

Developing a Proof of Concept for a Regional Learning Hub for Eastern and Southern Africa

Part 1: Inception report

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Notes

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Abbreviations and acronyms

AGENCI	Adolescent Girls' Education in Crisis Initiative
CBC	Competency-based curriculum
ESARO	UNICEF Eastern and Southern Africa Regional Office
HDI	Human Development Index
KEC	Kenya Education Cloud
KICD	Kenyan Institute for Curriculum Development
INEE	Inter-agency Network for Education in Emergencies
L1	'Language one' — A person's first language
LMS	Learning Management System
MoGEI	Ministry of General Education and Instruction
MOI	Mode of Instruction
NGO	Non-governmental organisation
OER	Open Educational Resources
RLH	Regional Learning Hub
SO	Somalia
UNESCO-IBE	International Bureau of Education
WUSC	World University Service of Canada

1. Background and introduction

In 2021 the UNICEF Eastern and Southern Africa Regional Office (ESARO), UNESCO, UNHCR, the Inter-agency Network for Education in Emergencies (INEE) and EdTech Hub (henceforth referred to as ‘the partners’) began collaborating to develop a Regional Learning Hub (RLH). The aim of the Regional Learning Hub (RLH) is to try to solve one particular problem in the process of implementing digital or remote learning solutions for governments in sub-Saharan Africa and other regions: the provision of enough content that is aligned with the respective curricula and that is appropriate to local contexts. The RLH is envisaged as a platform where digital learning content has been pre-aligned with national curricula to enable use by governments and education stakeholders to facilitate quick selection of content for educational use in their regions.

The proof of concept of the RLH is a learning exercise that delivers two short content modules with curriculum-aligned content. It also describes the processes used to deliver this and documents any observations on challenges and opportunities that are relevant to bring the RLH to scale. The proof of concept focuses on four countries: Kenya, South Africa, South Sudan, and Somalia, and on two small content modules (topics from Primary Level 2nd Grade Literacy and Secondary Level Biology). However, the ultimate aim of the RLH is to be useful for a large variety of countries and for a wide variety of grades and subjects.

Development of the proof of concept entailed five distinct activities that have all been thoroughly documented and which include recommendations for the next step in the development of the RLH (Final Report). The five reports documenting these activities are:

1. [Inception report](#) (this document)
2. [User research](#)
3. [Skills taxonomy](#)
4. [Content curation](#)
5. [Final report](#)

This document is the first of these five reports and provides a background and overview of the project and the plan for the project delivery, timelines, and

details on the roles and contributions from the partners. Although the proof of concept is now complete, this report was written at inception.

The RLH is being created to make remedial, catch-up, accelerated, lifewide, and lifelong education and learning resources accessible and ready to deploy by governments across Eastern and Southern Africa and potentially other regions at a later stage.

We envisage the RLH as an online platform that will host learning resources that governments and education stakeholders can download, adapt, and deploy through their own platforms for three main purposes, namely:

1. Improved and equitable home learning (during school closures as well as once all schools have reopened) through lifewide learning.
2. Increased learning and improved retention in formal settings through catch-up and remedial programmes.
3. Enabling more learners to gain accredited skills through non-formal learning programmes, including accelerated education programmes.

The RLH's primary target group includes governments, official curriculum developers, education providers, and similar stakeholders. They, in turn, will offer relevant selections of the content available on the RLH to their educational institutions, teachers, students, or other stakeholders. Thus, the RLH only targets learners or teachers *indirectly*, through other education providers.

1.1. Problem statement

The RLH is intended as a means of solving several problems that we, the partners, have observed in countries in the region:

- Ministries of education struggle to curate and offer a coherent set of context-appropriate digital learning materials that cover substantial parts of the curriculum.
- The quality of learning resources available can be low.
- Curriculum departments can localise materials to an extent but require training to develop digital materials.
- Some geographical areas are underserved by public education resources.

- Organisations supplementing public services could benefit from access to higher-quality content.

An RLH that addresses these problems will, of course, also face challenges, such as:

- Obtaining political support, which is crucial for project success and sustainability.
- Persuading ministries to see the RLH as a reciprocal platform, from which they can take and to which they can also contribute.
- Training teachers in how to implement and use new resources.
- Ensuring that resources available on the RLH will cover all modalities (e.g., audio, video, text, interactive content, etc.).

Further potential challenges will be identified during the user research phase.

1.2. Proof of concept

This Inception Report describes our approach to creating a proof of concept for the RLH. The proof of concept is the first version in the design of the RLH and delivers a usable, basic RLH and aims to test a number of assumptions.

1.2.1. Scope and constraints

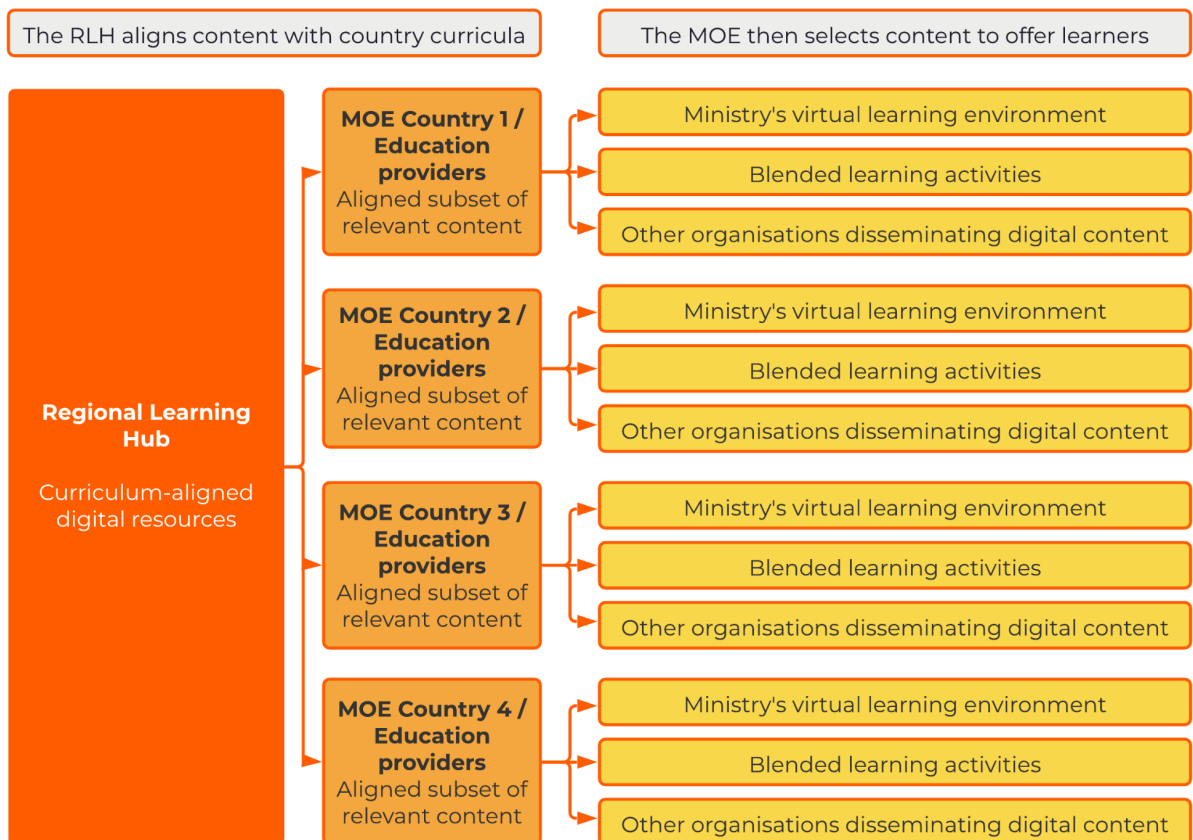
The proof of concept is, by necessity, limited in scope. Its aim is to create a workable proof of concept with a small but useful set of content for two modules. The following paragraphs make explicit what the proof of concept will and will not deliver. The remainder of this report provides further details about the agreed focus of the RLH proof of concept.

The RLH created for the proof of concept will contain two modules. A module is a coherent selection of content that can cover several concepts or learning objectives of a specific subject and grade within a curriculum. A module may cover a chapter or one or several weeks of learning. One module will cover content for a grade and subject in primary school and the other module will cover content for a grade and subject in secondary school.

The target audience of the proof of concept and the RLH includes ministries of education, education providers or similar, and non-governmental bodies in the region. These organisations, in turn, can adopt, approve, adjust, and use a subset of the aligned content that they deem relevant for their learners, teachers and schools. In the context of the RLH, content is relevant when ministries consider that content is aligned, useful, and applicable and when

they are willing to offer that content to learners and teachers in their region. The RLH does not target learners directly, since targeting learners directly would circumvent the ministries' autonomy and remit to select and approve appropriate content. Figure 1, below, shows the RLH's target audience. The RLH targets national stakeholders with content, who can in turn adopt this content for use by learners and teachers. Figure 1 only shows four countries, but as the RLH is scaled up, there will be no limit to the number of target countries.

Figure 1. *The Regional Learning Hub's target audience.*



The proof of concept is intended to deliver the following.

- Two ready-to-deploy modules or units of study of digital educational content¹ that can be adopted by ministries of education and other education stakeholders.
- Two ready-to-deploy modules on two existing platforms to host the RLH content in the proof of concept.
- Extensive documentation on the process and lessons learnt from creating the proof of concept.
- A set of parameters to make the platforms interoperable, hostable, or portable to other platforms.
- Timelines and cost estimates for adding additional languages, supported countries, and increased content availability to cover content for full years of schooling.
- Cost estimates to build a full Regional Learning Hub.

The proof of concept will **not** deliver the following.

- A full year's worth of content for a specific subject / grade combination.
- A definitive answer on the best platform for hosting the RLH content.
- Comprehensive user and training guides for governments and teachers.
- A platform or content that targets schools or learners directly.

1.3. Country selection

For the proof of concept, the RLH focuses on four countries: Kenya, Somalia, South Africa, and South Sudan. In further stages, both the range of content and number of countries will expand. The steering committee selected countries based on specific similarities and differences. For the proof of concept, the RLH focuses on countries in sub-Saharan Africa with an educational tradition originally largely resulting from British colonial influences. Countries should, however, differ in size, educational attainment,

¹ Ready-to-deploy modules are envisaged as learning resources that will be available free of charge and be freely modifiable. The two modules mentioned here will be curated so that each unit of study is complete, with background and contextual information, adaptation guidelines for ministries of education, digital learning content (videos, audio, apps, etc.), support materials for teachers and education facilitators (including assessments); learner-oriented and workbook-style activities, monitoring and evaluation tools for teachers and education administrators.

languages, governmental capacity, and general development levels so that viability of the concept can be assessed in different situations. [Section 2](#) describes the countries in more detail.

1.4. Module selection

The purpose of the proof of concept is to examine the feasibility of the RLH by providing an amount of content that is in principle usable by a ministry of education and other education stakeholders. However, it does not aim to offer substantial amounts of content that can be used at scale. The scaling of the RLH is beyond the scope of the initial proof of concept exercise. The content of the modules, however, should reflect the types of content that add value and that will represent content that will be required if the RLH is offered at scale. We are therefore developing two modules:

1. Primary Grade 2 Literacy content
2. Secondary Level, Grade 8 Science content

These modules have been selected for their variety in content and target audience and for the insights they will bring. Primary literacy content is offered since foundational literacy content can be most impactful in terms of reach and learning effect. Primary classes serve the highest number of students and strong literacy skills provide a foundation for ongoing learning. Secondary science content is more generic and is taught in English in all the selected countries.

1.4.1. Amount of content

Both modules contain a sufficient amount of content to enable us to examine whether mapping and offering the content in the RLH is feasible. The proof of concept is intended to be useful in principle but not yet able to provide ministries of education with an amount of content to cover a substantial part of a curriculum. The modules are envisaged as including contextual and usability information for ministries of education. This may include background information, adaptation guidelines for ministries of education, digital learning content (videos, audio, apps, etc.), support materials for teachers and education facilitators, assessments, learner-oriented and workbook-style activities, guidance on returning to school as schools reopen after the Covid-19 pandemic, and monitoring and evaluation tools for teachers and education administrators.

Below, we discuss the characteristics of the two types of content.

1.4.2. Early grades literacy

Early grade literacy is taught in the primary language in all four selected countries. All countries officially shift to English as a mode of instruction in Grade 4 primary or in secondary school. The effectiveness of early grade teaching in primary languages is generally accepted. While early grade literacy teaching can be highly impactful, it comes with the challenges described below.

The principle of teaching literacy is similar for all languages. Phonics are used for decoding and encoding letters, which are blended into text; in parallel, language comprehension is taught by reading stories aloud and discussing them through specific questions about the text and exercises through questioning, summarising, predicting, clarifying, and imagining. Once the reader advances in the skill of reading and writing — decoding and encoding — the two parts of literacy converge. In practice, the order in which phonics is taught, sounds, and graphemes are specific to each language. To be effective, resources need to be designed to be language-specific. Further, early grade reading texts need to follow the sounds and letters that have been learnt and contain familiar words, again requiring resources designed to be language-specific. This makes it possible to map the different curricula for different languages to an overarching curriculum framework or taxonomy. The actual resources, however, must be bespoke. The proof of concept acknowledges the relevance of primary languages but recognises that finding primary language resources can only be addressed once the RLH enters the next phase.

We propose mapping Primary Grade 2 literacy content for three main languages in the four countries: English, covering South Sudan, Kenya, and South Africa; Swahili, covering Kenya; and Somali, covering Somalia's regions. This proposal is contingent on its feasibility in terms of mapping and the existence of resources that could be mapped.

1.4.3. Secondary level science

The proof of concept includes content for the science subject of biology for Secondary Level, Grade 8. While still a subject with universal content, there is more variation in the order in which it is taught and in the learning objectives and the subject is more context-dependent than mathematics, generally considered to be the most universal in terms of teaching approach and content. In all four countries, the official language of instruction for secondary level science is English.

1.5. Steering committee

The steering committee is responsible for oversight of the project. It provides guidance, advice, and suggestions when questions arise and will be called upon to make relevant strategic decisions. [Table 1](#) shows the steering committee members from each of the five partners.

Table 1. *Steering committee of the Regional Learning Hub.*

Organisation / Country	Steering committee member
UNICEF	Guillaume Michels Abhiyan Jung Rana
UNESCO	Scheherazade Feddal Felix Kibet Rop Endris Adem Awol
UNHCR	Jacqueline Strecker James Onyango Martha Hewison Clara van Praag
INEE	Asim Latif
EdTech Hub	Tom Kaye

2. Situational sketch

The RLH will initially target four countries: Kenya, Somalia, South Sudan, and South Africa. This section provides a short overview of the four countries. It is largely descriptive and serves to provide a background, compare the countries, and identify key organisations.

2.1. General descriptives

Table 2 provides statistics on country size, ranking on the Human Development Index (HDI), and literacy rates. The table shows that we can organise the countries in two groups in terms of HDI ranking and literacy: Kenya and South Africa are among the highest ranking in the region, while South Sudan and Somalia are at the lower end. Data is not available on all metrics for Somalia.

Table 2. Population, age, and HDI values.

Country	Population ²	Pop < 15	(HDI) value ³	HDI ranking	Mean years of schooling	Literacy rate ⁴
Somalia	12,000,000	46%	~0.300-.450 ⁵	—	—	40% ⁶
Kenya	55,000,000	39%	0.601	143	6.6	82%
South Africa	57,000,000	28%	0.709	114	10.2	87%
South Sudan	11,000,000	42%	0.433	185	4.8	35%

A similar split applies to the question of access to electricity, whereby the vast majority of the populations of Kenya and South Africa have access to electricity, in South Sudan and Somalia this is only true of roughly a third of the population (Table 3). Statistics for internet usage diverge even more, with 2% of Somalians using the internet in 2017 versus 56% of Kenyans, and comparable numbers apply to mobile cellular subscriptions in the four countries. The country statistics provide us with information on the infrastructural background of the countries and help to inform the feasibility of implementations that require technology. However, it should be noted that some statistics date from 2017 and 2018 in countries with a quickly changing

² Source: †CIA, no date

³ Source: †UNDP, no date

⁴ Source: †CIA, no date

⁵ Source: †Global Data Lab, no date

⁶ Source: †Cline, 2018

infrastructure. Below, we provide a short sketch of the structure of education and curricula in the four countries.

Table 3. Access to electricity, internet use, and mobile phone subscriptions. Source: World Bank, no date.

Country	Access to electricity (% of population) (2018)	Individuals using the internet (% of population) (2017)	Mobile cellular subscriptions (per 100 people) (2018)
Somalia	35%	2%	51
Kenya	75%	18%	96
South Africa	91%	56%	160
South Sudan	28%	8%	2

2.2. Structure and curricula of selected countries

The structure of education in the four countries helps us to understand how the different grades roughly correspond to each other (Table 4). Not all countries, however, have finished implementing the grade structure below. Kenya is implementing its competency-based curriculum (CBC) on a rolling basis and reached Grade 6 in 2021 (Figure 2). Somalia and South Sudan have new curriculum frameworks that are in the process of being implemented. In the latter two cases, it is not clear to what extent the grade structures and new curricula are being followed.

Table 4. Overview of year and grade structures in proposed target countries.

Country	Pre-primary	Lower primary	Upper primary	Lower secondary	Upper secondary
Kenya	2	3	3	3	3
	Pre-primary	Lower primary	Upper primary	Secondary	
Somalia (including Puntland)	2	4	4	4	
South Sudan	unclear	unclear	unclear	unclear	unclear
		Foundation	Intermediate	Senior	Further Education & Training
South Africa	2	4	3	3	3

All countries start teaching in first, indigenous, native, or home languages at primary level and shift to English as a mode of instruction at a certain point. In some cases, this official shift is not reflected in the classrooms. In Somalia, the official mode of instruction for science is English, but in practice, Somali appears to be the mode of instruction (MOI) used in classrooms.

Table 5. Overview of competency-based curriculum vs. traditional curriculum, English as mode of instruction, and the English levels of students receiving instruction in English.

Country	English as MOI begins	Are English levels sufficient for conducting classes in English?
Kenya	Grade 4	Sufficient
Somalia	Form 1	Insufficient
South Africa	Grade 4	Sufficient
South Sudan	Grade 4	Unclear

Three of the four countries have an abundance of languages. Teaching in a first language is pedagogically most impactful, but can be an issue in terms of sourcing digital resources for teaching early grade literacy. For the proof of concept, our focus will be on process and principle. When the RLH is scaled up, finding resources in different first languages for primary grades will become a challenge. Table 6 provides an overview of the number and type of languages used in the four countries.

Table 6. Main and local languages that are used as modes of instruction in the selected countries.

Country	Type and terms used ⁷	Number	Languages
Kenya	Main languages	2	Swahili and English
Kenya	Indigenous languages	18	Chidigo, Ekegusii, Kikamba, Kitharaka, Kalenjin, Chiduruma, Somali, Kigiriama, Ng'aturkana, Dholuo, Lubukusu, Kipokomo, Kituweta, Borana, Lulogooli, Maa, Gikuyu, and Suba

⁷ The three countries with many indigenous languages use different terms to refer to them: indigenous languages (Kenya), home languages (South Africa), or primary local languages (South Sudan).

Somalia	Main languages	3	Somali, Arabic, and English
South Africa	Main languages	2	Afrikaans and English
South Africa	Home languages	9	IsiNdebele, IsiXhosa, IsiZulu, Sepedi, Sesotho, Setswana, Siswati, Tshivenda, and Xitsonga
South Sudan	Official language	1	English
South Sudan	Primary local languages ⁸	5	Dinka, Bari, Nuer, Toposa, Zande

2.3. Short descriptions of the four countries

2.3.1. Kenya

Kenya introduced a competency-based curriculum (CBC) in 2017. The CBC is implemented on a rolling basis, with implementation progressing through the grades over the years and replacing the current system. In parallel, the 2-6-3-3-3 grade system is replacing the 8-4-4 system. Officially, children are taught in their first language until Grade 4, after which English becomes the mode of instruction. In Kenya, the level of English is generally sufficient to conduct classes in English at that grade level. In practice, Swahili or English are often the modes of instruction in early primary as well. Informants cite three reasons for this. Teachers often do not speak the indigenous language they are expected to teach in; teachers are not competent in literacy teaching in that language or at all; there are no available resources for teaching in the indigenous language.

⁸ Roughly 60 local languages are spoken in South Sudan. Currently, textbooks are being developed for the main five local languages, covering about 80% of speakers.

Figure 2. Kenya Institute for Curriculum Development’s roll-out plan. Source: (Kenya Institute of Curriculum Development, no date)

GRADE	2020	2021	2022	2023	2024	2025	2026	2027	2028
G4									
G5	Std 5								
G6		Std 6							
G7			Std 7						
G8				Std 8					
G9					F. 1				
G10						F.2			
G11							F.3		
G12								F.4	

The Kenyan Institute for Curriculum Development (KICD)⁹ is responsible for the approval of educational content produced by private publishers. The KICD’s Kenya Education Cloud (KEC)¹⁰ offers learners in the country some digital educational content from pre-primary to Form 4. These resources have been developed by private publishers and approved by the KICD or have been developed by the KICD itself. Currently, these resources are available for free, but the KICD is reconsidering the fee structure to access the content.

Information on Kenya’s curriculum can be found on and downloaded from the KICD website (Kenya Institute of Curriculum Development, no date). These resources include rubrics for the evaluation of non-digital learning materials submitted by publishers.

2.3.2. South Sudan

Implementation of the current curriculum, which was launched in 2016, began in 2019 after the curriculum materials had been designed. South Sudan’s curricula are based on those of its neighbouring countries, including Kenya, Uganda, and Sudan, with Kenya as the most relevant curriculum source. As in the Kenyan curriculum, South Sudan introduces English as the mode of instruction at primary level Grade 4. Prior to Grade 4, children are taught in their local language.

The relevant government players in South Sudan are the Directorate of National Curriculum under the national Ministry of General Education and Instruction (MoGEI). Content is approved by various academic institutions, teachers’ unions, UN agencies, and education partners. The main international

⁹ Resource available at kicd.ac.ke

¹⁰ Resource available at kec.ac.ke

partner in curriculum development is UNICEF, responsible for coordinating the efforts of the various partners. Other relevant players are CGA Technologies,¹¹ who are working with the Curriculum Foundation¹² to provide assistance on digital materials. Global Affairs Canada¹³ is funding the Adolescent Girls' Education in Crisis Initiative (AGENCI) project ([↑Evidence for Gender and Education Resource \(EGER\), no date](#)), which is led by World University Service of Canada (WUSC).¹⁴

South Sudan's curriculum information and documentation can be found on the CGA Technologies website ([↑CGA Technologies, no date](#)).

2.3.3. South Africa

Since 2009, South Africa's curriculum has been taught in L1 — the so-called home languages — until primary level Grade 4. South Africa recognises and teaches in 11 home languages. English is taught as a first or a second additional language from primary level Grade 1 onwards. From primary level Grade 4 onwards, the mode of instruction is English or Afrikaans. South Africa's Department of Basic Education is responsible for creating the curriculum and setting standards for the country.

2.3.4. Somalia

Somalia implemented a new, federal curriculum in 2019. This replaced a scattered implementation of curricula from various neighbouring countries in various languages. The new curriculum has not as yet been adopted in all regions. The mode of instruction in primary and secondary schools is Somali, with English taught as a second language. For some subjects, such as science and mathematics, English is the language of instruction. However, teachers rarely have sufficient fluency in English to conduct classes in the language.

The federal Ministry of Education is responsible at the federal level, while the member states have their own ministries of education. The curriculum department is part of the Ministry, with curriculum review and approval occurring through sector approval committees. These sector approval committees are a combination of government, international agencies, donors, non-governmental organisations (NGOs), faith-based organisations and other partners.

¹¹ Resource available at cgatechnologies.org.uk

¹² Resource available at curriculumfoundation.org

¹³ Resource available at international.gc.ca

¹⁴ Resource available at wusc.ca

With Somaliland's de facto independence, it is not clear to what extent Somaliland will adopt Somalia's curriculum.

2.4. Summary

The circumstances outlined above have several consequences for the RLH's proof of concept. These include the following.

2.4.1. Infrastructure and digital literacy

In general, offering digital educational resources is feasible in South Africa and Kenya. While the statistics on access to the internet and electrification for South Sudan and Somalia are a bit dated, it is clear that their access is limited and where there is access, digital literacy may be low.

2.4.2. Curriculum development

The processes for curriculum development are also different in the two blocks of countries. South Africa and Kenya have well-established curriculum institutions and have full ownership of their curriculum processes, while South Sudan and Somalia have external parties participating in the curriculum design process. Furthermore, three out of the four countries are in a state of change. Kenya is in the middle of a shift to a competency-based curriculum and South Sudan and Somalia are adopting new curricula that have not yet been fully implemented.

2.4.3. Language of instruction

In all four countries children begin their education in their first languages as the mode of instruction. All four countries then shift to main languages for the mode of instruction after four to six years, namely, to instruction in English, Afrikaans, Swahili, and Somali. However, the level of English among teachers and students is not always sufficient and lessons continue to be conducted in the local language. For the RLH, this means that in the next phases, early primary content must either be offered in their first languages or in such a way that translation is possible and guided. Secondary science content, however, can be mapped to English language resources. However, if teachers' levels of English are not sufficient for teaching in English, there may be political or legal reasons not to pursue a change to teaching in another language.

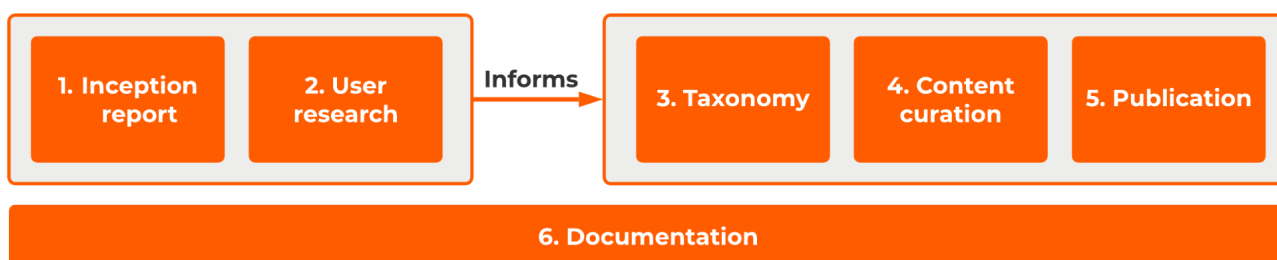
3. Project overview

This section provides a concise overview of the activities of the project and the projected overall timelines. Detailed timelines and sub-activities are discussed in the next section.

3.1. Overview of activities and dependencies

The project consists of six activities; five of these are more or less successive, while the last, documentation, is continuous. Figure 3 shows the activities in the project. The first two activities, the inception report and the user research, will help inform the approach we adopt for the creation of the skills taxonomy, content curation, and publication of the modules.

Figure 3. Activities involved in developing the Regional Learning Hub proof of concept.



3.1.1. Inception report

The inception report — this document — defines the scope of the project, sketches the background of the countries, and describes the concrete deliverables and approaches for each activity.

3.1.2. User research

User research will be conducted to clearly define the target users of the RLH and outline some use cases. It will further describe how these target users currently access, adapt, and use content and the challenges that need to be addressed for the RLH to be effective. This research will also further define the needs for local languages of instruction.

3.1.3. Skills taxonomy

The skills taxonomy will create a taxonomy for the two selected modules in a format that is both understandable and usable for target users. It will contain all the necessary information for a ready-to-deploy module. This may include

metadata according to existing standards and the creation of eight separate taxonomies that combine into a ninth and tenth, overarching one.

1. **Content curation:** Two integrated sets of curated content, applicable to both modules, will be curated and mapped to the taxonomy.
2. **Module creation and publication:** The proof of concept and content will be published on the Learning Passport and INEE platforms.
3. **Documentation:** The proof of concept of the RLH is as much a learning exercise as it is a concrete deliverable. Lessons learnt, conditions, observations, and any conclusions that can guide the next step for the RLH will be documented.

3.2. Overall timeline

The overall timeline outlined in Figure 4 presents a complete project timeline. The dates indicated are the weeks starting on Mondays.

Figure 4. Overall timeline for the Regional Learning Hub proof of concept (2021).

Activities	Week number															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
	September				October				November					December		
	6	13	20	27	4	11	18	25	1	8	15	22	29	6	13	20
Inception report	■	■	■	■												
User research					■	■	■	■								
Skills taxonomy					■	■	■									
Content curation								■	■	■	■	■				
Publication													■	■		
Documentation	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■

4. Project activities

This section describes in detail our approach for delivering the activities, including sub-activities and timelines. This section also outlines the roles and contributions of the partners. Please note that the numbering of the deliverables below corresponds to the numbering in [Table 7](#) below.

4.1. Inception report

The inception phase delivered the inception report (this document). It details the plan for the project delivery, timelines, and roles and contributions from the partners.

The inception report delivers

1. This inception report
2. A set of decisions that are part of the inception report

4.1.1. Timeline and responsibilities

EdTech Hub is responsible for the delivery of a draft of the inception report. This draft contains suggested decisions on the approach, content, platform, and other aspects of the proof of concept.

This draft, including the decisions and agreements, will be discussed and finalised during a workshop attended by the steering committee. EdTech Hub will finalise the draft report and submit it to the steering committee for final approval.

Figure 5. *Timeline for the inception report.*

Sub-activities	September / October 2021				Responsibility
	6	13	20	27	
Inception report draft					EdTech Hub
Inception report workshop & decisions					Steering committee
Inception report finalisation					EdTech Hub
Inception report approval					Steering committee

4.2. User research

The results of the user research will help identify the challenges of adopting an RLH in the target countries as well as user needs, and to conduct research with key stakeholders in these target countries. It will focus on three main questions:

- Who are the target users in the target countries and can they describe use cases?
- How is the content currently accessed, adapted, and used and what are the challenges of doing so?
- What are the factors that might help or hinder the adoption of the RLH?

Our approach to user research involves conducting interviews with key stakeholders in the target countries and, if the need arises, conducting focus group discussions.

The user research will deliver

3. A user research report
4. A methodology for user testing the proof of concept

4.2.1. Timeline and responsibilities

EdTech Hub will propose a research plan for approval by the steering committee.

After approval of the research design, EdTech Hub will recruit relevant stakeholder representatives for interviews. The steering committee plays an important role in suggesting these interviewees, introducing the researchers, and liaising between EdTech Hub and the interviewees, as needed.

EdTech Hub will conduct interviews based on the agreed research plan; individual members of the steering committee will be invited to participate in the interviews.

EdTech Hub will then write the research report and present it to the steering committee for approval and to inform any course corrections in the remainder of the project.

Figure 6. *Timeline for the user research.*

Sub-activities	October 2021				Responsibility
	4	11	18	25	
Draft user research plan					EdTech Hub
Approve user research plan					Steering committee
Recruitment of participants					EdTech Hub and steering committee
1:1 interviews					EdTech Hub
Check-in with steering committee					EdTech Hub and steering committee
Write report					Edtech Hub
Present report to steering committee					EdTech Hub and steering committee

4.3. Skills taxonomy

The skills taxonomy is the breakdown of a curriculum into skills. A skill can contain one or several learning points: essential information that the content items need to contain and which are typically taught in one session or lesson. For the proof of concept of the RLH, up to 10 taxonomies will be created. For each of the two modules, taxonomies for the four countries will be created, plus one comprehensive taxonomy for each module. This skills taxonomy will allow for the organisation of content in accordance with curriculum frameworks, making it possible for ministries of education to find relevant curriculum-aligned content easily and logically, and containing relevant metadata and methodology.

The process for creating the taxonomy starts with our receiving the curricula from the four countries for the two modules.

The skills taxonomy activity will deliver:

5. A breakdown of skills and intended learning outcomes and content description for the two modules
6. A description of the process used to identify the skills

4.3.1. Timeline and responsibilities

EdTech Hub will create the skills taxonomy, but the Hub's ability to do is heavily contingent on the partners' contribution of curricula and curriculum mapping documents. UNHCR / UNICEF / UNESCO / INEE will provide the curricula, textbooks, and digital resources for the selected modules. UNHCR / UNICEF will contribute suggestions for the metadata schema to organise the breakdown of skills and content. EdTech Hub will create the taxonomies. The steering committee will review and provide feedback on the taxonomies.

Figure 7. *Timeline for creating the skills taxonomy.*

Sub-activities	October 2021			Responsibility
	4	11	18	
Provision of curricula, textbooks and digital resources for the modules				UNHCR / UNICEF / UNESCO / INEE
Selection of metadata schema				UNHCR / UNICEF / UNESCO-IBE / EdTech Hub
Creation of taxonomies				EdTech Hub
Creation of comprehensive taxonomy				EdTech Hub
Review and approval of taxonomy				UNHCR / UNICEF / EdTech Hub

4.4. Content curation

This activity entails the selection and mapping of existing digital educational resources to the skills taxonomy. The complexity of this activity depends on the overlap identified in the previous activity — the creation of the skills taxonomy — and the degree to which common content can be found.

The content curation process starts with creating a list of repositories containing relevant and usable content. These can be Open Educational Resources (OER) or proprietary content that can be used and reused under given conditions. Next, a list of content criteria will be created identifying constraints or preferences regarding the content. For example, are there formats or file sizes that should not be included? A quality assurance or review process will be set up and implemented to ensure that all content is reviewed and approved by at least one reviewer besides the curator. The selection and

mapping of the content form the core of this activity and selected content will be reviewed according to a review process that we will decide on. Finally, the curation process, its challenges and the degree to which content could be mapped will be documented.

The content curation will deliver

7. A list of preferred repositories of OER
8. Curated content that can be reused by stakeholders, mapped to the skills taxonomy
9. Quality assurance and approval process
10. Report describing process, selection criteria, observations and challenges

4.4.1. Timeline and responsibilities

EdTech Hub will take the lead in mapping resources to the skills but will rely heavily on the contributions of UNHCR and UNICEF. UNHCR / UNICEF / UNESCO will make suggestions about relevant digital resources for the identified skills. UNHCR / UNICEF / EdTech Hub will suggest selection criteria for content. EdTech Hub will map digital resources to the skills taxonomy. EdTech Hub will design a quality assurance and review process. UNHCR / UNICEF will review the suggested resources. EdTech Hub will document the challenges faced and the opportunities presented and observations made from the process for future use.

Figure 8. *Timeline for the content curation process.*

Sub-activities	October–November 2021					Responsibility
	25	1	8	15	22	
Identification of relevant repositories of OER						UNHCR / UNICEF / UNESCO / EdTech Hub
Develop selection criteria						UNHCR / UNICEF / EdTech Hub
Set up quality assurance and review process						EdTech Hub
Select and align content						EdTech Hub
Review and approve content						UNHCR / UNICEF / EdTech Hub
Report on curation process						EdTech Hub

4.5. Module creation and publication

The last phase of the proof of concept entails the creation and publication of the content on a suitable platform. Platform needs and choice will be partly informed by the user research and should likely include metadata and an organisation that allows different stakeholders to easily find, identify, select, and download relevant content, or copy it to their own system.

The publication phase will deliver

11. A requirements list for a platform
12. The proof of concept version of the Regional Learning Hub hosted on the Learning Passport and INEE platforms
13. Another platform with content uploaded if needed

4.5.1. Timeline and responsibilities

EdTech Hub will define the requirements of a platform so that it is useful for ministries of education. For the proof of concept, EdTech Hub will create ready-to-deploy content modules packaged so as to enable the bulk uploading by ministries of education on their local instance of the Learning Passport. UNICEF will provide technical support and guidance on content packaging. UNICEF will deploy a version of the Regional Learning Hub. UNICEF and EdTech Hub will upload content and publish the RLH on the Learning Passport platform and EdTech Hub will do this on INEE's website.

Figure 9. Timeline for publishing the Regional Learning Hub.

Sub-activities	November–December 2021		Responsibility
	29	6	
Identify requirements of a platform			EdTech Hub
Package ready-to-deploy content modules for bulk uploading			EdTech Hub
Deploy RLH instance and host and publish modules on Learning Passport			UNICEF / EdTech Hub
Host and publish information and hub-wide guidance on INEE			INEE / EdTech Hub
Deliver recommendations for hosting RLH on additional platform with content			EdTech Hub

4.6. Documentation

The proof of concept is a project aimed at learning whether or not the RLH is a feasible product. This project will document steps and decisions taken, observations, and lessons learnt.

For the proof of concept, the activities will lead to ten deliverables (see [Table 7](#)).

Table 7. *List of deliverables for the Regional Learning Hub project.*

Activity	Deliverables
Inception report	<ol style="list-style-type: none"> 1. Inception report 2. Set of decisions
User research	<ol style="list-style-type: none"> 3. User research report 4. Methodology for user testing of proof of concept
Skills taxonomy	<ol style="list-style-type: none"> 5. Skills and intended learning outcomes and content description for the two modules 6. Skill identification process description
Content curation	<ol style="list-style-type: none"> 7. A list of preferred repositories of OER 8. Curated content that can be reused by stakeholders and mapped to the skills taxonomy 9. Quality assurance and approval process 10. Report describing process, selection criteria, observations and challenges
Module creation	<ol style="list-style-type: none"> 11. A requirements list for a platform 12. The proof of concept version of the Regional Learning Hub hosted on the Learning Passport and INEE platforms with content uploaded 13. Another platform with content uploaded if needed
Documentation	See above

5. Decisions

A number of decisions relating to the list below were made during the inception phase and the inception workshop.

- Module considerations (subject, grade, and volume)
- Team members' roles
- Involvement of country representatives
- Timelines

Table 8 provides an overview of the decisions; the sub-sections below discuss the decisions and considerations in more detail.

Table 8. *List of decisions to guide the project*

Decision topic	Decision
Modules	Primary Level Grades 2 and 3 Literacy in main language Secondary Level Biology, 'respiration and photosynthesis'
Team members' roles	The specific areas of contributions for specific team members
Country representation	Our approach for involving country representatives. (How do we best involve country representatives?)
Timelines	Committee approval of the timelines

5.1. Module considerations

The discussion on early grade literacy and secondary level science in [Section 1](#) touched upon some challenges. In all cases, the aim is to find overlap in content.

5.1.1. Module choice

1. Primary Grade 2 literacy.
In this case, we propose to align content to 'Listening skills' at Grade 2 level.¹⁵

¹⁵ In Kenya's curriculum, this is defined as "1. Listening strand; 1.3 Storytelling" ([Kenya Institute of Curriculum Development, 2017](#)); in South Africa, as "Listening and speaking (oral)" ([South Africa & Department of Basic Education, 2011](#)).

2. Secondary Level Biology / Life Sciences

Photosynthesis and respiration is likely to appear in all curricula.

The content will be aligned in all cases; different countries may teach the specific content in different grades.

5.2. Platform considerations

The platform to host the RLH must make it possible for ministries of education to select content and reuse it through their own channels, digital or other. Such a platform may differ from a learner-facing Learning Management System (LMS) in certain functionalities. [↑Adam et al., 2020](#) and [↑McBurnie, 2020](#) are particularly useful in providing information on learning platforms. It should be noted that in later stages of the RLH, platform requirements and platform choice may evolve depending on experiences of the proof of concept.

Recommended features for the platform hosting the full RLH include the following.

- Support rich metadata to allow for curriculum alignment, learning objective tagging, language information, and other content-specific information.
- Version management for different instances of the same content item that are modified by ministries of education or the provider (e.g., dubbed, subtitled, translated, cropped).
- Compliance with a metadata standard such as Dublin Core / LRMI to ensure machine-readable content.
- Search functionality.
- An organised view of content.
- The functionality to upload and download resources.

Further, the following highly desirable features would make the platform stronger:

- An application programming interface (API), so that other services can interface with the platform.
- Storage of source files, such as text files on which PDFs are based, for adaptation by ministries of education.

Different curricula will use a different subset of content and place it in different grades in a different order.

5.2.1. Platform choice

The content collected during the development of the proof of concept will be hosted on two platforms. The first is the Learning Passport platform, a development by UNICEF in collaboration with Microsoft, which aims to provide learning content in under-resourced areas and to provide portable learning credentials. The content will also be hosted on INEE's website. Further, openly licensed and tested platforms such as Kolibri or Moodle are strong candidates for testing and hosting versions of the proof of concept and can be considered as extra platforms for the proof of concept.

5.3. Team member contributions

The workshop will establish which partners will contribute to which activities and sub-activities.

5.4. Country representatives

To maximise commitment from and adoption in target countries, country representatives will be involved in a technical working group. The steering committee is not the best place to include country representatives since the purpose of the steering committee is to keep the proof of concept focused and on track. Further, increasing the size of the steering committee may negatively affect its efficacy ability to act with speed.

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