



# Technology Enabled Learning In Kenya

KWA GROUND INSIGHTS ON BUILDING RESILIENT DISTANCE  
LEARNING ECOSYSTEMS





# Table of Contents

<b>Executive Summary</b> .....	4
<b>Introduction</b> .....	7
<b>Methodology</b> .....	9
<b>Discussion of Key Findings</b> .....	12
Distance Learning Strategies During the Pandemic .....	12
What Excited and Inspired in Distance Learning? .....	13
What Roles Do Community Stakeholders See for Themselves? .....	17
What Levers Should Be Prioritized to Mobilize and Sustain Digital Learning? .....	22
<b>A Call to Action</b> .....	30

# Research Team

---

## About IREX

IREX is a global development and education organization dedicated to building a more just, prosperous, and inclusive world by empowering youth, cultivating leaders, strengthening institutions, and extending access to quality education and information. With offices in Nairobi and Mombasa, IREX has worked in Kenya since 2008 supporting young leaders through the Mandela Washington Fellowship for Young African Leaders<sup>1</sup> and most recently supporting primary school teachers in Kenya to co-develop an approach to scaling learning through play with technology.<sup>2</sup> Highlights from a broad portfolio of education programs elsewhere include supporting teachers to improve student digital literacy,<sup>3</sup> building social and emotional learning skills,<sup>4</sup> and strengthening pre-service teacher education programs.<sup>5</sup> IREX invests heavily in locally tailored training, curriculum and instructional methods that are research-proven to improve student learning outcomes.

Authors: Jennifer Otieno, EDU and Rebecca Ward, IREX.

We are grateful to the organizations who helped to collect insights from parents, caregivers, learners, teachers and systems leaders: Dignitas, Learning Lions, Maridhiano CBO, M-Shule and Zizi Afrique.

Funding for this research comes from IREX.

IREX

1275 K Street, NW, Suite 600

Washington, DC 20005

© 2022 IREX. All rights reserved.

For any commercial reproduction, please obtain permission from [communications@irex.org](mailto:communications@irex.org).

## About EDU

Education Design Unlimited (EDU) is a Nairobi-based education research and design firm working with local and international educational institutions and enablers to improve learning experiences and outcomes. EDU partners with trusted local community-based and intermediary organizations to learn from and design with communities, with a focus on developing learning interventions powered by technology. For example, EDU has worked to build insight into the perceptions of and willingness to pay for education products and services with Acumen East Africa; to generate a discussion on the power of education technology in Kenya through the EdTech Mondays television show with Mastercard Foundation; and to develop localised, human-centered learning products with Kenyan-based organisations like RefuSHE, Penda Health and Hatua Network.

---

1. [Mandela Washington Fellowship for Young African Leaders | IREX](#)

2. <https://www.irex.org/project/kenya-play-kplay-project>

3. As a result of IREX teacher training, [secondary students were more likely to detect hate speech and differentiate between fact and opinion](#)

4. IREX adapted and applied its [Youth Essential Skills \(YES\) Curriculum](#) to the [SHE's GREAT!](#) Program to enable girls and boys to improve their resilience to restrictive gender norms affecting their life choices and opportunities, build inclusive networks and improve their confidence and leadership skills to fully participate in their communities and careers.

5. <https://www.irex.org/sites/default/files/pdf/ptea-fact-sheet.pdf>

## Executive Summary

In Kenya there is a saying: “**Kwa ground vitu ni different,**” which translates to, “**Things on the ground are different.**”

This research aims to give voice to *kwa ground* individuals and organisations to answer the question, “How might we work with hard-to-reach communities and local innovators to co-design technology enabled learning systems that are resilient to future shocks?”.

IREX partnered with Education Design Unlimited (EDU), a Nairobi-based education research and design firm, to gather insights from caregivers, learners, teachers, system leaders, and local innovators and technology providers in four communities that have limited access to digital resources and infrastructure in Kenya. We wanted to explore how “*kwa ground vitu ni different*”, gathering *kwa ground* perspectives on what was exciting, inspiring and effective about technology enabled distance learning, what roles community stakeholders see themselves playing, and the levers and emerging innovations that can address key challenges and promote resilient distance learning strategies in hard-to-reach communities.



## Key Findings



### What Excited and Inspired in Distance Learning?

- We saw organic systems built from the ground-up that mixed and matched analog and digital distance learning tools and leant into existing community-led coordination. When given the chance, teachers and caregivers adopted multiple modalities to reinforce learning for greater engagement and impact
- Teachers and caregivers believed that using technology to learn addressed challenges associated with analog strategies. It helped caregivers to address perceived gaps in their knowledge, gain better insight into progress, and fostered deeper engagement between learners and their guides
- Distance learning was perceived to increase learner autonomy and collaboration, which was identified by learners themselves as exciting and fun



### What Roles do Community Stakeholders See for Themselves?

- Caregivers widely saw their primary role as providing devices, whether through sharing existing devices or through aspirations to buy devices for their learners. Monitoring their children's learning surfaced as a secondary role
- Teachers' perceived roles were wide ranging: from meeting the logistical requirements for ensuring connectivity at schools – power supply, paying bills on time, maintaining devices; through effectively delivering learning with technology; to serving as champions and role models
- Systems leaders perceived their role as providing the enabling environments and necessary training to teachers, including coordination and relationship building.



### What Levers Should Be Prioritized to Mobilize and Sustain Digital Learning?

- **Community-led coordination** surfaced as a key feature of distance learning strategies used in the pandemic and respondents believe that resilience against future shocks begins with strengthening the existing people and assets on the ground
- Communities believe that **better power, devices and infrastructure** are the most important factors for mobilizing and sustaining digital education ecosystems. Solar panels and batteries, charge points, mobile labs and libraries, shared community laptops, connectivity in shared community spaces, and greater government investment in power and infrastructure were all suggested as solutions.
- Improved **digital literacy** for teachers and school leaders was also highlighted by respondents, with training on basic computer skills, integration of technology into teaching and learning, and support in effectively utilising distance learning modalities all noted as needed to sustain digital learning.
- Respondents also called for **more supportive policies** for schools and communities, with half of the teacher focus groups rating this as the *greatest* lever to ensure future success.

## Call to Action

Learning from those who have contributed to this research, we propose that stakeholders can strengthen the efforts of innovators *kwa ground* by:

**Designing with  
– not for – communities.**



**Strengthening  
community  
people and  
assets.**



**Leveraging  
existing  
community  
structures.**



**Putting  
communities  
at the centre  
of the learning  
agenda.**



**Investing in network  
development.**



## Introduction



The Covid-19 pandemic has significantly impacted students, teachers and caregivers. At the peak of school closures in April 2020, 100 million teachers and school personnel were impacted, and 1.6 billion children (94% of school students) were out of basic education worldwide.<sup>6</sup> Educators globally scrambled to mobilize distance learning solutions to continue teaching and learning away from the classroom, but for the most marginalized, the digital divide has become an education divide which is increasing learning poverty.<sup>7</sup> Kenya's national education system leaders responded swiftly to the challenge by utilising multiple modalities, including radio, television and web, to reach learners. These solutions made significant headway; a survey by the Kenya Institute of Curriculum Development (KICD) found that in 43 counties, over three in every five respondents reported knowing a working learning solution during the COVID-19 pandemic.<sup>8</sup> However, in four counties, none of the Kenyans surveyed reported knowing of any learning solutions during this time, and there is concern that these well-intentioned efforts were reaching only a

small fraction of the country's learners,<sup>9</sup> and even fewer of those who were already furthest behind.

As the pandemic continues to disrupt education, and as global threats such as climate change and conflict similarly have the potential to keep children out of the classroom, stakeholders from across the education ecosystem are being forced to reassess what is possible when engaging hard-to-reach communities. In Kenya there is a saying: "Kwa ground vitu ni different," which translates to, "Things on the ground are different." This Kenyanism is often used in reference to the disconnect between the policies that exist at a national level and what is really happening in local communities, particularly those that are traditionally most left behind. Input from local stakeholders who can provide insights into opportunities, barriers and motivations in their communities, is often lacking in the design of policies or interventions designed to serve them.

6. UNESCO, UNICEF, World Bank and OECD (2021) [What's Next? Lessons on Education Recovery: Findings from a Survey of Ministries of Education amid the COVID-19 Pandemic](#). Paris, New York, Washington DC: UNESCO, UNICEF, World Bank.

7. The concept of [Learning Poverty](#) was devised by the World Bank and UNESCO and captures both schooling and learning indicators: it captures the share of children who haven't achieved minimum reading proficiency (as measured in schools) and is adjusted by the proportion of children who are out of school (and are assumed not able to read proficiently).

8. KICD (2020) Rapid Survey on Education Innovations in Kenya 2020 <https://kicd.ac.ke/broadcast-schedule/rapid-survey-on-education-innovations-in-kenya-2020/>

9. Uwezo (2020) Are Our Children Learning? The Status of Remote-learning among School-going Children in Kenya during the Covid-19 Crisis. Nairobi: Usawa Agenda.

This research aims to give voice to those “*kwa ground*” individuals and organizations to answer the question,

## “How might we work with hard-to-reach communities and local innovators to co-design technology enabled learning systems that are resilient to future shocks?”.

IREX partnered with Education Design Unlimited (EDU), a Nairobi-based education research and design firm, to gather insights from caregivers, learners, teachers, system leaders, and local innovators and technology providers<sup>10</sup> in four communities that have limited access to digital resources and infrastructure in Kenya. The research took an intentionally forward facing, solutions oriented, approach drawing on the perspectives of community stakeholders to:



Gather local perspectives on what “worked” and what was exciting, inspiring and effective about technology enabled strategies for distance learning



Understand the role that different community stakeholders see themselves playing in fostering a resilient digital learning ecosystem



Understand what levers and emerging innovations can address key challenges and promote the adoption of technology enabled distance learning in hard-to-reach communities

10. All identified as key actors in the creation of comprehensive distance learning strategies in USAID’s Toolkit For Designing a Comprehensive Distance Learning Strategy Centre Photo Credit: Dignitas



## Methodology

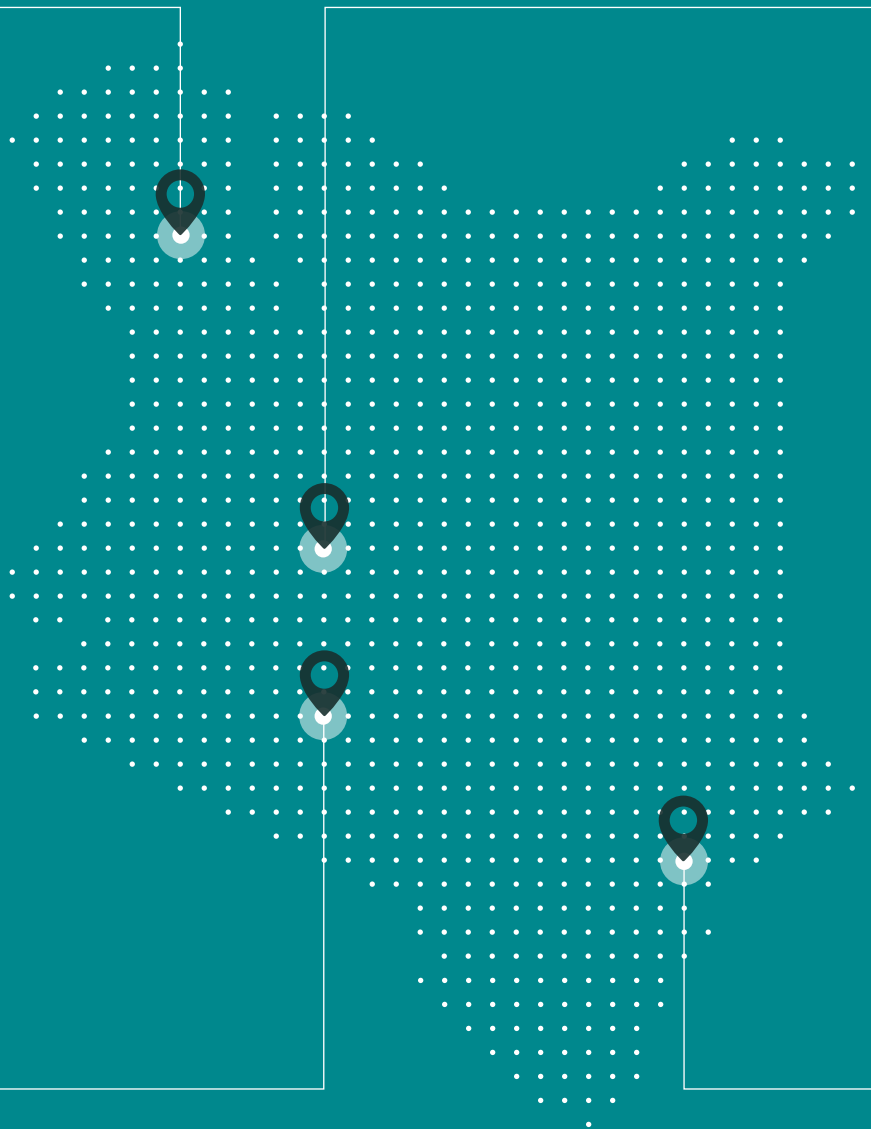
IREX partnered with EDU to gather insights in four communities in Kenya. Counties were selected to represent arid and semi-arid lands (ASAL) (Laikipia North, Turkana), coastal (Tana Delta) and urban low-income (Nairobi - Dagoretti and Dandora) settings, and included communities where distance learning initiatives were known to be available. EDU recruited and trained facilitators from trusted local partners<sup>11</sup> who had strong existing relationships within these communities, ensuring both a safe space for research participants and a platform for collaborative mutual learning.

Turkana

Laikipia North

Nairobi

Tana Delta



11. Zizi Afrique, Maridhiano CBO, M-Shule, Dignitas and Learning Lions all played an important role in this research.

Due to Covid-19, a mix of in-person, phone, SMS and online data collection methods were used to get the input of local stakeholders, described below, in the four priority counties.



### Caregivers

A caregiver is someone who is responsible for a child. For our research purposes, caregivers include parents, guardians, relatives, older siblings or nannies who were responsible for the well-being and learning of primary school age children. The majority of caregivers represented are biological parents.



### Method

Phone interviews  
SMS survey



### Number

27  
178



### Notes

9 learners were also engaged alongside their caregiver during the phone conversations. Semi-structured interviews with open ended questions.  
SMS survey asked caregivers to name the greatest levers for ensuring distance learning is successful in the future.



### Teachers

Public primary school teachers. These were identified through trusted community partners.



### Method

Virtual and in-person focus groups



### Number

35



### Notes

Teachers were all gathered in-person in a physical space and researcher joined the conversation either in person (Nairobi) or remotely (Laikipia North, Turkana and Tana Delta). Semi-structured discussions including open-ended questions and card sort activity.



### System Leaders

Sub-county directors of education and curriculum support officers.



### Method

Phone interviews



### Number

6



### Notes

Semi-structured discussions including open-ended questions and card sort activity to prioritise greatest levers for ensuring the success of distance learning in the future.



In addition, EDU conducted 8 interviews with public and private sector actors with a stake in distance learning. Public sector informants included national policy makers from NACONEK and the Ministry of ICT. In addition, informants from public and private sector organizations representing local innovators in Kenya were interviewed. Semi-structured phone or in-person interviews were designed to understand key opportunities and barriers for digital distance learning and to profile innovative interventions rolled out in hard-to-reach communities. Organizations operating in our target communities, and addressing critical levers identified by our core stakeholders, were specifically sought out to provide illustrative approaches to building resilience; these are presented throughout as “*Kwa Ground Innovations*”. Representatives from the following organizations were interviewed:

With verbal permission from participants, researchers recorded sessions and took detailed notes, which were subsequently coded manually to identify the key themes reported here.

- ✓ **BRCK:**  
A connectivity company focused on profitably connecting low-income earners to the global digital economy.
- ✓ **M-Shule:**  
An SMS knowledge-building platform that helps organisations deliver Learning, Evaluation, Activation, and Data tools across East Africa.
- ✓ **Zizi Afrique:**  
An organization working to improving learning outcomes for children and youth furthest behind.
- ✓ **Dignitas:**  
An organization that empowers educators to transform their schools through leadership development & instructional coaching.
- ✓ **Close the Gap:**  
An organization strengthening computer skills in vulnerable communities in rural regions.

## Discussion of Key Findings



### Distance Learning Strategies During the Pandemic

In our conversations with caregivers, teachers and system leaders, as well as representatives of organizations providing distance learning solutions, we captured a snapshot of strategies used to ensure continuity of learning before and during school closures. Most respondents had engaged in some form of analog<sup>12</sup> distance learning, many of which were already being used by communities during school breaks, and which were quickly embraced during the Covid-19 closures to ensure learners were kept engaged, safe and learning. Fewer respondents had engaged in digital<sup>13</sup> distance learning, but many highlighted interesting experiments with technology that they engaged in while schools were closed. A snapshot of reported modalities is presented below.



#### Analog Strategies for Distance Learning

Hard-copy distance learning resources such as books and past papers<sup>14</sup> were distributed at schools or by teachers during home visits

Private or small group tutoring with teachers or other informal educators

Educational radio (featuring programs like those created by the Kenya Institute of Curriculum Development)

Educational television (e.g. Edu TV, Citizen TV's Know Zone, Akili and Me)

Outdoor mobile/community cinema.<sup>15</sup>



#### Digital Strategies for Distance Learning

Mobile feature phones with SMS capabilities, used by teachers and distance learning providers

Asynchronous online classes and content using smart devices (mostly smartphones or tablets) (e.g. EIDU Education Limited company)

YouTube, WhatsApp, and other mobile or web applications for learning; some accessed independently, and some accessed through efforts coordinated by teachers.

12. "Analog" is used here to denote strategies that use continuous signals e.g. radio and TV, and "offline" strategies such as revision with a tutor and reading books.

13. "Digital" is used to denote strategies that rely on technologies that use binary code e.g. SMS, mobile apps, web apps, etc.

14. Previous versions of exam papers, assessments and assignments now publicly available to guide revision.

15. In Turkana, learners and caregivers gathered at outdoor, mobile cinemas to view educational content. These mobile cinemas, used primarily to show other content such as religious films at Christmas, were repurposed to make learning more accessible to those without access to devices. Although the content was targeted at young learners, the experience was enjoyed by both learners and parents.



## What Excited and Inspired in Distance Learning?

We wanted to understand from community members their perspectives and learning about what worked in distance learning. Learners, parents, teachers and education system leaders shared with us their insights into what was exciting, inspiring and effective about strategies for distance learning, with a focus on learning powered by technology. While challenges inevitably remain, insights provided about mixing and matching distance learning tools, deeper engagement between learners and their guides, learners as leaders, and technology making learning fun suggest that there are significant hooks for motivating communities to engage with technology enabled distance learning.

### Multiple, Reinforcing Interventions by Kwa Ground Innovators

We heard multiple stories of parents and teachers taking the lead on combining analog and digital strategies to reinforce learning for greater engagement and impact. Contrary to top down interventions that often rely on a single modality, we found organic systems where caregivers, teachers and local innovators were mixing and matching to meet their needs: teachers forming WhatsApp groups to send learning materials and assignments, or using bulk SMS's to communicate to parents what materials were available in school; caregivers and learners accessing educational content through online platforms such as EIDU<sup>16</sup> to supplement their review of past papers; and local innovators like M-Shule intentionally using SMS to supplement educational TV and radio programs like Akili and Me, providing further explanation of key concepts and enabling learners to practice what they had seen or read before.<sup>17</sup> Some of these reinforcing interventions were a result of intentional programmatic design by implementers, as shown in the case below, while others were an adaptation of traditional practices initiated by the caregivers and teachers themselves.



**“We used the phone and I also bought past papers. They helped her revise, especially mathematics which she struggled a lot. The explanations on the phone helped me understand the concept then I would teach her.”**

*Caregiver, Nairobi County*

16. <https://eidu.com/howitworks/>

17. M-Shule, an East African SMS knowledge-building platform, and Ubongo Learning, Africa's leading provider of kids' edutainment and the producer of Akili and Me, joined forces to pilot new social-emotional learning, health and hygiene, and numeracy content that could be made accessible through SMS, with a target on engaging learners with feature phones. The content, largely translated from the TV program and adapted for SMS-based format, launched to over 600 learners from hard-to-reach communities.

This organic innovation showcases the ingenuity of those closest to learners, and signals an opportunity to follow the lead of local trailblazers to create more effective interventions. Pockets of innovation are emerging, but these do not yet seem to be reaching national leaders like NACONEK, suggesting more can be done to lift up these examples for the benefit of policy makers. Local innovators have built upon and facilitated this natural inclination to seek support and resources from a variety of sources to build ground-up solutions. Based on interviews with the implementing teams, the work of Zizi Afrique is profiled below.

## Kwa Ground Innovation: Zizi Afrique

Local innovator Zizi Afrique experimented with multiple modalities to reach learners in an ASAL community hard-hit by the pandemic. In Tana River, learners engaged in distance learning through radio with an SMS component to reinforce literacy and numeracy concepts introduced through the programs. Zizi Afrique distributed 1,660 solar-powered radios to the most vulnerable households in Turkana and Tana River counties, and aired 17 hours of radio programs on a weekly basis. The radio shows engaged learners through entertaining academic shows that provided level-based activities for learners and allowed them to also showcase their talents live-on-air. These radio interventions were complemented by SMS content sent out weekly, and based on the learning levels of

individual children to reinforce concepts introduced on the shows.

During the unprecedented and difficult times of the pandemic, Zizi Afrique was able to reach 6,400 learners in ASAL counties through these low-tech distance learning modalities. The initial outcomes from this work are also promising: Learners who qualified for this intervention previously could read only a single sentence or word. For the 1,865 learners who attained the minimum 30 days intervention, 1,013 (54%) advanced (single or multiple levels) and could now read at least a paragraph. In numeracy, the proportion of learners struggling with complex subtraction reduced from 615 to only 269, with more learners progressing to higher levels like multiplication and division.



Photo Credit: Zizi Afrique Foundation Annual Report 2020, Radio Lessons in Tana Delta

## Digital Learning to Address Analog Challenges

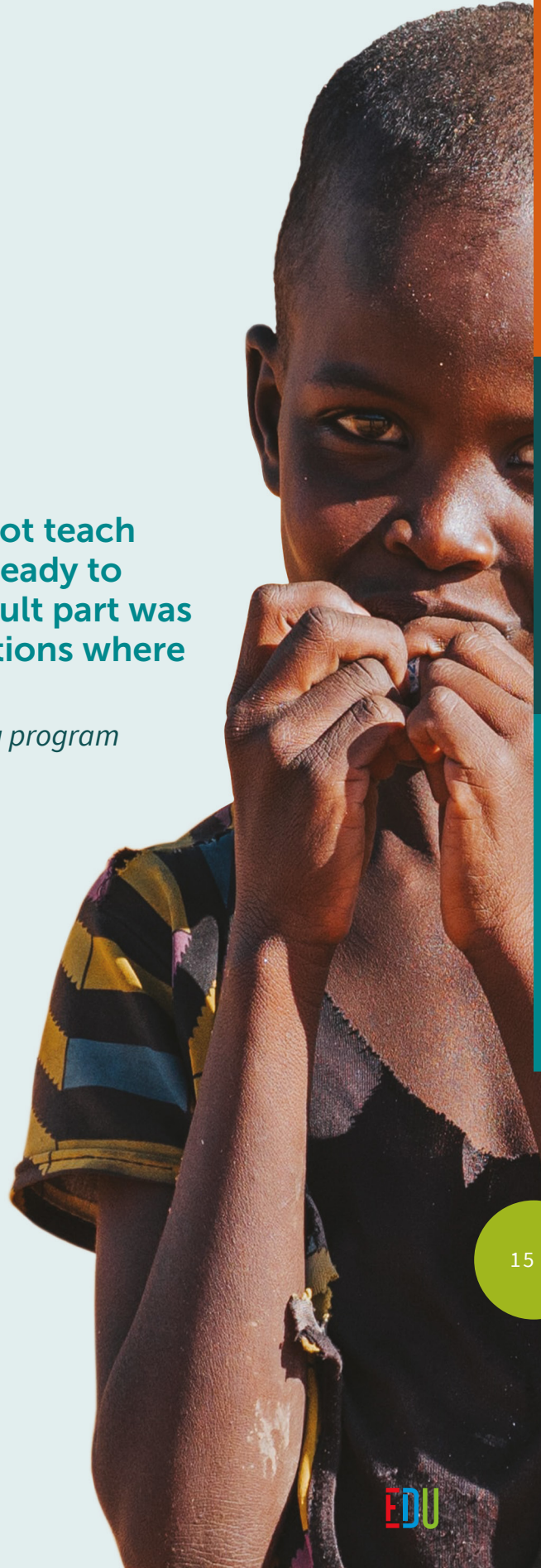
Specific challenges were identified by our respondents in reference to analog strategies, and digital tools were perceived to alleviate these. Lack of interaction was a key challenge for many caregivers, who cited that the absence of learner engagement in questions and answers put pressure on the caregiver to take on that role – one that they were often not ready to fulfil. Additionally, teachers often referenced the lack of assessment with many analog technologies, highlighting their inability to assess whether learning was truly happening or what type of follow up was needed. They also struggled with the costs to maintain physical interventions such as home visits. Teachers were paying for transport costs out of pocket, which became unsustainable for them as the pandemic wore on.

**“It is easy because they learn what I cannot teach them. I only need to make sure they are ready to learn when the program starts. The difficult part was that they could not ask the teacher questions where they did not understand.”**

*Caregiver, Nairobi, referencing a radio-based learning program*

In contrast, caregivers and teachers lauded digital learning modalities for their ability to provide explanations about learning concepts and immediate feedback on learners’ efforts as key distinguishing features of the experience. For caregivers who may not feel equipped to support their children’s learning – “parents like us who don’t understand a lot about what is taught in school” as one respondent noted – this is a feature with the potential to better support caregivers’ engagement in children’s learning.

Many respondents believed that the use of technology facilitated deeper engagement between learners and their guides, with a caregiver in Turkana noting that, “parent-learner interaction was improved; teachers asked the students to tell their parents what they have learnt.” Teachers similarly noted strengthening engagement of caregivers in their children’s learning.



## “Parents changed their perspective towards being engaged and involved in their children’s education.”

*Teacher, Dandora*

### Learners As Leaders: Autonomy And Ownership Through Peer Learning

An interesting bright spot for technology-driven distance learning was the way it allowed learners to be more active leaders of their own learning experience. Caregivers noted how digital learning enabled learners to take charge of their own learning with one noting, “there were questions that my child was doing online using a phone, and she never missed a day revising. This method really helped her to be independent and she wanted to learn more every day.” Both parents and teachers shared how learners could also support each other through small learning groups after engaging with content via analog technologies. One parent shared that because she had a television set, the neighbourhood children would gather in her home to watch the program.



## “What inspired me is, at the end of each lesson that was aired on EDU TV, children in our neighbourhood would look for a place in a field depending on the class they are in and begin to discuss amongst themselves what the teacher taught during the TV lessons.”

*Caregiver, Nairobi*

Learners themselves also identified the opportunities for individual and peer learning facilitated by technology. A young learner in Isiolo shared, “What was exciting about using technology is that the children can learn on their own.” A Nairobi-based learner shared their interest in learning from peers: “It is very exciting because we are able to share ideas and discuss different subjects that one hasn’t understood.” Learners were motivated by the autonomy and agency that was fostered by the integration of technology into the learning process.





## What Roles Do Community Stakeholders See for Themselves?

The bright spots identified by our respondents featured local community members closest to the learning experience – caregivers, teachers and local system leaders – at the centre of the design and execution of effective distance learning. In focus groups and individual interviews, we explicitly asked these *kwa ground* leaders what they believed their role should be in fostering a resilient technology enabled distance learning ecosystem. Each stakeholder group acknowledged that they played a key role in ensuring learning was happening both at home and in school, and when asked about whose minds towards learning with technology were most ingrained and difficult to change, most stakeholder groups pointed to another, rather than themselves. While this is undoubtedly a positive starting point, it's also important to acknowledge that some self-identify as people who needed to be convinced, often because they are anxious about their ability to achieve these roles.



## Caregivers' Perceived Roles

1. Providing devices
2. Monitoring their children's learning

## System Leaders' Perceived Roles

1. Providing the enabling environment
2. Providing training to teachers
3. Coordination and relationship building



## Teachers' Perceived Roles

1. Logistical support – power supply, paying bills on time, maintaining devices
2. Effectively delivering learning with technology
3. Serving as champions and role model

## Caregivers

Caregivers mostly saw their role in fostering digital distance learning to be provision of devices, whether that was through sharing an existing device or through the aspiration to buy devices for their learners. Despite strong convictions that this should be their role, challenges were associated with both: a caregiver in Kiambu highlighted the fact that provision of a device can involve significant sacrifice, “it is sacrifice for my time, I have to share my phone with the kids and even not watch some programs that I like. This enabled me to allow my children – I have 7 – to learn like others”. Elsewhere, a caregiver in Isiolo, highlighted financial barriers and anxiety about supporting technology use, “I would love to support him but I don’t have a job and money to. I would be lying if I told you there is a way I plan to support technology learning, I don’t have money.”

**“As a parent, my role is to make sure my child gets the best materials to learn. Even if we live in remote areas where technology is hard to find, we believe we will be able to catch up and use the best technologies in learning so that our children won’t miss anything.”**

*Parent, Isiolo*

Parents also acknowledged that the engagement with technology brought parents and caregivers into the learning experience more deeply, and several highlighted a perceived role to monitor their child’s learning, with one in Nairobi stating, “my role as a parent is to step in as a facilitator, and a coach as well.” However, not all caregivers felt equipped to undertake this role; a reluctant caregiver in Isiolo said of learning with technology, “Those things ... want people who have gone to school and can read unlike people like us” and another remarked, “I am way past 50 years of age and we are never keen on using this kind of learning using technology!”. Some caregivers also shared fears and concerns about technology itself or their inability to keep their children safe online.





**“I think teaching children how to use technology safely would be great. There are many bad things happening on the internet and I am scared.”**

*Caregiver, Nairobi*

While they didn't identify this role for themselves, teachers and systems leaders felt that caregivers could be important role models to shift the perceptions of hesitant individuals to embrace digital learning approaches and a Laikipia North teacher shared that in their community, schools have used influential families to bring other parents onboard.

## Teachers

Teachers' self-perceived roles were wide ranging: from meeting the logistical requirements for ensuring connectivity at schools – power supply, paying bills on time, maintaining devices; through effectively delivering learning with technology; to serving as champions and role models. Teachers widely see their role as the provision, maintenance and safety of devices, but also acknowledge it is their responsibility to be competent leaders in including digital strategies for learning both inside and outside the classroom with specific references made to using technology to reinforce what has been taught in class and giving assignments through digital learning platforms. Teachers in Turkana and Dagoretti similarly identified emergent roles around “classroom management” in a digital setting; ensuring that digital devices are solely used for learning purposes, and developing skills in “the language of online learning e.g. zoom etiquette”.

Teachers also believe that they should be the champions of digital learning – a teacher in Laikipia North suggested, “sourcing for information from other networks and correlating the info with the school needs... gathering success stories and sharing with relevant parties, the teachers”. Teachers in Tana River highlighted their role in motivating learners and creating awareness, and teachers in Dandora shared that teachers need to be role models in using technology in teaching so as to enable a supportive system related to technology. The role of teachers as community influencers and opinion leaders was also repeatedly noted by system leaders, with one in Dagoretti noting, “The teacher is key in engaging the parents; once the teachers are onboarded, it becomes easier to engage the parents”.

**“Teachers are responsible for creating positive attitudes towards learning through technology.”**

*Teacher, Turkana*



While teachers acknowledged these important roles, they were not without challenge. Teachers also lamented their lack of digital literacy and knowledge of how to effectively integrate technology into the learning process, particularly when leading remote learning experiences, as well as unreliable access to power and connectivity, particularly for teachers at residential boarding schools. A caregiver in Turkana shared observations on teachers, “In most cases you find older teachers rejecting use of technology citing that they are soon retiring and new concepts should only be adopted by the younger generation who intend to stay longer.” A System Leader in Laikipia North similarly reflected, “they don’t want to be innovative in how to deliver lessons and just like the parents many are still stuck to the traditional ways of teaching”.

### System Leaders

System Leaders see their role as critical to ensuring the capacity of teachers to effectively execute distance learning through capacity building efforts (including training and coaching). They also see a role around coordination and relationship building and believed they could generate more stakeholder engagement through parent mobilisation, the forming of committees that support digital learning, and providing monitoring and evaluation support to help teachers understand what’s working.

**“[We have a role in] developing and maintaining partner relationships especially the partners who are key in supporting ... capacity building of teachers, curriculum interpretation, and routine monitoring and support.”**

*System Leader, Laikipia North*

Policy makers, intermediaries and other system-level players believe they have an opportunity to support the development of resilient distance learning systems by providing simple, concise, and context-relevant information that shifts perceptions and beliefs about the benefits of distance learning, especially as related to the use of technology. Our *kwa ground* leaders’ inclinations are supported by existing evidence on improving learning outcomes. This type of specific, locally-relevant information delivered by a trusted messenger is categorised as one of the “great buys” for education by the Global Education Evidence Advisory Panel, an initiative of the World Bank, FCDO and Building Evidence in Education Global Group (BE2)<sup>18</sup> due to its low cost and high level of effectiveness.

18. Global Education Evidence Advisory Panel (2020) [Cost-Effective Approaches to Improve Global Learning](#).



## What Levers Should Be Prioritized to Mobilize and Sustain Digital Learning?

There is much to be done to build an ideal state of technology enabled distance learning in remote areas and this journey will of course take time. However, we don't know when the next system shock may come. We need to move the needle as quickly as possible to ensure systems are resilient before that happens. As well as gathering insights on what was exciting, inspiring and effective about technology enabled strategies for distance learning, and understanding perceptions about personal roles in implementing these strategies, we wanted to explore what caregivers, teachers, system leaders and local innovators believed to be the *most important* levers for mobilizing and sustaining effective digital learning strategies.

In open ended dialogue, leveraging existing community resources to ensure better uptake of digital learning and resilience against future shocks emerged as an important recommendation. We also shared six possible options and asked respondents to prioritize the list from greatest to least:

- Better power, devices and infrastructure
- More WI-FI or cheaper data
- Improved digital literacy for teachers and other school leaders/staff
- Improved digital literacy for parents and caregivers
- Increased relevance of digital learning materials
- More supportive policies for schools and community.

It was widely acknowledged by all stakeholders that all of these were essential to creating a functional system that could be resilient to future shocks, particularly for hard-to-reach communities. Three priorities emerged, though, as those that communities believe are most critical: better power, devices and infrastructure; improved digital literacy for teachers and other school leaders/staff; and more supportive policies for schools and communities. Our respondents gave us suggestions on what solutions might work to address these levers.

In each section below, we feature a local innovation that serves as an example of an organization working to address a specific critical lever identified by our respondents.

### Leverage Community Resources to Increase Tech-Enabled Learning

Community-led coordination and collaboration surfaced as a key feature of the distance learning strategies used throughout the school closures, driven sometimes by lack of access to devices, sometimes by existing community structures, and sometimes by learners themselves self-organizing into peer support groups.



**“Most of my neighbors can’t afford these gadgets but because of Nyumba Kumi,<sup>19</sup> we all decided to gather... so that each child can access this form of learning... most of the children would look at the timetable then their parents would allow them to come to my home and learn with my child.”**

*Caregiver, Nairobi, referring to EDU TV*

19. Nyumba Kumi is a strategy for hyperlocal community leadership and policing promoted by the Government of Kenya.



Respondents had recommendations on how to better leverage existing community resources to ensure better uptake of digital learning and resilience against future shocks. They suggested that existing public spaces such as community centres and churches could be temporarily converted into ICT centres that would allow learners, parents and teachers to converge and learn together.

The ask from our respondents was not around the physical spaces alone – they also wanted opportunities to come together with others in their communities and create positive social pressure around technology for learning. Parents and teachers suggested leveraging existing community conversations like barazas<sup>20</sup> or structures like Nyumba Kumi to share information that can help engage a broader set of stakeholders to embrace digital learning, a strategy also supported by national policy makers at NACONEK. They also indicated that devices belonging to parents or schools including smartphones and tablets could be utilised in creative ways, including sharing of devices across households or renting of devices for a small fee.



**“Community centre would be helpful because it encourages and often initiates programs that involve neighbours to agree and allow technology for learning as a way to bring the children together.”**

*Caregiver, Nairobi*

20. A Baraza is a community council or assembly.





## Kwa Ground Innovation: BRCK

During our discussion, local innovator BRCK shared how they are working to use public or community spaces to increase connectivity. Through their free public network, Moja WiFi, BRCK has been digitizing public spaces in hard-to-reach communities to enhance digital access, affordability and digital literacy. Moja began as a network of over 2,700 Access Points across Kenya in public spaces like schools, community centres and matatus (public transport buses), and has evolved to use mesh technology at a community level to overcome the barrier of affordability for connectivity in areas like Mathare and Likoni. These innovative approaches to internet connectivity have allowed BRCK to democratise connectivity and connect more than 2 million people to the internet over the past 3 years. BRCK has also developed partnerships with satellite providers Viasat, Avanti, and Eutelsat to further strengthen their ability to extend the reach and accelerate the growth of high-speed broadband in the hardest to connect places. These partnerships have enabled BRCK to provide last meter connectivity to schools in Northern Kenya, communities in Tana River, and businesses in the Democratic Republic of Congo (Lualaba, Haut Katanga, and Kivu regions).

Photo Credit: BRCK.com. Learners using a BRCK KioKit, an award winning, rugged hardware, software, and content solution that can turn any school room into a digital classroom.

## Better Power, Devices and Infrastructure

Caregivers, teachers and system leaders identified better power, devices and infrastructure as one of the key levers for ensuring learning continuity in the future. For caregivers in particular, who saw this as core to the role they play in supporting digital learning, this emerged as a top choice with 27% rating it as the greatest lever. Teachers in boarding schools also highlighted challenges with power and connectivity in their accommodations.

Respondents made suggestions about strategies to improve access to power, devices and connectivity infrastructure. Caregivers in Turkana thought that shared solar panels and batteries where they could charge their gadgets would improve power options. A teacher in Laikipia North suggested that mobile labs and libraries could create more connectivity options in the rural, arid and semi-arid counties. A caregiver from Kiambu suggested shared community laptops that could be rented at a fee. These innovative ideas were complemented by suggestions of greater government investment in power and infrastructure.

## Kwa Ground Innovation: Close the Gap



Close the Gap, headquartered in Mombasa, is strengthening connectivity and computer skills in vulnerable communities in the most rural regions through mobile labs. Equipped with 20 laptops, 20 VR headsets, and built in Wi-Fi, each DigiTruck serves as a temporary digital school that provides free classes, resources, and materials. With courses running for up to a month, DigiTruck can help close the digital gap by expanding digital literacy.

A DigiTruck is a mobile, multi-functional IT lab fit in a 40' container on wheels. The DigiTruck is able to reach the most remote areas in Africa that don't have access to electricity through solar energy. The flexibility in design and functionality enables the DigiTruck to be used as a mobile health centre, hold community trainings, and double as a cyber cafe and an IT classroom. It has the capability to run 100% off solar power or be connected to the grid, is completely secure with double steel doors and window shutters with bolts and has triple insulation against the African heat. Close the Gap currently operates 7 DigiTrucks on the African continent: In addition to Kenya, Close the Gap also operates DigiTrucks in DRC, Tanzania, South Africa, and Zambia.

## Improved Digital Literacy for Teachers and Other School Leaders and Staff

Teachers and system leaders both identified this as their most important lever and teachers requested training on basic computer skills, integration of technology into teaching and learning, and support in effectively utilising distance learning modalities. Some caregivers also saw teachers' capacity to use technology as the first step in transforming the learning environment. A caregiver in Turkana shared, "In most cases you find older teachers rejecting use of technology citing that they are soon retiring and new concepts should only be adopted by the younger generation who intend to stay longer." A System Leader in Tana River suggested to include distance and digital learning into the teacher training colleges so teachers build the competencies earlier in their professional journey, noting, "teachers already have a lot of work to do in class, therefore bringing in new concepts and forcing them down their throats does not always go well".

The capacity building of teachers and school leaders was a prime example of “Kwa ground vitu ni different.” System leaders often cited that teachers had received training for the integration of ICT in learning, but teachers still felt ill-equipped to lead remote and technology-enabled learning experiences. To address this disconnect between intention and reality, a teacher in Laikipia North suggested that ongoing mentorship and coaching was required.

## 🔍 Kwa Ground Innovation: LeadNow! by Dignitas

LeadNow!, designed by Dignitas for low-tech and low-resource environments, utilizes remote training and coaching tools to equip teachers with the new competencies and mindsets they need to support learner achievement and well-being in the face of ongoing system shocks. Leveraging insight and strength from Dignitas’ award-winning model, Stawisha, LeadNow! motivates and equips every teacher to thrive and succeed in a remote learning environment.

School Leadership Teams access training – either mini professional development modules and toolkits through Dignitas’ ChatBot or full modules through the learning management system – which has both online and offline capability. Modules are built around a competency framework and new scenario-based tools are in design to enhance remote competency measurement where classroom observations are limited. Individual and group coaching, which leverages reflective practice to transform leadership and classroom practice, is woven throughout the training schedule and is conducted via phone, online feedback, group whatsapp sessions, and video-conferencing communities of practice. Through LeadNow! teachers and school leaders are able to build the confidence and digital literacy skills they need to facilitate distance learning.

LeadNow! was birthed in the midst of Covid-19 and was first piloted as part of Dignitas’ Leaders of Learning program, designed to keep learning and well-being on track during nationwide school closures. First rolled out among a small cohort in Nairobi’s informal settlements, the program quickly drew attention and was expanded across 6 counties. Evaluation showed that 98% of participants report having gained new competencies. As a result, teachers supported parents (resulting in reduced anxiety, and increased time and action toward supporting learning among 94% of households) and learners (literacy and numeracy losses stemmed).





### More Supportive Policies For Schools and Communities

Half of the teacher focus groups rated more supportive policies for distance and digital learning as the greatest lever to ensure future success. A teacher from Laikipia North suggested, “the government should also develop policies that eliminate tax when buying digital equipment such as TVs, tablets, computers and other relevant technology hardware and softwares” and a teacher in Tana River highlighted the need for “policies to safeguard learning by technology”. They went on to call out the need for support around the policies, specifically, “these policies should be supported by the CSOs and other key stakeholders who work closely with the teachers and schools.” A system leader shared an alternative viewpoint – that the issue is not formulating policies but rather in implementing them successfully. “The policies have always been there; but remember these policies are formulated by individuals who sit in the offices and who might not really understand the challenges the teachers go through. It is important to put these policies into action so they just don’t remain on paper.”

**“There is a need to bridge the gap between the education policy makers and the implementers.”**

*Teacher, Laikipia North*



Photo Credit: Dignitas

## Kwa Ground Innovation: Education Evidence for Action (EE4A)

Education Evidence for Action (EE4A) is a coalition of civil society organizations, academics, and the Ministry of Education (MoE) in Kenya. Created in 2015, Education Evidence for Action (EE4A) was established to close the gap between research, policy and practice. The vision was to coordinate evidence producers and make the evidence accessible to policy-making and the interventions to improve learning. EE4A was founded then as a platform for sustained collaboration among policymakers, research institutions and the various users of evidence. EE4A has two objectives: 1) Facilitating an evidence ecosystem in education; and 2) Linking education evidence to inform policy and action.

The EE4A Biennial conference is the key pathway for engagement on education evidence. In these conferences, new evidence is presented to policy makers and key actors, and the engagement with it promoted through policy roundtables involving all the State Departments and their allied SAGAs. These critical conversations are utilised to address multiple education challenges but particularly in the wake of Covid-19, there will be a dedicated focus on policy reform to harness the power of edtech for school-based and distance learning.

## A Call to Action

We wanted to explore how “*kwa ground vitu ni different*”, gathering *kwa ground* perspectives on what was exciting, inspiring and effective about technology enabled distance learning, what roles community stakeholders see themselves playing, and the levers and emerging innovations that can address key challenges and promote resilient distance learning strategies in hard-to-reach communities.

Many distance learning strategies are not sustainable as currently designed. Analog strategies have been widely used, but are resource intensive and continue to leave marginalised communities disconnected from the promise of a digital future in which technology can be used to reinforce classroom teaching, provide high quality content, and offer interactive learning and assessment. Given a glimpse of this future, our respondents were inspired by the ability of digital technology to foster stronger engagement between learners and their guides, increase learner autonomy and collaboration, and create a learning experience that is both rigorous and fun. Given the chance, community members were proactive in building organic systems where caregivers, teachers and local innovators mixed and matched analog and digital distance learning strategies to meet their needs. While challenges abound, interesting experiments with technology enabled distance learning are taking place in hard-to-reach communities and local stakeholders have great ideas about what works, what’s needed, and the role they can play.

To ensure that investments in digital learning are not short-lived and so fail to transform lives or communities as their impact concludes when project funding expires, long-term strategic investments for empowerment of local learning leaders, and investments in connectivity for learning are required to unleash the power of technology enabled learning. Learning from those who have contributed to this research, we propose that stakeholders can strengthen the efforts of innovators *kwa ground* by:



### Designing with – not for – communities.

By listening to innovators “*kwa ground*” and facilitating collaboration among key local stakeholders, existing systems will be strengthened, local leaders will be empowered and resources will be utilised cost-effectively to return maximum impact. Policy makers can involve local stakeholders in the development of policies for hard-to-reach areas through listening sessions with parents, teachers, school and systems leaders, as well as key community influencers. Innovators can work collaboratively with communities and with each other and serve as advocates for their inclusion at every stage of development.



### Strengthening community people and assets.

Communities believe that digital resilience begins with strengthening the existing people and assets on the ground. Caregivers, teachers and system leaders all recognize personal roles in building a system that works but acknowledge multiple barriers to their deployment. Teachers need training on basic computer skills, integration of technology into



teaching and learning, and digital safety to perform their wide ranging roles from device maintenance to digital learning champions, and caregivers need support to provide devices and monitor their children's learning.



### Leveraging existing community structures.

We saw organic systems, built from the ground-up, that mixed and matched analog and digital distance learning tools supported by community-led coordination. There is opportunity to leverage existing structured such as barazas and Nyumba Kumi, and to digitally connect places where people already meet. By leveraging existing public spaces and users' own devices to enhance digital access and fluency, communities can build a strong, cost effective and sustainable foundation for technology enabled learning.



### Putting communities at the centre of the learning agenda.

Researchers can ensure those who do not have the opportunity to visit local communities (such as funders and policy makers) have a clear picture of the reality *kwa ground*, and can promote research outside of academic circles to ensure the information reaches those who need it most, in a form that is usable. At the 2021 EE4A conference in Naivasha, Professor Ong'ondo, CEO of Kenya Institute of Curriculum Development, challenged the research community to make the body of knowledge on supporting marginalised communities more digestible and easy to apply. In the wake of Covid-19, there is opportunity for the next EE4A and other education conferences to have a more targeted focus on digital learning, and to ensure that community voices are strongly represented.



### Investing in network development.

Funders can support network development and knowledge management to ensure innovators are aware of each other and how they can partner. In our research across the four counties, we learnt that there were innovations happening in similar areas utilising similar strategies, but those innovators weren't aware of one another and weren't learning from each other's work. Similarly, policy makers in NACONEK and the Ministry of ICT were unaware of innovators and innovations on the ground. Funders have an opportunity to encourage collaborative approaches to building resilient ecosystems.

