

DIGITAL TEACHING IN LOW-RESOURCE ENVIRONMENTS AND UNSTABLE INFRA- STRUCTURE

Case Study Repository



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Case Study Repository

Teaching in higher education during times of crisis presents challenges that extend far beyond safety concerns and the emotional well-being of students and staff. While the COVID-19 pandemic accelerated the adoption of digital teaching and demonstrated many of its benefits, it also exposed important limitations. Effective online and blended learning depends on reliable digital infrastructure, stable internet connectivity, and access to appropriate devices – conditions that cannot be taken for granted in contexts affected by war, armed conflict, natural disasters, or limited infrastructure in rural and low-resource settings.

This case study repository is designed to support higher education teachers in navigating these challenges. It begins with a brief introduction to key concepts and practical considerations, followed by eight case studies drawn from diverse contexts, including the COVID-19 pandemic, natural disasters, rural regions with limited digital infrastructure, and countries affected by war. Although the circumstances differ, the cases highlight common challenges and demonstrate practical strategies for maintaining meaningful teaching and learning under adverse conditions. By sharing experiences across contexts, the repository aims to encourage reflection, inspire adaptable teaching practices, and foster peer learning among higher education teachers facing disruption and uncertainty, helping them feel connected and supported.

How to use this repository

You can use this repository in two ways.

1. If you want a general overview, start with the repository overview and read the cases in sequence. This will help you see recurring principles across different crisis contexts.
2. If you are facing a specific disruption, choose the situation that is closest to your own context. You can then go directly to the cases suggested there.

You do not need to read every case in detail. Use the repository as a practical navigation tool: identify the challenge, explore one or two relevant cases, and then use the checklist and reflection questions to consider what you could adapt in your own teaching.

Navigator Overview of the repository

INTRODUCTION: TEACHING WHEN STABILITY CANNOT BE ASSUMED

DESCRIPTION:

Introduces the core idea that resilient digital teaching depends on flexibility, accessibility, and low-burden design rather than technological sophistication.

WHEN TO CHECK:

To understand the overall principles before choosing a case, especially if you are new to crisis-sensitive digital teaching.

EDUCATION RADIO IN SIERRA LEONE

DESCRIPTION:

Shows how low-tech, multi-channel provision can support continuity when internet, electricity, and devices cannot be assumed.

WHEN TO CHECK:

Students have very limited internet, unstable electricity, or no reliable access to laptops and LMS.

ALL-UKRAINIAN SCHOOL ONLINE

DESCRIPTION:

Shows how a centralised digital platform can reduce fragmentation and provide structured, quality-assured learning resources during a crisis.

WHEN TO CHECK:

Students are displaced/dispersed and materials are scattered and fragmented.

KEEP KENYA LEARNING

DESCRIPTION:

Shows how SMS and mobile communication can help maintain engagement when full online platforms are unrealistic.

WHEN TO CHECK:

Students have limited access to the internet, lack of devices and need support.

UNESCO GLOBAL EDUCATION COALITION IN UKRAINE

DESCRIPTION:

Shows why device access must be combined with teacher training, pedagogical support, and communities of practice.

WHEN TO CHECK:

Students and professors have a lack of devices and digital teaching is fragmented.

AMERICAN UNIVERSITY OF AFGHANISTAN

DESCRIPTION:

Shows how online and hybrid models can preserve academic continuity when the physical campus becomes unavailable.

WHEN TO CHECK:

Campus infrastructure is unavailable; Students are displaced / dispersed; Students need support.

INZONE IN COOPERATION WITH THE UNIVERSITY OF GENEVA

DESCRIPTION:

Shows how online learning becomes more effective when supported by local hubs, tutors, facilitators, and learner ownership.

WHEN TO CHECK:

Campus is unavailable; Students have a lack of devices and are displaced / dispersed.

SUMY STATE UNIVERSITY

DESCRIPTION:

Shows how asynchronous, modular, and low-bandwidth teaching can support continuity during war, outages, and displacement.

WHEN TO CHECK:

Students have low access to the internet; electricity is unstable and unreliable; Students can only access smartphones.

FEDERAL UNIVERSITY OF RIO GRANDE DO SUL

DESCRIPTION:

Shows that continuity may require suspension, calendar flexibility, and individual arrangements rather than immediate online teaching.

WHEN TO CHECK:

Electricity is unreliable; Campus is unavailable; Online teaching is unfair.

Introduction: Teaching When Stability Cannot Be Assumed

Higher education does not stop during crises – but teaching often has to change. Whether the disruption is caused by war, displacement, natural disasters, power outages, or limited digital infrastructure, the goal remains the same: to provide meaningful learning opportunities while recognising that both teachers and students may be working under extraordinary circumstances.

This training material is designed for higher education teachers who need practical strategies for teaching in unstable environments. It is based on one central idea:

Digital teaching in crisis contexts is not about using more technology – it is about using technology effectively and flexibly to sustain learning.

In stable conditions, it is easy to design courses around live sessions, large files, video lectures, and regular deadlines. In unstable conditions, those assumptions become risky. A course becomes more resilient when students can still understand what to do, access essential materials, and show their learning even if they miss a live session, lose internet access, or need more time.

What We Can Learn from Different Crisis Contexts

This training brings together lessons from universities and educators working under very different conditions:

- universities operating during armed conflict (e.g., Ukraine),
- institutions responding to the COVID-19 pandemic,
- higher education providers in regions with limited electricity or internet access, and
- educators working in low-resource environments across Africa and other parts of the world.

Although these contexts differ, they share many of the same challenges:

- unreliable internet and electricity,
- students learning from different locations,
- interrupted schedules,
- limited access to devices,
- increased stress and uncertainty, and
- the need to remain flexible.

These experiences demonstrate that resilient teaching is possible even when conditions are far from ideal.

A Different Way of Thinking About Digital Teaching

When infrastructure is unstable, digital teaching should be designed with disruption in mind.

Rather than asking “What is the best technology?”, it is often more useful to ask:

- What happens if students lose internet access tomorrow?
- Can learning continue if electricity fails?
- Can students participate using only a mobile phone?
- Can they access essential materials offline?
- Can they catch up if they miss a live session?
- Is the learning pathway clearly mapped so that students know what to do before, during, and after a disruption?

Planning for these situations from the beginning makes courses more resilient – not only during crises, but also for students facing everyday barriers.

Practical Principles

You can use the principles below as a quick design check before, during, or after a disruption.

Prioritise asynchronous learning. Students should not depend entirely on live sessions.

Keep materials lightweight. Compress files, reduce video requirements, and offer downloadable resources.

Design for mobile phones first. In many settings, smartphones are the primary learning device.

Offer offline options whenever possible. Downloadable readings, recorded lectures, and assignments reduce dependence on continuous connectivity.

Use multiple communication channels. Email alone may not be sufficient; messaging apps or SMS can provide important alternatives.

Be flexible with deadlines and participation. Students may face circumstances beyond their control.

Maintain regular communication. Even short messages help students remain connected to the course and the institution.

Focus on learning rather than perfect delivery. Simplicity often works better than complex digital solutions.

Remember the Human Dimension

Teaching during crises is not only a technical challenge. Students and teachers may experience stress, uncertainty, displacement, or loss. Course design should therefore balance academic expectations with empathy and flexibility.

Being crisis-sensitive does not mean lowering academic standards. It means creating learning environments that acknowledge different realities while enabling students to continue learning successfully.

Small adjustments – clear communication, predictable course structures, flexible assessment, and regular check-ins – can significantly improve student engagement and well-being.

What This Repository Offers

The following case studies showcase practical strategies and real-world examples from various crisis contexts, including war, the COVID-19 pandemic, natural disasters, and regions with limited digital infrastructure, helping readers stay engaged with relevant solutions.

As you work through the cases, consider which ideas could be adapted to your own teaching context.

Quick Checklist: Designing Resilient Digital Teaching

Before your course starts, ask yourself:

- ☐ Can students continue learning if internet access is interrupted?
- ☐ Are essential learning materials available offline or as downloads?
- ☐ Can the course be followed primarily on a smartphone?
- ☐ Does the course rely too heavily on live teaching?
- ☐ Are there alternative ways for students to communicate with you?
- ☐ Are deadlines and assessments flexible enough to accommodate disruptions?
- ☐ Is the workload realistic for students experiencing unstable conditions?
- ☐ Have you communicated clearly what students should do if they lose access or miss classes?
- ☐ Does your course support students academically while remaining sensitive to the realities they may be facing?

Resilient digital teaching is rarely about sophisticated technology. It is about thoughtful planning, flexibility, and keeping learning accessible even when circumstances are unpredictable.

CASE REPOSITORY

Maintaining learning continuity through low-tech, multi-channel distance education can reassure institutions that multiple accessible options support all learners, fostering a sense of inclusivity and preparedness.

CASE STUDY: EDUCATION RADIO IN SIERRA LEONE

The case at a glance

ELEMENT	SUMMARY
Crisis context	Ebola outbreak and COVID-19-related school closures
Main disruption	Limited internet access, unstable electricity, lack of digital devices, and interrupted face-to-face teaching
Main response	Radio lessons combined with phone interaction, printed materials, mobile support, and public communication
Key lesson	Learning continuity can be supported through simple, widely available channels when combined with clear tasks, feedback routes, and monitoring.
Relevance for higher education	The case helps HEIs think about low-bandwidth, offline, audio-based, and multi-channel teaching when standard online platforms are not realistic

KEY TAKEAWAY

When digital infrastructure cannot be assumed, effective distance education starts with the technologies learners actually have – not with the technologies institutions wish they had.

Why this case matters

The Sierra Leone Education Radio initiative is a great example of how we can keep learning alive, even when things like internet access, electricity, and stable infrastructure are uncertain. It all started during the Ebola outbreak between 2014 and 2016, and then it expanded its reach during the COVID-19 pandemic. Instead of relying on high-tech solutions, the initiative turned to radio broadcasting as its main way of delivering lessons. It also used printed materials, mobile phones, and even television, all while providing support to learners in various ways.

Although this initiative primarily targeted schools, it offers important insights for higher education institutions in fragile, low-resource, or crisis-affected areas. Instead of getting caught up in complicated digital technologies, the focus was on using communication channels that students could easily access. It's a reminder that effective teaching can happen through creative, practical means when traditional resources are lacking.

The challenge

Sierra Leone faced several interconnected challenges that made conventional online teaching largely infeasible. Internet connectivity was limited, particularly in rural areas, while many learners lacked computers or smartphones capable of supporting online learning. Frequent power outages further restricted access to digital resources. At the same time, the education system needed to respond rapidly to widespread school closures while addressing learning loss, psychosocial stress, and unequal learning opportunities.

A further pedagogical challenge concerned learner engagement. Radio provides an effective means of reaching large numbers of learners, but without opportunities for interaction and feedback, teaching risks becoming a one-way transmission of information rather than an active learning process.

REFLECTION:

Which of these challenges are relevant in your own institutional context?

A multi-channel learning model

Instead of relying on a single technology, Sierra Leone developed a multi-channel approach to distance education. Radio lessons formed the backbone of the system, but they were complemented by additional communication and learning channels that addressed different access needs.

MAIN LEARNING CHANNELS	PURPOSE
Radio broadcasts	Delivery of structured curriculum-based lessons
Mobile phones and SMS	Learner communication and interaction
Printed learning materials	Learning without internet connectivity
Television	Additional educational broadcasts
Government website	On-demand access for learners with internet
Teacher and student helpdesks	Academic and technical support

This approach reduced dependence on any single technology and increased the likelihood that learners could continue participating even when one communication channel became unavailable.

Pedagogical approach

The success of the initiative did not depend primarily on radio itself, but on how learning was designed. Lessons were short, structured, aligned with the curriculum, and delivered according to predictable schedules. Where possible, learners could ask questions by phone, while printed materials helped them revisit the content offline.

For your own teaching, the transferable lesson is this: low-tech teaching still needs careful design. Students need clear tasks, predictable routines, and some way to ask questions or confirm participation.

Institutional response

Maintaining learning continuity required substantial organisational coordination. Government agencies, teachers, broadcasters, development partners, and local communities collaborated to develop lessons, coordinate broadcasts, distribute printed materials, and communicate with learners and families.

Several institutional measures further strengthened the response. For example, additional radio transmitters were installed in underserved regions, solar-powered radios were distributed to vulnerable communities, teachers received training through SMS and television, and awareness campaigns informed learners about available educational opportunities. These actions demonstrate how targeted infrastructure investments can enhance resilience and access during crises.

The case illustrates that educational resilience depends not only on individual teaching practices but also on institutional planning, communication, and governance.

Outcomes and lessons learnt

The Sierra Leone initiative demonstrates that meaningful learning continuity can be achieved even under severe infrastructural constraints when institutions design teaching around learners' actual access conditions.

Among its achievements were:

- the rapid scaling of radio-based teaching through 43 teacher-presenters and 44 hours of weekly broadcasts;
- the successful reuse of experience gained during the Ebola outbreak;
- the expansion from a single teaching medium to an integrated multi-channel learning system.

At the same time, the initiative highlights important limitations. Providing access to learning does not automatically guarantee learning outcomes. Radio-based teaching still requires effective instructional design, opportunities for learner interaction, appropriate assessment, and continuous monitoring of student participation.

KEY MESSAGE:

Low-tech does not mean low effort. Effective low-tech education requires careful planning, coordination, learner support, and quality assurance.

Implications for higher education

The Sierra Leone experience should not be understood as a recommendation to introduce radio teaching in higher education. Rather, it illustrates a broader principle applicable across many crisis contexts: educational technologies should be selected based on students' actual access conditions rather than on institutional preferences.

Higher education institutions can apply this principle through the self-check below, focusing on realistic access, low-bandwidth options, backup communication, emergency protocols, and student reachability.

In higher education, the principle is not to replicate “school radio”, but to adapt the same access-first logic through low-bandwidth alternatives such as short audio lectures, downloadable recordings, telephone consultation hours, and text-message reminders.

Checklist

- ☐ Map which communication channels students can actually access before selecting digital technologies.
- ☐ Prepare at least one low-bandwidth or offline teaching option.
- ☐ Break essential content into short audio- or text-based learning units.
- ☐ Define one main and one backup communication channel.
- ☐ Create a simple way for students to ask questions or confirm participation.
- ☐ Monitor student participation continuously through simple feedback mechanisms (e.g., SMS, telephone calls, surveys or messaging applications).

QUESTIONS FOR FURTHER REFLECTION

- What is the lowest-bandwidth version of one learning unit in your course?
- If your LMS or video-conferencing platform became unavailable, how could students still access essential instructions?
- Which channel reaches the highest number of learners with the lowest technical barriers?
- How would you know which students were not being reached?

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CASE REPOSITORY

Ensuring learning continuity through a national digital learning platform

CASE STUDY: ALL-UKRAINIAN SCHOOL ONLINE

The case at a glance

ELEMENT	SUMMARY
Crisis context	COVID-19 pandemic and full-scale war in Ukraine
Main disruption	School closures, displacement, security risks, damaged infrastructure, and interrupted face-to-face teaching
Main response	A national digital platform with structured lessons, tests, self-assessment, and teacher guidance
Key lesson	A digital platform supports continuity when it provides structure, not only content
Relevance for higher education	The case helps HEIs think about shared repositories, structured modules, quality-assured materials, and fallback options

Why this case matters

The **All-Ukrainian School Online (AUSO)** platform demonstrates how a centrally coordinated digital learning environment can support educational continuity during prolonged crises. Originally developed during the COVID-19 pandemic, the platform became a key component of Ukraine's educational response following the full-scale Russian invasion in 2022. It provided students and teachers with free, curriculum-aligned digital learning resources and helped maintain access to education despite displacement, damaged infrastructure, and repeated interruptions to face-to-face teaching.

Although developed for school education, the case offers valuable lessons for higher education institutions. It illustrates how investing in shared digital infrastructure before a crisis occurs can strengthen institutional resilience and reduce reliance on ad hoc solutions during emergencies.

The challenge

Ukraine faced multiple and overlapping disruptions that threatened the continuity of education. Large-scale displacement, air raids, damage to educational infrastructure, and frequent war-related interruptions to teaching followed school closures during the COVID-19 pandemic. At the same time, students and teachers needed reliable learning resources that could be accessed from different locations and under changing circumstances.

Three challenges were particularly significant:

- ensuring continuity of teaching despite ongoing disruptions and displacement;
- providing quality-assured, curriculum-aligned learning materials rather than relying on fragmented online resources;
- ensuring equitable access for learners with varying levels of internet connectivity, digital devices, and safe learning environments;
- organising and supporting a substantial share of students' independent learning, including appropriate ways to monitor progress and provide feedback.

While Ukraine had comparatively well-developed digital infrastructure, the crisis demonstrated that technology alone cannot guarantee equal participation.

REFLECTION:

If your institution suddenly had to move fully online, would students and lecturers know where to find reliable, high-quality learning materials?

A national digital learning platform

Rather than leaving individual schools and teachers to develop their own solutions, Ukraine established a centralised digital learning platform that provided structured educational resources for students and methodological support for teachers.

The platform combines several functions into a single integrated learning environment.

PLATFORM FEATURES	PURPOSE
Video lessons	Deliver curriculum-based instruction
Learning materials and summaries	Support independent study
Tests and self-assessments	Monitor learning progress
Teacher guidance	Support remote and blended teaching
Mobile application	Increase accessibility across devices
Learning analytics	Track learner participation and progress

Built on the Open edX platform, AUSO expanded rapidly during the war, growing from approximately **35,000 to more than 500,000 registered learners**, demonstrating its capacity to operate at a national scale.

Pedagogical approach

The platform is built around **structured asynchronous learning**. Rather than relying primarily on live online classes, students can access lessons whenever circumstances allow, repeat content at their own pace, and complete learning activities independently.

Each learning unit combines several instructional elements – including explanations, exercises, self-assessment, and additional learning resources – creating a coherent learning pathway rather than a collection of isolated materials. Teachers can integrate these resources into face-to-face, blended, or fully online teaching according to local needs.

For higher education institutions, the key lesson is that a digital platform should do more than store documents. Effective learning environments provide **structure, sequencing, assessment, and guidance**, helping both students and lecturers navigate learning even under highly unstable conditions.

Institutional response

The success of All-Ukrainian School Online depended not only on technology but also on effective governance. The platform was developed through close cooperation between the **Ministry of Education and Science**, the **Ministry of Digital Transformation**, the **NGO Osvitoria**, and the **Ukrainian Institute of Education Development**.

This collaborative governance model combined educational expertise, digital innovation, and national coordination. As a result, the platform became an integrated part of Ukraine's education system rather than an isolated technological solution. Importantly, it also enabled displaced students and refugees to remain connected to the Ukrainian curriculum while studying abroad.

The case illustrates how institutional resilience depends on clearly defined responsibilities for platform management, content development, teacher support, communication, and quality assurance.

Outcomes and lessons learnt

All-Ukrainian School Online demonstrates the value of investing in digital infrastructure before a crisis fully unfolds. Because the platform had already been developed during the COVID-19 pandemic, Ukraine was able to adapt and expand an existing system rather than creating one from scratch during wartime.

The case highlights several important lessons:

- a shared digital platform provides consistency and reduces fragmentation;
- curriculum-aligned resources support both students and teachers;
- central coordination improves quality assurance and scalability;
- investments in digital preparedness strengthen resilience across multiple crises.

At the same time, the case also demonstrates the limitations of platform-based learning. Even the most sophisticated digital platform depends on internet access, digital devices, electricity, and learners' digital competences. Digital platforms should therefore be complemented by offline learning opportunities, flexible assessment arrangements, teacher support, and, where necessary, appropriate psychosocial services.

KEY MESSAGE:

A resilient digital platform is more than a repository of teaching materials – it provides structure, guidance, and continuity when normal teaching is disrupted.

Implications for higher education

Rather than replicating the Ukrainian platform itself, higher education institutions can adopt the underlying principles that made it effective: preparing shared, quality-assured digital learning

environments before crises occur and ensuring that responsibilities for platform management, content quality, teacher training, student support, data protection, and crisis communication are clearly defined.

The digital learning platforms should serve as institutional learning ecosystems rather than simple document repositories. Learning materials and objectives should be integrated within coherent modules.

This school scenario can be transferred to higher education institutions in the form of a centralised digital course platform: core modules, emergency repositories and digital self-assessments could provide useful and necessary tools and adaptations within the tertiary education sector.

Checklist

- ☐ Have clear ownership, including responsibilities for platform maintenance, content quality, staff training, student support, data protection, and crisis communication.
- ☐ Provide a shared, quality-assured repository for essential course materials, assignments, assessments, and guidance documents.
- ☐ Organise materials into coherent modules, with learning objectives, activities, tasks, deadlines, feedback opportunities, and support information rather than scattered uploads.
- ☐ Support flexible access through mobile-friendly formats, downloadable readings, short video or audio materials, and low-bandwidth or offline alternatives.
- ☐ Help students stay oriented by making tasks, deadlines, feedback, and support easy to find during disruption.

QUESTIONS FOR FURTHER REFLECTION

- Does your course platform guide students through learning, or does it mainly store materials?
- What would students need to find in one place if regular teaching were interrupted?
- Which offline or low-bandwidth alternatives would be needed if students could not access the platform?

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CASE REPOSITORY

Supporting learning continuity through mobile and SMS-based engagement

CASE STUDY: KEEP KENYA LEARNING

The case at a glance

ELEMENT	SUMMARY
Crisis context	COVID-19-related school closures in Kenya
Main disruption	Unequal access to internet, devices, and digital learning platforms
Main response	SMS-based communication, mobile prompts, accessible resources, and guidance for learning at home
Key lesson	Simple mobile communication can help maintain orientation, motivation, and engagement when full online learning is not realistic
Relevance for higher education	The case supports reflection on low-bandwidth communication, short learning prompts, and mobile-first course guidance

Why this case matters

The Keep Kenya Learning initiative demonstrates how simple mobile technologies can support continuity of learning when internet access, digital learning platforms, and advanced devices cannot be assumed. Developed during the COVID-19 pandemic, the initiative relied primarily on SMS, basic mobile phones, caregiver guidance, and accessible learning resources to help learners remain engaged while schools were closed.

Although the initiative was designed for school education, it offers valuable insights for higher education institutions operating in low-resource or crisis-affected contexts. The case illustrates that effective digital teaching does not necessarily require sophisticated platforms. Instead, learning continuity can often be sustained through communication technologies that students already use in their everyday lives, provided these are combined with clear learning activities, regular communication, and appropriate learner support.

The challenge

School shutdowns due to the COVID-19 pandemic disrupted education for millions of students throughout Kenya. Although online learning was implemented in various settings, access remained significantly unequal. Many households lacked reliable internet access, smartphones, or computers, making traditional online teaching unavailable to many students.

Another challenge was the transition of learning into the home environment. Parents and caregivers suddenly took on vital roles in the educational process, yet many lacked the time, confidence, digital skills, or educational background necessary to assist learners effectively. Consequently, keeping students motivated and engaged became just as crucial as providing access to educational materials.

REFLECTION:

If your students could only be reached through a basic mobile phone, how would you maintain communication, motivation, and learning?

A mobile-first learning approach

Rather than relying on internet-based platforms, **Keep Kenya Learning** adopted a mobile-first strategy centred on SMS communication. Text messages were used not only to share learning activities but also to encourage learners, remind them of tasks, and provide guidance for caregivers. Where possible, messages also directed learners to additional educational resources.

The initiative deliberately built on technologies that were already familiar and widely available, ensuring that participation did not depend on expensive devices or continuous internet connectivity.

COMMUNICATION TOOLS	PURPOSE
SMS	Learning prompts, reminders, encouragement, caregiver guidance
Basic mobile phones	Universal communication channel
Curated learning resources	Support for home-based learning
Digital literacy guidance	Helping families use available resources effectively
Community partnerships	Local support and outreach

This combination transformed simple mobile communication into an effective mechanism for maintaining educational engagement during prolonged school closures.

Pedagogical approach

The pedagogical design focused on small, manageable learning activities that could easily fit into learners' daily routines. Rather than attempting to replicate classroom teaching remotely, the initiative encouraged regular learning habits through short tasks, reminders, reflection prompts, and practical activities.

A distinctive feature of the programme was its strong emphasis on caregiver engagement. Instead of treating technology as the primary solution, the initiative recognised that successful learning also depends on supportive social environments. Parents and caregivers therefore received practical guidance on how to encourage learning at home and establish simple learning routines.

For higher education, the central lesson extends beyond SMS itself. Complex courses can be organised into small, clearly structured learning units that help students remain engaged even when their study conditions are unstable. Regular communication – whether through messaging services, email, or other low-bandwidth tools – can reinforce learning, provide orientation, and strengthen students' sense of connection with their institution.

Organisational response

The success of Keep Kenya Learning relied on close collaboration with communities and families rather than on technology alone. Community-based organisations played an important role because they already had established relationships with parents and caregivers and were therefore well positioned to support implementation.

Equally important was the initiative's participatory approach. Caregivers were regularly consulted through surveys, learning materials were piloted before wider implementation, and continuous feedback informed ongoing improvements. This ensured that the programme responded to the realities of learners' everyday lives rather than relying on assumptions about available resources or learning conditions.

The case highlights that educational resilience depends not only on selecting appropriate technologies but also on understanding learners' circumstances and adapting interventions accordingly.

Outcomes and lessons learnt

Keep Kenya Learning demonstrates that **simple technologies can make a significant contribution to educational resilience** when they are embedded within a broader support system.

Several important lessons emerge from the initiative. First, access alone is insufficient. Students also require encouragement, guidance, and clear learning routines to remain engaged during periods of disruption. Second, modular learning design makes educational content easier to distribute through low-bandwidth communication channels while reducing cognitive overload for learners facing difficult circumstances. Third, inclusive digital education should begin with the technologies that learners already possess rather than those institutions would ideally like them to use.

At the same time, the case also illustrates the limitations of SMS-based learning. Text messages cannot replace rich interaction, detailed explanations, or sustained feedback. Their greatest value lies in supporting communication, orientation, and motivation within a broader ecosystem that also includes teachers, peers, and, where appropriate, families or local communities.

KEY MESSAGE:

Educational resilience is built as much through communication and learner support as through technology.

Implications for higher education

The Keep Kenya Learning initiative demonstrates that universities should view mobile communication as more than an emergency notification tool. Messaging services can help maintain regular contact with students, reinforce learning routines, and provide timely guidance during disruption.

The transferable lesson is to design communication around what students can reliably access, rather than around a single institutional platform. Higher education institutions should therefore build communication redundancy and backup channels into continuity planning before disruption occurs.

A crisis-resilient communication strategy adapted based on this case can be:

- ☐ **Identify students' reliable communication channels**, instead of assuming that all learners can access the LMS, email, or video platforms regularly.
- ☐ **Use short prompts, reminders, and check-ins** so students receive clear guidance without being overloaded by long instructions.
- ☐ **Break course activities into small, manageable steps**, making learning easier to continue through mobile or low-bandwidth communication.
- ☐ **Combine mobile communication with other access options**, such as printable materials, downloadable files, asynchronous tasks, or offline resources.
- ☐ **Use messaging for learning support, not only for announcements**, allowing students to ask questions, receive encouragement, and maintain learning routines.
- ☐ **Prepare templates and contact procedures in advance**, so communication can continue quickly and consistently when a disruption occurs.

QUESTIONS FOR FURTHER REFLECTION

- Which students might disappear if your course relied only on the LMS?
- What is the shortest useful message students would need from you during a disruption?
- Which low-bandwidth channel could support contact without becoming overwhelming?

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CASE REPOSITORY

Combining device distribution and digital teacher training to strengthen learning continuity in times of crisis

CASE STUDY: UNESCO GLOBAL EDUCATION COALITION IN UKRAINE

The case at a glance

ELEMENT	SUMMARY
Crisis context	War-related disruption in Ukraine
Main disruption	Displacement, damaged infrastructure, unstable access, and lack of suitable devices
Main response	Device distribution combined with digital teacher training and professional support
Key lesson	Devices create access, but teacher capacity determines whether digital teaching becomes meaningful and sustainable
Relevance for higher education	The case helps HEIs connect infrastructure support with staff development, pedagogy, and teacher well-being

Why this case matters

The UNESCO Global Education Coalition shows that maintaining continuity of learning during crises requires more than simply providing access to digital technologies. Following Russia's full-scale invasion of Ukraine in 2022, UNESCO and its partners supported the education system through a combination of device distribution, digital teacher training, and professional support for educators.

The main lesson for higher education is practical: devices create access, but they do not automatically create meaningful learning. Teachers also need confidence, pedagogical guidance, and support for their own wellbeing when they are asked to teach under pressure.

The challenge

The war in Ukraine forced many educational institutions to alternate repeatedly between face-to-face, remote, and hybrid teaching. Air raids, damaged infrastructure, power outages, and large-scale displacement disrupted normal educational activities and created highly unstable teaching conditions.

Two major challenges emerged. First, many teachers and students lacked suitable digital devices for participating effectively in online education. Without reliable laptops or similar equipment,

preparing teaching materials, communicating with students, or delivering online instruction became difficult or impossible.

Second, many educators had limited experience in designing and facilitating high-quality online or hybrid learning. Beyond technical skills, teachers needed support in maintaining student engagement, adapting instruction amid unstable conditions, and responding to the emotional challenges of teaching during wartime.

REFLECTION:

If every lecturer at your institution suddenly received a new laptop tomorrow, would that alone be enough to ensure high-quality online teaching?

Combining technology with professional development

Rather than addressing infrastructure and teaching capacity separately, UNESCO developed an integrated support model that combined **device provision**, **professional learning**, and **ongoing pedagogical support**.

Around **8,500 digital devices**, including Chromebooks, were distributed to teachers and later to learners, improving access to digital learning environments. At the same time, UNESCO developed a comprehensive online **Digital Teacher Training** programme comprising seven interactive modules to help educators strengthen their digital pedagogy and prepare for remote and hybrid teaching.

The initiative was further supported through a wider digital ecosystem that included Google for Education tools, digital learning resources such as **All-Ukrainian School Online**, and professional communities where teachers could exchange experiences and practical solutions.

SUPPORT COMPONENT	PURPOSE
Digital devices	Enable participation in remote and hybrid teaching
Digital Teacher Training	Strengthen digital pedagogy and instructional design
Online teaching resources	Support course development and delivery
Communities of practice	Facilitate peer learning and professional exchange
Digital platforms	Provide access to curriculum-aligned learning materials

Rather than treating technology as the solution, the initiative recognised that effective digital teaching depends on combining infrastructure with professional competence.

Pedagogical approach

The initiative is built on the principle that **digital resilience requires both technological and pedagogical capacity**. Providing teachers with devices creates opportunities for online teaching, but meaningful learning depends on educators' ability to design engaging, inclusive, and well-structured learning experiences.

The Digital Teacher Training programme therefore focused not only on the technical use of digital tools but also on instructional design, student engagement, online assessment, and communication in remote and hybrid learning environments. Nearly **50,000 teachers** participated in the programme, developing practical strategies for teaching under highly unstable conditions.

The program also acknowledged the wider responsibilities of educators during times of crisis. Teachers are not only tasked with teaching academic subjects; they also ensure continuity, nurture relationships with students, inspire motivation, and support learners' emotional well-being. To sustainably fulfil these responsibilities, teachers need to support themselves. As a result, the training included aspects of resilience, crisis management, and coping techniques, recognising that educators' well-being is a crucial part of educational resilience.

For your institution, the lesson is simple: do not give people tools without helping them use those tools well. A laptop, platform, or app only supports learning when teachers know how to design activities, communicate clearly, assess fairly, and protect their own wellbeing while teaching under pressure.

Organisational response

The initiative was implemented through close cooperation between UNESCO, the Ministry of Education and Science of Ukraine, and numerous international and private-sector partners. This multi-stakeholder model combined governmental leadership with international expertise, financial support, technological resources, and implementation capacity.

Each partner contributed complementary strengths. Government institutions identified educational priorities, UNESCO coordinated the overall response, while private-sector organisations and development partners provided funding, digital devices, platforms, and technical expertise.

The case illustrates that educational resilience is strengthened when responsibilities are clearly distributed, and different organisations work towards a shared objective. Effective governance therefore involves not only coordination during crises but also the establishment of partnerships that can be mobilised rapidly when disruptions occur.

Outcomes and lessons learnt

The UNESCO initiative demonstrates that **technology and professional development reinforce one another**. While digital devices enabled teachers and learners to participate in online education, professional training ensured that these technologies were used effectively to support meaningful learning.

The initiative highlights several key lessons regarding digital inclusion in education. Firstly, it emphasises that access to hardware alone is insufficient; effective participation in digital contexts also requires reliable connectivity, strong digital skills, pedagogical expertise, and robust institutional support. Secondly, teachers' roles are crucial in ensuring educational continuity during challenging times. By supporting educators, we can enhance the overall resilience of the education system. Lastly, investments made during crises can foster enduring institutional capacity. Initiatives such as professional learning programs, digital communities of practice, and improved technological infrastructure can provide long-term benefits that extend well beyond the immediate needs of an emergency.

KEY MESSAGE:

Educational resilience depends not only on technology but also on empowered, well-supported educators who know how to use it effectively.

Implications for higher education

The UNESCO Global Education Coalition illustrates that universities should treat digital infrastructure and staff development as complementary investments rather than separate initiatives.

Institutions should first assess whether lecturers and students have access to suitable digital devices and, where necessary, establish lending schemes or strategic partnerships. However, device provision should always be accompanied by systematic professional development. Lecturers need practical guidance on designing online and hybrid courses, facilitating interaction, providing feedback, assessing students remotely, and adapting teaching to uncertain circumstances.

Professional development should focus on realistic teaching scenarios rather than generic digital skills. Topics such as low-bandwidth teaching, asynchronous learning, mobile-friendly course design, flexible assessment, and emergency communication are particularly relevant for crisis preparedness.

Finally, universities should recognise that educator wellbeing is an essential component of digital resilience. Training programmes should therefore include strategies for managing stress, maintaining professional boundaries, supporting students during crises, and sustaining teachers' own resilience. By integrating technological support, pedagogical development, and educator wellbeing, higher education institutions can build more robust and sustainable systems to maintain continuity of learning during times of disruption.

For higher education, the transferable lesson is to avoid treating digital access, lecturer development, and staff wellbeing as separate interventions. Crisis-ready digital education requires these elements to be planned as part of the same institutional continuity strategy.

Checklist:

- ☐ Assess whether lecturers and students have access to suitable devices.
- ☐ Create device-lending schemes, shared equipment pools, or donor partnerships where needed.
- ☐ Connect device provisioning with practical training and pedagogical guidance.
- ☐ Support lecturers in online course design, interaction, feedback, remote assessment, and low-bandwidth teaching.
- ☐ Build communities of practice or peer-support spaces for teaching staff.
- ☐ Include stress management, professional boundaries, self-care, and coping strategies in digital teacher training.

QUESTIONS FOR FURTHER REFLECTION

- When your institution provides digital tools, what support helps lecturers use them pedagogically?
- Which is currently weaker in your context: access to devices, digital skills, pedagogical guidance, or teacher wellbeing?
- How could staff development be linked more directly to crisis teaching needs?

CASE REPOSITORY

Maintaining women's higher education access through online and hybrid continuity after the Taliban takeover

CASE STUDY: AMERICAN UNIVERSITY OF AFGHANISTAN

The case at a glance

ELEMENT	SUMMARY
Crisis context	Taliban takeover, campus closure, political repression, and restrictions on women's higher education
Main disruption	Loss of physical campuses, dispersed students and staff, security risks, and barriers to participation
Main response	Online learning, later complemented by hybrid and in-person opportunities in Doha
Key lesson	Academic continuity can be maintained beyond the physical campus when digital teaching, partnerships, safety, and student support are combined
Relevance for higher education	The case helps HEIs reflect on campus-independent continuity, dispersed learners, restricted access, and safe hybrid models

Why this case matters

The experience of the American University of Afghanistan (AUAF) demonstrates how higher education institutions can preserve teaching and learning even when their physical campuses become inaccessible. Following the Taliban takeover in August 2021, AUAF rapidly shifted its academic programmes online and later complemented them with hybrid teaching through a new campus in Doha, Qatar. The case illustrates that digital technologies alone do not ensure educational continuity. Successful crisis response also requires institutional flexibility, strong partnerships, and sustained support for students and staff affected by conflict and displacement. While the political context is exceptional, many of the underlying principles are transferable to other crises that disrupt normal campus operations.

Context

Until August 2021, AUAF operated two campuses in Kabul. Following the Taliban takeover, the university closed both campuses and moved all teaching online. Many students, lecturers and staff members were displaced within Afghanistan or relocated abroad, while uncertainty about the future of higher education continued to grow.

The situation became even more restrictive in December 2022, when women were prohibited from attending universities in Afghanistan. AUAF's online and later hybrid teaching model therefore became an important mechanism for maintaining educational opportunities, particularly for female students who could no longer access higher education within the country.

As you read this case, focus less on the specific political context and more on the continuity question: what can a university preserve when the campus is no longer available? AUAF shows that continuity may depend on more than online classes. It may also require safe communication, student support, partnerships, and ways to keep an academic community connected across borders.

Main challenges

AUAF faced several interconnected challenges that required rapid institutional adaptation.

The university had to continue teaching despite losing access to its physical campuses. At the same time, students and lecturers were dispersed across different countries, creating challenges related to time zones, communication, and varying levels of internet connectivity.

Beyond these organisational issues, many students experienced displacement, insecurity, trauma, and uncertainty about their future. Maintaining learning, therefore, also meant maintaining motivation, academic relationships, and a sense of belonging within the university community.

Combining online teaching with distributed learning

Instead of trying to recreate the previous campus digitally, AUAF implemented a flexible approach that integrated online education with new in-person learning opportunities.

Initially, all teaching was conducted online, allowing both students and instructors to stay connected regardless of location.

Subsequently, through collaborations with the Qatar Foundation and the Qatar Fund for Development, AUAF launched operations in Doha.

This allowed some students to return to in-person classes, while others continued their participation remotely in the same academic programs.

As a result, the university transformed into a distributed institution that blended digital instruction, hybrid involvement, and global partnerships to uphold academic continuity despite the loss of its original campuses.

Pedagogical approach

AUAF's response focused on maintaining continuity, flexibility, and the academic community.

Courses combined synchronous instruction with flexible participation options to accommodate students living in highly unstable conditions. Digital teaching was designed not only to deliver academic content but also to preserve regular study routines, student-lecturer interaction, and a shared institutional identity.

The case demonstrates that, particularly during prolonged crises, higher education should aim to sustain both learning and the social structures that enable students to continue their studies.

Outcomes and lessons learnt

Several lessons emerge from the AUAF experience.

First, learning continuity should not depend entirely on a single campus. Universities that can shift between physical, online and hybrid delivery are better able to respond to disruptions.

Second, academic communities can remain functional even when geographically dispersed. Digital technologies can preserve teaching, supervision, collaboration and institutional identity across multiple locations.

Third, student support becomes even more important during crises. Academic advising, well-being services, flexible assessment and regular communication are essential complements to digital teaching.

Finally, partnerships significantly strengthen institutional resilience. Collaboration with governments, foundations and other universities can provide alternative learning spaces, financial resources and technical expertise when institutional capacities are under pressure.

Implications for higher education

Based on the AUAF experience, higher education institutions should:

- develop contingency plans that enable rapid transitions between face-to-face, online and hybrid teaching;
- prepare flexible teaching models that allow students to participate from different locations and time zones;
- establish partnerships with other universities, governments, humanitarian organisations and technology providers before crises occur;
- integrate academic advising, psychosocial support, mobility guidance and flexible assessment arrangements into institutional crisis planning; and
- view digital technologies not simply as delivery tools but as mechanisms for preserving academic communities when physical campuses are disrupted.

KEY TAKEAWAY

Digital technologies can preserve higher education when campuses become inaccessible, but sustainable continuity of learning depends equally on institutional flexibility, strong partnerships, and comprehensive support for students and staff.

Checklist

- ☐ Identify which teaching, advising, assessment, and support activities can continue without campus access.
- ☐ Prepare emergency plans for rapid transition to online and hybrid teaching.
- ☐ Define secure communication protocols and clear responsibilities for academic staff.
- ☐ Plan for students and staff who are dispersed across locations and time zones.
- ☐ Address safety, privacy, gender sensitivity, and risks faced by students in restricted environments.
- ☐ Build partnerships that can support relocation, shared teaching, financial aid, or emergency support.

QUESTIONS FOR FURTHER REFLECTION

- Which parts of your course or institution depend entirely on physical campus access?
- How could the academic community be maintained if students and staff were dispersed?
- What safety, privacy, or support issues would need to be considered before moving teaching online?

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CASE REPOSITORY

Higher education in refugee camps through blended learning and local learning hubs

CASE STUDY: INZONE IN COOPERATION WITH THE UNIVERSITY OF GENEVA

The case at a glance

ELEMENT	SUMMARY
Crisis context	Refugee camps and humanitarian displacement settings
Main disruption	Limited access to university infrastructure, connectivity, devices, study spaces, and academic support
Main response	Blended learning through online courses, local learning hubs, onsite facilitation, online tutoring, and refugee participation in hub management
Key lesson	Online content becomes meaningful when embedded in a human support ecosystem.
Relevance for higher education	The case helps HEIs think about learning hubs, tutoring, facilitation, peer support, and local ownership

Why this case matters

Imagine that your students have access to an online course, but no quiet place to study, unstable electricity, limited devices, and little direct contact with lecturers.

In that situation, simply uploading materials is not enough. The InZone case shows why digital learning often needs a local support structure around it: a place to study, people who can help, and learners who take part in shaping the learning environment.

The useful lesson here is that online content becomes meaningful when it is surrounded by infrastructure, human support, and local ownership.

Context

Access to higher education in refugee camps and displacement settings is highly constrained. Learners often face:

- Interrupted or incomplete educational pathways
- Limited recognition of prior qualifications
- Weak or unstable internet connectivity

- Restricted mobility and legal barriers
- Limited access to formal universities

Despite these barriers, learners frequently show strong motivation, community knowledge, and educational ambition.

InZone responds by bringing structured university-level learning directly into camps, embedding education within local environments rather than expecting learners to adapt to traditional campus systems.

Core challenges

This model addresses three interlinked challenges:

First, the **absence of infrastructure**. Learners often lack electricity, devices, quiet study spaces, libraries, and academic support systems. A purely online approach collapses under these conditions.

Second, there is a **mismatch between university design and field realities**. Traditional university courses assume stable schedules, reliable connectivity, and direct access to lecturers—conditions rarely present in refugee contexts. Learners also face language barriers, financial pressures, caregiving responsibilities, and gender-related constraints.

Third, **ensuring academic quality and relevance simultaneously**. Higher education must remain rigorous but also meaningful for learners' futures and community contexts.

The key tension is therefore between academic *standards and contextual feasibility*.

Learning model and tools

The InZone model is built around a **blended learning ecosystem** that integrates digital and physical components.

At the centre are **online university platforms** that host course content, assignments, and communication tools. However, these are not used in isolation.

They are supported by **local learning hubs**, such as the InZone-Kakuma Learning Hub, which provide:

- Solar-powered electricity
- Internet access
- Computers and laptops
- Dedicated study spaces
- Structured learning environments

These hubs are not only technical infrastructure—they function as **social and educational spaces**.

Supporting tools include:

- Online learning platforms for course delivery
- Messaging apps for communication
- Video calls for lectures and tutoring
- Onsite facilitation for technical and learning support
- Peer learning and group study structures

The system is designed as an interconnected ecosystem linking students, tutors, facilitators, lecturers, coordinators, and local community actors.

Pedagogical approach

The pedagogical approach is based on connected blended learning.

Students engage with university-level content, but learning is continuously supported through multiple layers:

- **Lecturers** provide academic content and assessment
- **Online tutors** offer ongoing guidance and feedback
- **Onsite facilitators** support access, logistics, and technical issues
- **Course coordinators** ensure overall course coherence and flow
- **Peers** support collaborative learning and motivation

A central principle is **learner autonomy**. Students are encouraged to manage their own learning processes, collaborate, and take ownership of their educational journey.

At the same time, strong emphasis is placed on **contextualisation**. Learning materials are adapted to local realities, ensuring that education is not abstract but connected to lived experience, community challenges, and future opportunities.

Institutional response

The model is anchored in a university-led but multi-actor governance structure.

The University of Geneva provides academic legitimacy and course design. Implementation takes place through local hubs supported by refugee-led teams and community members.

Former students often become part of the system, contributing to:

- Hub management
- Peer support
- Local coordination
- Adaptation of learning materials

This strengthens local **ownership and sustainability**.

At the same time, the system depends on **external partnerships**, including humanitarian organisations, donors, academic collaborators, and local stakeholders. These partnerships ensure operational continuity, funding, and academic integration.

Outcomes and lessons learnt

The case demonstrates that higher education can be delivered in highly constrained environments when technology is combined with human and local systems.

Key Lessons

1. **Human support is essential in digital learning**
Technology enables access, but learning happens through interaction—tutors, facilitators, peers, and coordinators are critical.
2. **Local ownership improves relevance and trust**
When learners participate in managing learning hubs, programmes become more responsive and sustainable.

3. Contextualisation increases learning value

Courses become more meaningful when connected to learners' realities, skills needs, and community challenges.

4. Structural barriers remain

Even strong blended models cannot fully overcome issues such as connectivity gaps, funding instability, mobility restrictions, and a lack of formal recognition.

Implications for higher education

For universities and organisations aiming to replicate this approach:

Blended learning in crisis contexts should begin with **local learning hubs**. These spaces provide the physical and social infrastructure needed for digital learning to function effectively.

A structured **human learning ecosystem** is essential. Clear roles should exist for lecturers, tutors, facilitators, coordinators, and peer mentors so that learners receive continuous academic and emotional support.

Courses must be **contextualised**, integrating local examples, challenges, and opportunities into assignments and learning materials.

Local participation in governance should be embedded from the start. Refugee learners and community members should help manage learning spaces and shape decisions.

Finally, such initiatives should be designed as **long-term educational partnerships** rather than short-term interventions. Sustainability depends on funding stability, academic recognition, trust-building, and continuous adaptation.

Checklist

- ☐ Identify what support students need beyond access to online content.
- ☐ Create or partner with local learning hubs where students cannot study effectively from home.
- ☐ Define the roles of lecturers, online tutors, onsite facilitators, peer mentors, and course coordinators.
- ☐ Contextualise examples, assignments, case studies, and project work to learners' realities.
- ☐ Involve learners or community members in adapting learning spaces and support systems.
- ☐ Plan for long-term sustainability, including funding, academic recognition, local trust, and continuous adaptation.

QUESTIONS FOR FURTHER REFLECTION

- Who supports students around your digital course besides the lecturer?
- What support would students need if they could not study effectively from home?
- How could learners participate in adapting support structures to their own realities?

CASE REPOSITORY

Maintaining higher education through flexible, low-bandwidth and outcome-oriented learning during wartime

CASE STUDY: ASYNCHRONOUS LEARNING MODELS AT SUMY STATE UNIVERSITY

The case at a glance

ELEMENT	SUMMARY
Crisis context	Wartime higher education near active conflict zones
Main disruption	Air alerts, power outages, unstable connectivity, displacement, and unsafe physical attendance
Main response	Modular asynchronous learning, low-bandwidth materials, flexible submission, hybrid assessment, and digital documentation
Key lesson	Learning continuity should not depend on students and teachers being online at the same time
Relevance for higher education	The case helps HEIs redesign courses around asynchronous access, outcomes, and flexible assessment

Why this case matters

This case describes how Sumy State University maintained continuity in higher education during Russia's full-scale invasion of Ukraine by shifting from synchronous online teaching to a flexible, asynchronous, outcome-oriented learning model.

The key shift is structural: education is no longer organised around simultaneous presence (live lectures), but around asynchronous access and demonstration of learning outcomes.

In practice, this means students learn, complete assignments, and demonstrate competencies whenever conditions allow, rather than according to fixed schedules.

The case demonstrates a broader principle of crisis education design: resilience comes from flexibility, modularity, and low dependency on stable connectivity.

Context and main challenges

The war in Ukraine created extreme instability for higher education institutions, particularly those near conflict zones and the Russian border.

At Sumy State University, education was disrupted by:

- Air raid alerts and direct security threats
- Missile and artillery attacks
- Frequent and unpredictable power outages
- Damage to energy and internet infrastructure
- Geographic dispersion of students and staff (within Ukraine and abroad)

Traditional teaching methods, whether conducted face-to-face or via live online sessions, became unreliable or unsafe under these circumstances. Therefore, the primary challenge **was to maintain educational continuity when neither in-person nor real-time digital instruction could be assured**.

As a result, universities faced an inequality-of-access challenge. They could no longer assume that students would have:

- Stable electricity
- Continuous internet access
- Safe or quiet learning environments
- Access to devices
- Fixed daily schedules

This made a uniform model impossible and forced a transition toward **fully distance-based and asynchronous education models** that remove dependence on real-time participation.

The university also had to preserve academic fairness by ensuring that exams, thesis defences, and course completion remained valid without penalising students for connectivity failures.

Technologies, platforms and tools

The digital ecosystem at Sumy State University combined institutional platforms with low-bandwidth communication tools.

Key systems included:

Learning and content platforms

- *Lectur.ED* for structured teaching materials
- *Mix SumDU* (learning management system for both synchronous and asynchronous learning, including modules, tasks, and tracking)
- *Examinaurium* for online courses, testing, and examinations

Communication tools

- Telegram, Viber, WhatsApp for urgent updates, coordination, and security information

Cloud infrastructure

- Google Drive for backup storage and asynchronous access to learning materials

Content formats

- Recorded lectures
- Short instructional videos
- Downloadable learning materials adjustable for low bandwidth

The core design principle was redundancy: if one channel failed (e.g., university servers or internet outages), others remained available.

Pedagogical approach

The pedagogical model shifted toward **flexibility, autonomy, and trust-based learning design**.

=> Micro-content as a foundation

Large lectures and real-time sessions were replaced by micro-content units, including:

- Short PDFs
- Brief audio explanations
- Small video segments
- Self-contained learning packages

Each unit was designed to be understandable without live instruction.

This made learning possible during:

- Power outages
- Displacement periods
- Interrupted internet access

=> Flexible pacing and deadlines

Rigid deadlines were replaced with:

- Extended submission windows
- Individualised timelines
- Coordination between students and instructors

This reduced stress and acknowledged the reality of unpredictable access.

=> Hybrid assessment design

Assessment systems were redesigned to combine:

- Asynchronous submissions (essays, assignments, recordings)
- Pre-recorded presentations
- Online tests where possible
- Select synchronous elements when conditions allow

The focus shifted from presence to demonstrated learning outcomes.

Institutional response

The institutional response at Sumy State University evolved from emergency remote teaching into a structured **asynchronous learning system**.

Key organisational changes included:

- Redesign of communication workflows across platforms
- Integration of learning systems, cloud storage, and assessment tools
- Increased use of digital documentation and signatures
- Shift in attendance logic from participation-based to outcomes-based evaluation

Academic staff roles also changed significantly.

Instructors were expected to:

- Produce modular and low-bandwidth content
- Communicate through multiple parallel channels

- Provide flexible and empathetic feedback
- Continuously adjust teaching plans to student realities

Institution-wide alignment became essential to ensure consistency across platforms, assessment standards, and communication practices.

Outcomes and lessons learnt

The case shows that **asynchronous learning can act as a resilience mechanism in extreme crisis conditions**.

Key Lessons

1. **Flexibility is essential in crisis education**
Rigid deadlines and fixed schedules are incompatible with environments affected by war, displacement, and infrastructure collapse.
2. **Micro-content increases accessibility**
Small, downloadable learning units significantly improve access in low-bandwidth and unstable-electricity conditions.
3. **Assessment must shift toward outcomes**
Reliable evaluation depends less on live attendance and more on submitted work, recorded outputs, and demonstrated competencies.
4. **Redundancy in systems improves resilience**
Multiple communication and storage channels reduce the risk of complete learning disruption.

Implications for higher education

For universities operating in crisis-affected or resource-constrained environments:

First, courses should be designed in **modular, low-bandwidth formats**. Content must be broken into small units that can be downloaded and used offline.

Second, institutions should integrate **multiple communication channels** (messaging apps, LMS platforms, cloud storage) to ensure continuity during periods of unstable connectivity.

Third, assessment systems should focus on **competencies and learning outcomes**, using asynchronous submissions, recorded presentations, written assignments, and digital tests.

Fourth, universities should adopt **flexible submission policies**, allowing students affected by conflict or infrastructure loss to coordinate realistic deadlines.

Fifth, academic documentation should be fully digitalised, including feedback systems, signatures, and approval workflows.

Finally, both students and staff need structured support for asynchronous learning:

- Students require guidance in self-directed learning and time management
- Teachers need training in micro-content design, digital assessment, and crisis-sensitive pedagogy

Checklist

- ☐ Reduce dependence on live attendance and fixed-time participation.
- ☐ Divide lectures, assignments, and explanations into small downloadable units.
- ☐ Provide low-bandwidth formats such as short PDFs, audio explanations, compact videos, and written task guides.
- ☐ Define flexible submission windows for students affected by conflict, displacement, electricity shortages, or limited connectivity.
- ☐ Use alternative assessment formats such as recorded presentations, written reflections, online tests, or submitted assignments.
- ☐ Support students in self-directed learning and teachers in micro-content design, feedback, and crisis-sensitive assessment.
- ☐ Use a backup communication / storage plan.

QUESTIONS FOR FURTHER REFLECTION

- Which parts of your course still depend on students being online at the same time?
- Which learning materials could be converted into smaller, downloadable units?
- How could assessment remain valid if students lose connection during exams or presentations?

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CASE REPOSITORY

Maintaining higher education through calendar flexibilisation, temporary suspension and individualised study arrangements after the 2024 floods

CASE STUDY: FEDERAL UNIVERSITY OF RIO GRANDE DO SUL

The case at a glance

ELEMENT	SUMMARY
Crisis context	2024 floods in Rio Grande do Sul, Brazil
Main disruption	Mobility problems, lack of electricity, communication failures, disrupted housing, and unequal capacity to return to study
Main response	Temporary suspension, calendar flexibility, exceptional educational rules, monitoring, and individualised study arrangements
Key lesson	Learning continuity does not always mean moving immediately online
Relevance for higher education	The case helps HEIs consider when pausing, flexibilising, or individualising study paths may be fairer than remote teaching

KEY TAKEAWAY

In major disasters, learning continuity may require suspension, calendar flexibility, and individual recovery pathways rather than immediate digital continuation. Institutions should coordinate this with national authorities.

Why this case matters

This case shows how higher education can be maintained after a major climate disaster not by immediately switching to online learning, but through temporary suspension, academic calendar flexibilisation, and individualised study arrangements.

At the Federal University of Rio Grande do Sul, severe floods in 2024 forced a fundamental rethink of what “continuity” means in higher education. Instead of assuming that teaching must continue in real time (physically or digitally), the institution prioritised protection, pause, and structured recovery.

The central insight is that in some crises, continuity is not about keeping teaching running, but about pausing safely and rebuilding fair conditions for learning.

Context

In May 2024, extreme flooding in Rio Grande do Sul, Brazil, caused widespread disruption across the state. The impacts included:

- Damaged transport infrastructure and mobility restrictions
- Large-scale electricity outages
- Communication breakdowns
- Housing destruction and displacement
- Interrupted access to universities and public services

The Federal University of Rio Grande do Sul was directly affected.

In response, academic and administrative activities were temporarily suspended. Importantly, the Brazilian Ministry of Education did **not recommend a general shift to remote learning** because many students lacked basic conditions such as electricity, internet access, and safe housing.

This created a key policy reality: **online learning was not universally viable or fair**.

The institutional challenge was therefore to design a recovery pathway that accounted for unequal impacts and avoided penalising students based on their disaster exposure.

Main challenges

The first major challenge was **ensuring academic continuity without assuming equal ability to participate**.

Students were affected in very different ways:

- Some could return relatively quickly
- Others remained displaced or without housing
- Many lacked electricity, devices, or stable internet
- Psychological stress and family responsibilities were widespread

Under these conditions, normal academic rules—fixed deadlines, attendance requirements, standard exams—would have created **systematic inequality and exclusion**.

The second challenge was **institutional coordination under disruption**. The university needed alignment across:

- Academic calendars
- Course completion rules
- Assessment systems
- Administrative procedures
- Communication across faculties and programmes

Without coordination, fragmented responses could have undermined fairness and academic coherence.

What was used instead of technology

Unlike digitally driven models, this case is primarily based on **regulatory and organisational tools**.

=> **Calendar flexibilisation**

The academic calendar was formally adjusted to:

- Pause teaching during the emergency phase
- Restart education under revised timelines
- Ensure students can still complete the semester

This acknowledged that immediate continuation—digital or physical—was not feasible or equitable.

=> **Exceptional academic regulations**

Special rules were introduced to govern:

- Course completion requirements
- Assessment adaptations
- Attendance flexibility
- Individual study arrangements

These regulations created an **emergency academic framework** that replaced standard procedures during the recovery phase.

=> **Institutional monitoring systems**

Academic coordination bodies actively:

- Identified students unable to resume studies
- Guided them toward recovery pathways
- Managed requests for individualised arrangements

This monitoring function ensured that affected students were not left behind.

Pedagogical approach

The pedagogical response at the Federal University of Rio Grande do Sul focused on **fairness, flexibility, and student protection rather than speed of resumption**.

=> **Shift away from rigid participation**

Instead of enforcing standard attendance and deadlines, the university allowed:

- Flexible participation modes
- Complementary autonomous workload
- Non-face-to-face activities where appropriate

This ensured that students who returned at different times were not penalised.

=> **Individualised study arrangements**

Students still affected by the disaster could:

- Request personalised study plans
- Adjust workloads and timelines
- Modify assessment approaches
- Define learning objectives in coordination with instructors

This introduced a **case-by-case academic recovery model**.

=> **Protective assessment philosophy**

Assessment systems were adjusted so that:

- Absence due to disaster was not automatically penalised
- Students could cancel or defer courses without academic harm
- Recovery pathways replaced punitive evaluation

The emphasis shifted from **compliance to continuity of learning trajectories**.

Institutional and governance response

The organisational response combined national regulation, university-level decisions, and programme-level implementation.

- At the national level, the Ministry of Education authorised calendar flexibility and recognised that remote learning was not necessarily appropriate under the given conditions.
- At the university level, UFRGS temporarily suspended academic activities and technical-administrative work, later organising the return to classes through an adjusted calendar and exceptional educational rules.
- At programme level, academic coordination bodies were responsible for monitoring affected students, guiding them on possible recovery pathways, and processing requests for individualised study arrangements.

The governance response was therefore multi-layered. It connected emergency suspension, calendar adjustment, teaching resumption and student monitoring. This helped avoid a simplistic “return to normal” approach that would have ignored the disaster’s unequal impact.

Outcomes and lessons learnt

The case demonstrates that **pausing education can be an active continuity strategy** rather than a failure of continuity.

Key Lessons

1. **Suspension can be protective, not disruptive**
Temporary suspension allows institutions to avoid reinforcing inequality during crisis conditions and to design fair recovery pathways.
2. **Calendar flexibility is essential after large-scale disasters**
Academic systems must be able to extend, interrupt, or restructure semesters without damaging student progression.
3. **Remote learning is not always appropriate**
When basic infrastructure is unavailable, forcing online participation can increase exclusion rather than solve disruption.
4. **Active student monitoring is critical**
Institutions must identify affected students early and guide them toward tailored recovery options.
5. **Individualisation prevents exclusion**
Flexible academic arrangements help ensure that students are not permanently disadvantaged by temporary crisis conditions.

Implications for higher education

Higher education institutions should prepare **emergency academic frameworks before crises occur**, including:

First, develop regulations that allow **rapid calendar flexibilisation**, enabling suspension, extension, or restructuring of semesters without academic penalties.

Second, treat **temporary suspension as a legitimate continuity tool** rather than an institutional failure, especially when infrastructure and safety conditions are severely compromised.

Third, establish **student-monitoring mechanisms to identify students unable to resume their studies and proactively support their recovery**.

Fourth, implement **individualised study arrangements** that transparently define learning goals, workload, assessment criteria, communication channels, and timelines.

Fifth, ensure that digital learning is not assumed to be the default solution. In some contexts, the most equitable response is a combination of:

- Suspension
- Calendar adjustment
- Individualised academic recovery
- Targeted student support

QUESTIONS FOR FURTHER REFLECTION

- When would immediate online teaching be unfair rather than helpful?
- Which attendance, deadline, or assessment rules would need flexibility after a major disruption?
- How could your institution identify students who cannot realistically return to normal study conditions?

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