact of the projects was beyond reach due to the lack of capacity within implementing partner teams and teachers/volunteers and the lack of mobility on the ground during the pandemic, among others.

Findings from the 11 partners who have completed the project include:

- a perceived increase in life skills, especially communication, creativity and entrepreneurship
- an increase in student numbers and participation that forced partners to cap class sizes
- high levels of student engagement, as many are still receiving requests from student to continue with more projects
- increased teacher and facilitator effectiveness as they gained confidence implementing the project
- developed conceptual understanding, for example number sense developed through the number line.

Anecdotal conversations suggest that some projects in the bank have also challenged gender stereotypes. In the project “pop-up restaurant”, boys worked with their mothers to cook a meal, which is new in many patriarchal societies. Children of both genders were exposed to alternate role models as they understood the kinds of professions women have undertaken through data analysis in the “population census” project.

Teams implementing IFERB projects are asked to share learner snapshots which encapsulate the meaningful experiences of students and teachers as a result of their engagement with PBL. One such story is of a child living in Bihar (India), an area of persistent annual flooding, who participated in the “Flood Management” project as part of a pilot run by a local non-governmental organisation in his village. Through this project, he had the opportunity to explore how human actions cause and exacerbate the effects of natural disasters, and was able to develop the knowledge and skills to design homemade tools to examine rising water levels. He was able to critically think through and design his own emergency evacuation protocol in case of a flood, put together an emergency toolkit and finally design his own life-saving personal flotation devices from scrap materials using scientific reasoning. These learners’ stories are an important element of the EAA’s monitoring strategy.

Adaptability to new contexts

The IFERB projects and approaches were designed to be universally applicable and have been used across multiple geographies, contexts, student groups and curricula – with the required contextual translations. At USD 3 per child, the cost of the solution is low compared to other stop-gap alternatives that rely on digital learning. It is also easy to deploy, requiring less than four weeks of planning before it can be used with the students.

IFERB’s adoption in over 22 different student contexts in 5 countries suggests that it is relevant across geographical contexts and user types. Projects have been adapted and translated into eight languages and are continuing to be contextualised by partners, making them available for a wider global audience.

All of the partners of the 11 completed pilot projects have expressed interest in sustaining this PBL approach even after schools reopen. The Innovation Development Directorate team has offered training and feedback to partners on developing their own projects to create more local assets.

The EAA is also embarking on partnerships with three new government departments in India. With all partners, the focus has been on how to sustain and integrate the approach into the education system – the training, monitoring, evaluation and learning tools, contextualised projects, and case studies constitute a toolkit for implementation in particular geographies.

Unfortunately, for most students in the IFERB pilots, teacher absenteeism, natural disasters, conflict and violence, extreme weather, and other factors regularly lead to interruptions in their learning. In addition to IFERB’s role in promoting learning, engagement and life skills during COVID-19, its value might lie in its effectiveness as a stop-gap solution to continue learning regardless of the cause of disruption.

Box 24.1. Key points to keep in mind for a successful adaptation

1. Determine the learning needs and levels of your beneficiaries, the mode of implementation (the way you will reach and support the learner in completing the projects), and subjects of interest.
2. Browse the [Internet Free Education Resource Bank](#) and select relevant projects. You can also read different [case studies](#) for a better understanding of good practices around the deployment of distance learning solutions.
3. Use the [Internet Free Education Resource Bank](#) resources by following the steps below:
 - a. Select projects based on: your prioritised subject and skills; students' context, learning levels and needs; deployment mechanism (remote, in-person, phone-based, etc.) and availability of visual tools; guidance available; and student engagement.
 - b. Contextualise projects by: changing examples terminology and references used where possible to ensure relevance to your context; simplifying or extending projects depending on learners' needs; aligning it more closely to your curriculum; and developing scripts for facilitators/teachers where needed.
 - c. Identify the appropriate mechanism for deployment and train teachers or facilitators on the basics of PBL implementation and assessment.
 - d. Develop a monitoring, evaluation and learning system and consider including metrics on reach, completion rates, satisfaction rates, and learning and growth.
4. Organisations can reach out to the EAA's [Innovation Development Directorate](#) for support on selecting, contextualising and training on implementation as well as support for monitoring, evaluation and learning.
5. Be patient. It can take two to three projects before implementers become more comfortable with the PBL approach and truly own it. Initially, they may need more guidance and input.
6. Involve parents in assessing learning outcomes and demonstrate close alignment to the curriculum. This will enable you to track student growth and secure buy-in from parents.

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Lebanese Alternative Learning – Lebanon

NEAID – Assam, India

Zambia Open Community Schools – Zambia

InSIDE-North East – Assam, India

Dignitas Foundation – Kenya

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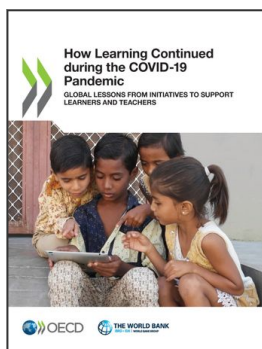
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