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# EVIDENCE GAP MAP

# CROSS-COUNTRY ANALYSIS OF EVIDENCE GAP MAPS IN MALAWI, KENYA, AND CAMEROON

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# About this document


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# About the Unlocking Data Initiative

The Unlocking Data Initiative is a community of practice that connects African scholars, NGOs, national statistics offices and policymakers for the purpose of improving access to and use of education data. The **Unlocking Data: Scaling Uses and Users of Education Data** project is a collaborative work led by Zizi Afrique Foundation and supported by Education Sub-Saharan Africa, eBase Africa, University of Malawi's Centre for Education Research and Training (CERT). The latter project, which is being implemented in Cameroon, Kenya, and Malawi, aims to scale up uses and users of data to address the knowledge gap of how to adaptively scale up the effective use of existing education data by policymakers and researchers in Africa.

To find out more about us, go to https://unlockingdata.africa/. Our evidence library can be found at https://docs.unlockingdata.africa/lib/

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# Abbreviations and acronyms

| | |
|---|---|
| **EGM** | Evidence Gap Map |
| **CSOs** | Civil society organisations |
| **IDRC** | International Development Research Centre |
| **LMIC** | Low- and middle-income country |
| **SSA** | Sub-Saharan Africa |
| **UDI** | Unlocking Data Initiative |

# 1. Introduction

Effective education planning and reform hinge upon the strategic use of robust data and evidence to inform decision-making processes, addressing the complex challenges that face education systems worldwide, and ensuring equitable access and quality learning for all. In many low- and middle-income countries (LMICs), including those in sub-Saharan Africa (SSA), persistent learning outcomes remain low, with a significant proportion of children unable to acquire foundational skills such as literacy and numeracy by key developmental stages. This challenge is compounded by difficulties in accessing existing data and, critically, in converting that data into actionable insights for evidence-based policymaking and practice. Research and data systems on foundational learning in these contexts are often fragmented and inaccessible, necessitating concerted efforts to improve their utility.

It is against this backdrop that the Unlocking Data Initiative (UDI) seeks to enhance evidence-informed decision-making for foundational learning in Africa by increasing both the availability and effective use of education data. It aims to do this through four critical components:

1. Mapping and situational analysis at the country level
2. Using data to address priority research questions and evidence gaps
3. Cultivating communities of learning at country and regional levels
4. Sharing and synthesising experiences, country expertise, lessons, resources, toolkits, and platforms as global public goods.

The second component of the Unlocking Data Initiative (UDI) includes the development of Evidence Gap Maps (EGMs), which systematically review and synthesise empirical research on foundational learning interventions within specific country contexts. This report focuses on the findings from three such EGMs, focused on foundational learning in Malawi (↑Saddick et al., 2025), Kenya (↑Arisa & Gachoki, 2025), and Cameroon (↑Pambe et al., 2025). These EGMs should be viewed in conjunction with the situational analyses previously undertaken for Malawi (↑Kadzamira et al., 2025), Kenya (↑Gachoki & Arisa, 2025), and Cameroon (↑Pambe et al., 2025). By mapping the evidence landscape in each country, these reports provide critical findings and recommendations for stakeholders to identify where evidence exists, where significant evidence gaps persist, which areas should be prioritised for future research, and how education planning and investment can be improved based on existing policy-relevant evidence. Such a systematic approach is vital for guiding policymakers, donors, and researchers toward more equitable, evidence-informed decision-making in foundational learning, ultimately contributing to improved educational outcomes for children in these resource-constrained settings. This cross-country analysis report of EGMs of Malawi,

Kenya, and Cameroon examines the similarities across the findings from the three EGM reports and highlights findings that are more country-specific, thereby enriching our understanding of the evidence base across varied contexts in SSA and informing future strategic regional interventions. This report aims to provide practical insights for other SSA and LMIC countries on conducting EGMs and foundational learning research. Through the EGMs and other aforementioned critical components of UDI, the initiative envisions a better understanding of what and how data can be effectively utilised across the system to improve educational policy and learning in the short term, and ultimately improve foundational learning through robust policies and practices in the longer term.

## 1.1. Methodological approach for cross-country analysis

Thematic analysis was used as a methodological approach to analyse the three EGM reports. The analysis aimed to compare the EGMs across three categories:

1. The methodological approach used to develop the EGMs.
2. The comparison of the distribution of the three evidence bases produced.
3. A detailed analysis of the findings and lessons learned across the studies, contrasting similarities and differences.

NotebookLM, an AI-powered research and writing tool developed by Google, helps users understand complex information by analysing and summarising documents and other sources. It was used to support pattern identification, analysis, and writing for certain sections of the report. AI hallucinations and potential bias were mitigated by:

1. Limiting the tool to only drawing information from the three EGM reports;
2. Further cross-checking every generated theme with the source data.

NotebookLM is designed to easily and explicitly display the exact quotes from sources that were used to develop its analyses, allowing for a streamlined quality assurance process. The majority of the analyses provided by NotebookLM were adjusted to enhance the accuracy and depth of the outputs, capturing important findings that were missed by the tool and highlighting the continued integral role of the human in the loop.

While consistency was ensured within each study through dual-coding and quality assurance, this was not maintained between studies; thus, there may be coding and terminology differences across studies. For example, what one study includes under ‘quantitative research’ may differ from another study that further disaggregates quantitative research approaches. For this reason, when reading graphs that present weightings and distributions, it is essential to consider this detail. This cross-country analysis was reviewed and approved by the authors of the three EGMs focusing on Malawi, Kenya, and Cameroon.

## 1.2. Report structure

The report is structured as follows: Section 1 situates this paper within the broader context of the Unlocking Data research landscape. Section 2 presents a comparison of the methodologies of the three studies, illustrating variations based on context and purpose. Section 3 provides details on the distribution and characterisation of the three EGMs, highlighting which interventions and outcomes have more evidence and which have less or no evidence linked to them. Section 4 provides a more detailed thematic analysis of the findings and lessons learned across the three EGMs. Section 5 shares recommendations, and Section 6 concludes the report.

# 2. Methodology comparison across the studies

The following sections compare the methodological approaches used in the three EGMs across the various methodological steps.

## 2.1. Defining the scope

All three EGMs used a framework that categorises foundational learning by interventions and outcomes. The framework was developed drawing on global and local education frameworks, including those created by the World Bank, UNICEF, Global Partnership for Education (GPE), the PAL Network, UNESCO, and FCDO (↑Pambe et al., 2025). The framework was used to categorise the outputs from the search in terms of the foundational learning landscape.

### Foundational learning intervention categorisation

An intervention is defined as “a purposeful strategy or action, whether pedagogical, technological, behavioural, or systemic, implemented to enhance foundational learning outcomes among children aged 4 to 10” (↑Saddick et al., 2025, p. 7). Table 1 below presents the intervention categories as described in ↑Pambe et al. (2025), although all three EGMs used the same categories.

***Table 1.*** *Framework of Foundational Learning Interventions*

| Intervention Category | Intervention | Clarifications and Examples |
|---|---|---|
| **Teacher Development** | Teacher Professional Development | In-service training programmes, workshops on pedagogical skills, and mentoring for teachers to enhance literacy and numeracy instruction. |
| **Instructional Approaches** | Structured Pedagogy and Teaching at the Right Level | Curriculum-aligned teaching materials, scripted lesson plans, and adaptive instruction tailored to students’ learning levels (e.g., Teaching at the Right Level programmes). |
| **Language** | Language of Instruction and Multilingual Education | Bilingual or multilingual instruction models, use of mother tongue in early grades, transitioning to official languages (English/French). |

| | | |
|---|---|---|
| **Remedial Learning** | Remedial and Accelerated Learning Programmes | Catch-up classes, after-school tutoring, or accelerated curricula to address learning gaps, especially post-COVID recovery. |
| **Technology** | Technology-Enabled Learning | Use of tablets, educational apps, online platforms, or radio-based instruction to support foundational learning (e.g., digital maths games). |
| **Community Engagement** | Parental Engagement and Community Involvement | Parent literacy workshops, community reading programmes, or school management committees to support foundational learning. |
| **Early Childhood** | Early Childhood Intervention | Kindergarten or pre-primary programmes focusing on early literacy and numeracy skills, and play-based learning. |
| **Health and Nutrition** | School Feeding and Health Interventions | School meal programmes, deworming, or health screenings to improve attendance and cognitive development for foundational learning. |
| **Infrastructure** | Built Environment | Improvements to classrooms, libraries, or sanitation facilities to enhance learning environments. |
| **Policy** | Policy and System-Level Interventions | National curriculum reforms, teacher hiring policies, or funding allocations to strengthen foundational learning outcomes. |
| **Social and Emotional Learning** | Social and Emotional Learning (SEL) Interventions | Programmes fostering resilience, self-regulation, or teamwork to support foundational learning (e.g., SEL curriculum integrated into lessons). |
| **Behavioural** | Behavioural Interventions | Positive reinforcement, classroom management strategies, or incentives to improve student engagement and behaviour. |
| **Other Interventions** | Others | Any foundational learning interventions not covered above, such as public-private partnerships or innovative financing for education. |

## Foundational learning outcome categorisation

An outcome is defined within these EGMs "as the measurable domains of change or impact that foundational learning interventions seek to influence" (↑Saddick et al., 2025, p. 8). Table 2 below presents the outcome categories as described in ↑Pambe et al. (2025, p.12), although all three EGMs used the same categories.

***Table 2.*** *Framework of Foundational Learning Outcomes*

| Goal | Outcome Group | Example Indicators |
|---|---|---|
| **Foundational Skills** | Literacy Skills | Reading comprehension scores, fluency rates, writing proficiency, vocabulary development |
| **Foundational Skills** | Numeracy Skills | Proficiency in addition, subtraction, multiplication, division, problem-solving abilities, number sense |
| **Holistic Development** | Socio-Emotional & Behavioural Outcomes | Self-regulation, resilience, peer interaction, classroom behaviour, emotional well-being |
| **Teacher Quality** | Teacher Knowledge & Instructional Practices | Teacher understanding of foundational learning pedagogy, use of evidence-based teaching strategies, and classroom management skills |
| **Community Involvement** | Parental & Community Engagement | Parental participation in literacy workshops, community-led reading programmes, and school committee involvement |
| **Inclusivity** | Equity & Inclusion | Participation rates of girls, students with disabilities, or linguistic minorities; gender parity in literacy outcomes |

| Goal | Outcome Group | Example Indicators |
|---|---|---|
| **Systemic Improvement** | System-Level Outcomes & Policy Outcomes | Adoption of foundational learning-focused curricula, national assessment improvements, and teacher training policy changes |
| **Student Engagement** | Engagement and Classroom Participation | Student participation in class activities, motivation levels, interaction with peers, and teachers |
| **School Access** | Enrolment, Attendance, and Retention | Enrolment rates, daily attendance percentages, dropout rates, and retention through primary grades |
| **Additional Outcomes** | Others | Critical thinking, creativity, leadership skills, student confidence, and school readiness |

## 2.2. Systematic literature review process

The overall systematic literature review process used across the EGMs is documented in ↑Lawson & Iwiire (2025a). The EGMs were built upon existing protocols (↑Binesse et al., 2023) and prior methodological guidance notes from the UDI (↑Lawson & Heady, 2021; ↑Lawson & Iwiire, 2025b; ↑Selwaness et al., 2022). At a high level, the method included:

- A literature search;
- Screening based on eligibility criteria;
- Coding and analysing the screened literature;
- Mapping the evidence visually.

Table 3 below provides a comparison of the methodological process undertaken for the three EGMs.

*Table 3. Comparison of methodological aspects across EGMs for Malawi, Kenya, and Cameroon*

| Aspect of methodology | Malawi | Kenya | Cameroon |
|---|---|---|---|
| **Research area focus** | Foundational learning in Malawi. | Foundational learning in Kenya. | Foundational learning in Cameroon. |
| **Target FLN age group** | Children aged 4 to 10. | School-going children aged 4 to 10 years. | Not explicitly stated, but implied, as the general understanding of foundational learning within the UDI implies the 4–10-year age range. |
| **Included publication language** | English only. | English only. | English and French. |
| **Sources of literature** | Taylor and Francis, Sage Journals, ERIC, Google Scholar, Academia, and ResearchGate (↑Kadzamira et al., 2025). Additionally, opportunistic mapping and physical searches of postgraduate theses in university libraries were employed. | EBSCO. | EBSCO, ProQuest, JSTOR, Google Scholar, and specialised repositories like the 3ie Development Evidence Portal (↑Pambe et al., 2025). Indexed journals, CSOs, local journals, and university libraries. |

| Aspect of methodology | Malawi | Kenya | Cameroon |
|---|---|---|---|
| **Included literature types** | In addition to journal articles, the study explicitly *included* physical reviews of postgraduate theses and institutional repositories, as well as grey and unpublished literature retrieved through consultations with local researchers. | Focused solely on published journal articles, and *excluded* postgraduate dissertations and other grey literature. | In addition to journal articles, the study explicitly *included* grey literature sources, such as local journals and university libraries. |
| **Publication timeframe** | Literature from 2010 to 2024. | Publications from 2010 to 2023. | While no restriction on publication year, the evidence base grew from 1983 to 2024. |
| **Screening / coding process** | Three-stage screening process: title and abstract screening, full-text review, and final eligibility determination. A subset was double-coded to verify consistency; any discrepancies were reconciled through discussion or senior review. | Two-stage screening process: Title and abstract screening followed by full-text review. | Employed double-coding for reliability, with discrepancies resolved by consensus or senior researcher consultation. |
| **Reference Management Software** | Zotero was used to organise and manage bibliographic data across the studies. | | |

| Aspect of methodology | Malawi | Kenya | Cameroon |
|---|---|---|---|
| **Coding / Classification Software** | **EPPI-Reviewer** was used to code and classify the literature. | | |
| **Visualisation Software** | **EPPI-Mapper** was used to prepare interactive visual EGMs. | | |
| **Key Coded Variables / Granularity** | Coded for interventions, outcomes, gender of the first author, article accessibility, focus grade, article type, research design, research type (e.g., qualitative, quantitative, etc.), data accessibility, study focus, data type (e.g., primary, secondary, etc.), study by policy area, external funding, the study's gender focus, and the study's urban / rural location | Coded for interventions, outcomes, gender of the first author, study focus, source of the study, and study type. | Coded for interventions, outcomes, gender of the first author, study focus, language, source of the study, and study type. |

Notably, the approaches presented in Table 3 are broadly similar, as the country teams utilise UDI methodological guidance notes and communicate to support one another as part of a community of practice. The country teams used a similar process to organise, code, and visualise the body of evidence on foundational learning. The analysis proceeded in three interconnected steps:

1. Managing and preparing bibliographic data using Zotero;
2. Coding and classifying studies within EPPI-Reviewer;
3. Converting the structured dataset into an interactive EGM using EPPI-Mapper.

Distinctions between the EGMs are mainly due to:

- Contextual differences, e.g., the Cameroon EGM includes French publications because it is a bilingual country;
- Nuanced aims and purposes, e.g., varied country definitions of foundational learning;
- Differences in the countries' local education research landscapes, for example, in the Kenya EGM, which excludes PhD dissertations due to perceptions of low quality (Arisa & Gachoki, 2025), and in Malawi, where unpublished literature and opportunistic mapping are used due to fragmented and inaccessible data systems (Saddick et al., 2025).

# 3. Distribution of the existing evidence

Interactive evidence maps are available for Kenya,[1] Cameroon,[2] and Malawi,[3] where the data can be visualised and filtered.[4] Table 4 compares the distribution of the evidence bases developed from the literature searches conducted in the EGMs. Malawi had the highest number of studies, followed by Kenya and then Cameroon. Malawi's high number of studies can be attributed to the search process, which included grey literature and a more robust pre-existing foundational learning network within the country (↑Kadzamira et al., 2025).

***Table 4.*** *Characteristics of the evidence bases*

| Category | Malawi | Kenya | Cameroon |
|---|---|---|---|
| **Initial search** | 150 | 549 | 677 |
| **After full-text screening** | 110 | 68 | 55 |
| **Female lead authors** | 50 | 41 | 17 |
| **Male lead authors** | 56[5] | 27 | 38 |

Figure 1 below maps the aggregated distribution of studies by study type / research design. The majority of studies were qualitative in nature, including case studies.

[1] See https://unlockingdata.africa/wp-content/uploads/2025/05/EGM_Kenya.html. Retrieved 26 June 2025.

[2] See https://unlockingdata.africa/wp-content/uploads/2025/05/cameroon_EGM_on-_foundational_learning.html. Retrieved 26 June 2025.

[3] https://unlockingdata.africa/wp-content/uploads/2025/05/Malawi-EGM-on-FLN.html. Retrieved 26 June 2025.

[4] See https://unlockingdata.africa/resources/. Retrieved on 25 June 2025.

[5] Note that the male and female contributors do not add up to 110 as some publications use the organisation's name.

***Figure 1.*** *Distribution of study types across countries*

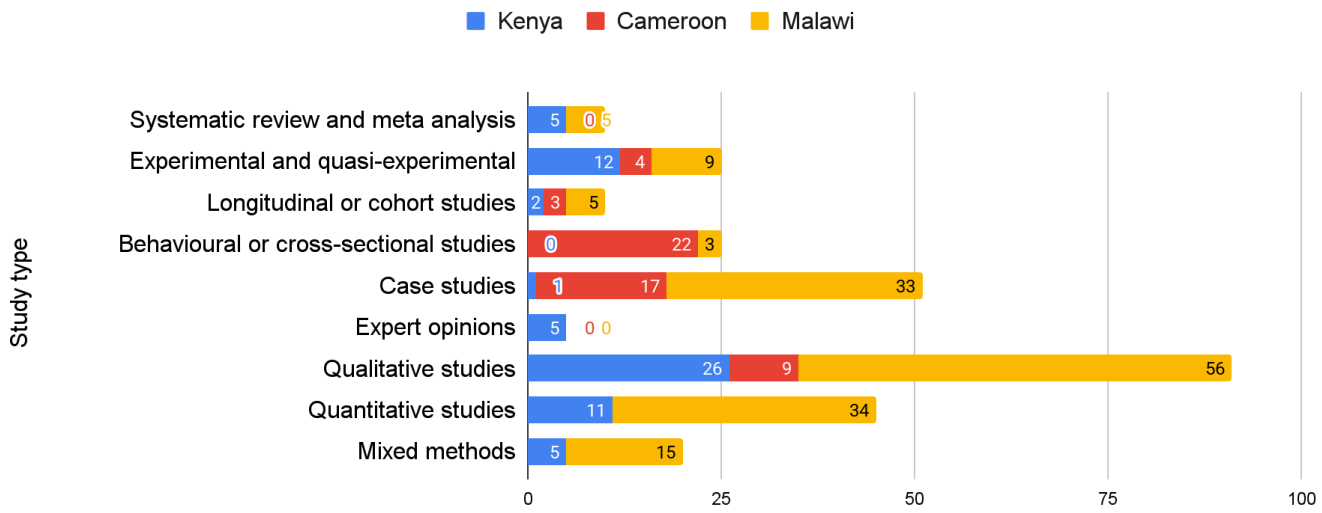


Figure 2, on the next page, shows the distribution of foundational learning studies found across the different intervention categories for Kenya, Cameroon and Malawi, respectively.

***Figure 2.*** *Number of studies per intervention category across countries*

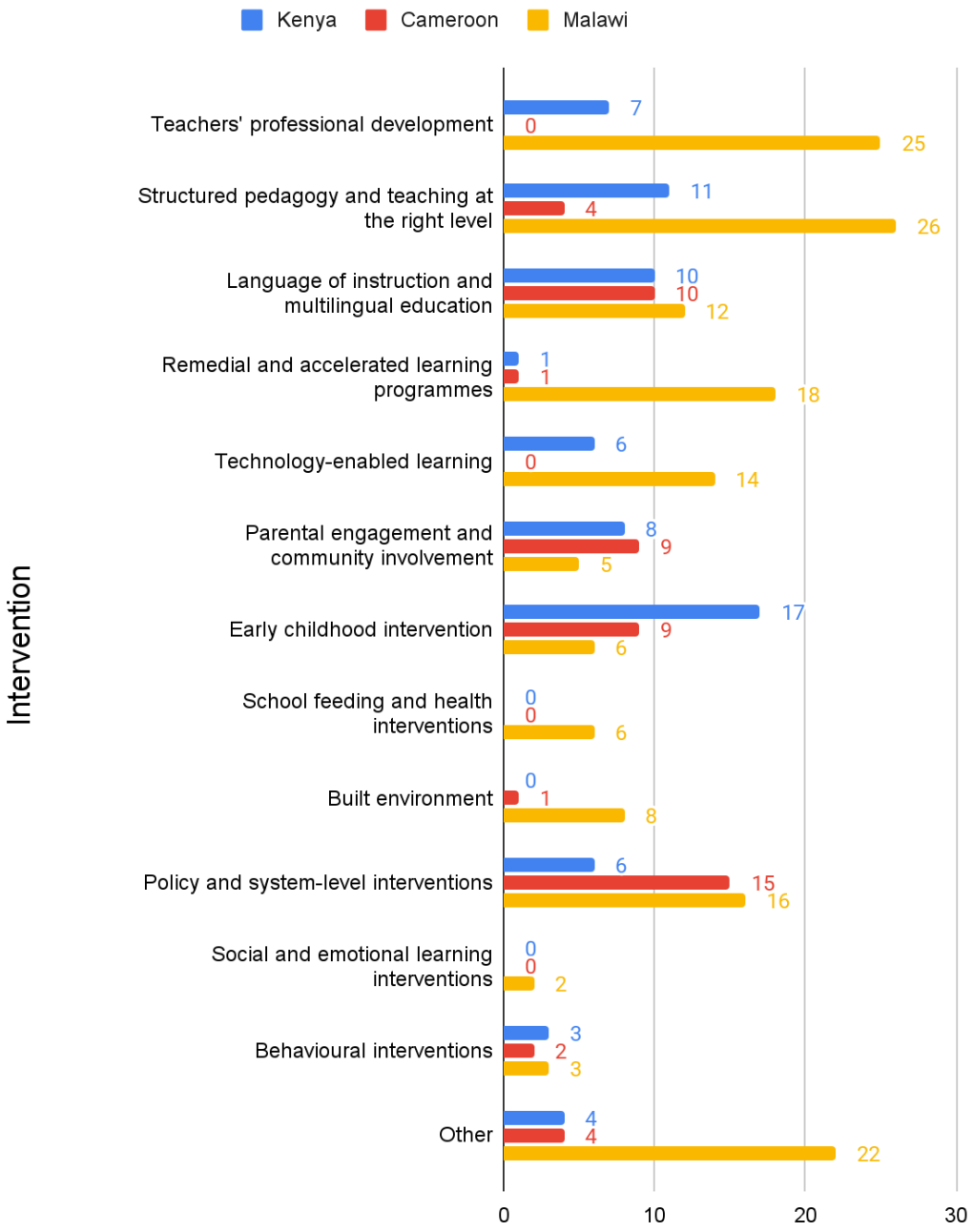


Figure 2 illustrates the patterns in terms of which interventions are represented more frequently and which are represented less frequently in the literature, by country and across countries. It illustrates that early childhood education interventions are dominant in studies on Kenya, policy and system-level interventions are dominant in studies on Cameroon, and teacher professional development, structured pedagogy, and teaching at the right level are dominant in studies on Malawi. These patterns are discussed in detail in Section 4.

Figure 3 illustrates the distribution of foundational learning studies across the different outcome categories for Kenya, Cameroon, and Malawi, respectively.

***Figure 3.*** *Number of studies per outcome category across countries*

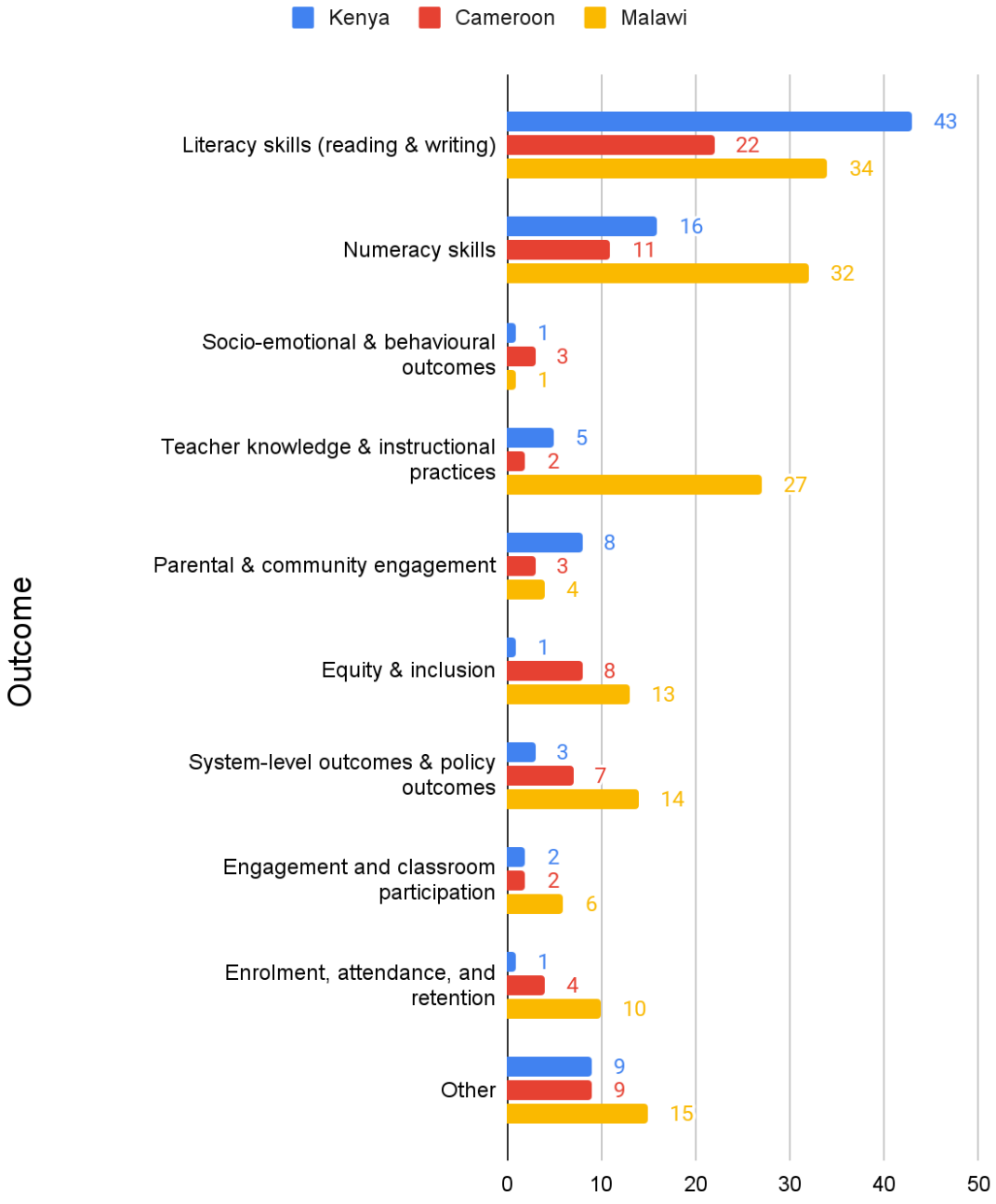


Figure 3 above illustrates the patterns in terms of which outcomes are represented more frequently and which are represented less frequently in the literature, by country and across countries. These patterns are discussed in detail in Section 4.

# 4. Detailed findings

This section discusses similarities in findings across studies, as well as country-specific findings.

## 4.1 Similarities in findings across studies

The EGM reports for Malawi, Kenya, and Cameroon reveal significant similarities in their findings on foundational learning research, highlighting several consistent patterns in both strengths and limitations of foundational learning evidence across Malawi, Kenya, and Cameroon, as detailed below.

### 1. Strong focus on foundational literacy and numeracy outcomes

There is a strong focus on research in literacy and numeracy skills for all three countries. These were the top two outcomes for which there is existing evidence in all three countries.

- There is a clear concentration of research on both literacy (47 studies) and numeracy (42 studies) in Malawi. Malawi's interactive map additionally illustrates that these outcomes appear well distributed in almost every intervention cluster, implying that a wide range of interventions target these outcomes.
- For Kenya, more studies focused on literacy skills (43 studies) than numeracy skills (16 studies).
- Studies on Cameroon are similarly dominated by literacy skills (22 studies), followed by numeracy skills (11 studies).

### 2. Emphasis on policy and system-level Interventions

There is a shared focus on broader, systemic educational reforms across the reports.

- Malawi's EGM similarly demonstrates that policy and system-level interventions are among the most frequently studied, with 16 identified studies.
- Kenya's EGM, in contrast, indicates that studies on policy and system-level interventions are relatively low, with only six studies on this area. The Kenya EGM emphasised the importance of increasing research in this domain to inform policy and practice.
- For Cameroon, policy and system-level interventions are the most studied intervention area, with 15 identified studies.

## 3. Significant evidence gaps relating to socio-emotional and behavioural outcomes and interventions

A consistent limitation across all three countries is the sparse literature on socio-emotional learning and behavioural *interventions*, as well as an even more limited evidence base for socio-emotional and behavioural *outcomes*.

- Malawi's EGM highlights that studies on socio-emotional development outcomes are markedly underrepresented (only one study). Although interventions have a slightly larger presence, with two social and emotional learning studies and six on behavioural interventions, these remain emergent and underexplored, particularly in comparison to the other intervention categories.
- Kenya's EGM notes limited and weak evidence for socio-emotional and behavioural outcomes (one study), socio-emotional learning interventions (no studies), and behavioural interventions (three studies).
- In Cameroon, socio-emotional and behavioural outcomes were researched in only three studies. No socio-emotional learning interventions were identified, and behavioural interventions were covered in only two studies.

## 4. Limited evidence on equity and inclusion outcomes

Research consistently falls short in exploring equitable access to foundational learning, and all EGMs highlighted this as a critical evidence gap to fill.

- Research on equity and inclusion outcomes in Malawi is identified as being markedly underrepresented, despite 13 studies touching upon this area. The EGM emphasised the need for research that connects classroom instruction with equity-related domains to equitably support all learners.
- Evidence for equity and inclusion outcomes in Kenya remains limited and weak, with only three studies.
- With eight studies on equity and inclusion outcomes, Cameroon's report highlights the importance of addressing systemic inequities, such as gender and linguistic disparities, which are often underexplored. The EGM emphasises the need to invest in research on foundational learning interventions that address the needs of the most marginalised.

## 5. Understudied intervention areas

Several critical intervention categories consistently lack sufficient empirical investigation across countries.

- **School feeding and health interventions** show a striking lack of empirical evidence in Kenya (no studies) despite widespread implementation of such interventions across the country. Similarly, no such interventions have been studied in Cameroon. With a smaller volume of evidence (seven studies) in Malawi, the EGM recommended expanding research in this area, particularly on the long-term effects of school feeding and health interventions on foundational learning.
- **Technology-enabled learning** lacks comprehensive research in Kenya (six studies), has no identified interventions in Cameroon, and while there are 14 studies on Malawi, it is still considered under-explored in certain contexts. The Kenya EGM notes that with growing interest in technology-enabled learning, rigorous research is needed to validate efficacy, in particular implementation research, given the complexity of implementing technology-enabled learning.
- **Remedial and accelerated learning programmes** were only examined in one study in both Kenya and Cameroon, whereas there are 22 studies on Malawi. Given that such learning programmes aim to address learning gaps, more robust evidence is needed to evaluate their effectiveness (↑Arisa & Gachoki, 2025).
- **There are no studies on built environment interventions** in Kenya, only one study on Cameroon, and eight studies on Malawi. The Kenya EGM, in particular, emphasises the need to produce conducive evidence on how the built environment (e.g., classroom design, sanitation facilities, and school infrastructure) can influence learning outcomes. Built environment interventions are relatively old and less intriguing interventions; however, the increased impact of climate change on indoor classroom temperatures can impact cognitive function (and consequently learning outcomes), so addressing this evidence gap will be of increasing importance in the future (↑Haßler et al., 2024).

## 6. Prevalence of qualitative studies and scarcity of rigorous designs

Across the studies, there were 91 qualitative studies,[6] 10 systematic reviews / meta-analyses, and 25 experimental / quasi-experimental studies. The robustness and generalisability of evidence are optimal when an evidence base is balanced with varied methodological approaches, but this is not yet the case for Malawi, Kenya, and Cameroon.

- In addition to coding the research design, the Malawi team explicitly categorised the ‘research type’ (qualitative, quantitative, or mixed methods) in their coding; thus, 56 studies were found to be qualitative studies. Case studies (33 studies) and quantitative studies (34 studies, including experimental and

[6] Note that more than one methodological approach could have been mapped to a study.

quasi-experimental studies) were also dominant. Systematic reviews and meta-analyses (5 studies), longitudinal or cohort studies (5 studies), behavioural or cross-sectional studies (3 studies), and expert opinions (no studies) were the least common types of studies.

- Evidence on Kenya relies heavily on qualitative methods (26 studies), with a notable absence of behavioural or cross-sectional methodologies, and sparse use of systematic reviews / meta-analysis (5 studies) or longitudinal designs (2 studies). There is a growing number of rigorous experimental / quasi-experimental approaches (12 studies).
- Studies on Cameroon predominantly use behavioural / cross-sectional studies (22 studies), case studies (17 studies), or qualitative analysis (9 studies), with experimental and quasi-experimental designs (4 studies) and longitudinal / cohort studies (3 studies) being rare. Crucially, no systematic reviews or meta-analyses were identified.

### 7. Gender disparities in research leadership

A consistent pattern of **male dominance in first authorship** is observed across the evidence reviewed in the EGMs.

- For Malawi, while the overall leadership of studies almost reached parity between male and female authors, the majority of studies across most intervention-outcome pairings are led by male researchers, especially in system-level outcomes, teacher practices, and academic skills. Female-led studies are more prominent in areas such as structured pedagogy, remedial and accelerated learning, and technology-enabled learning, and are notably scarce in policy and system-level interventions, enrolment and retention, and the built environment (↑Saddick et al., 2025).
- Notably, there are more female-led studies (41) than male-led studies (27) for Kenya.
- In studies on Cameroon, male authors led 38 out of 55 studies, compared to 17 by female authors. Notably, female authors conducted none of the experimental or quasi-experimental studies.

## 4.2 Country-specific findings

While many challenges are common, each country's EGM report also highlights unique or particularly pronounced findings stemming from the evidence in their specific contexts.

## Malawi

- **Pervasive learning poverty and fragmented data systems**: Malawi faces pervasive learning poverty, and its research and data systems on foundational learning (and in general) are often fragmented and inaccessible. This contextual challenge impacts the comprehensive mapping of evidence, although opportunistic mapping was employed to mitigate this.
- **Marked underrepresentation of specific outcomes (despite some studies existing)**: While studies exist, outcomes related to socio-emotional development (one study), parental and community engagement (five studies), enrolment, attendance, and retention (ten studies), and classroom engagement (six studies) are all markedly underrepresented, indicating significant areas for expanded research.
- **Focus on early childhood development**: The EGM specifically highlights limited rigorous evaluations on how pre-primary education or parenting programmes influence subsequent foundational learning outcomes, signalling a need for more longitudinal research on early childhood interventions.

## Kenya

- **Evidence remains weak in key outcome areas.** More empirical evidence is needed in several foundational learning areas, including socio-emotional learning, behavioural outcomes, equity and inclusion, system and policy-level changes, classroom engagement and participation, as well as enrolment, attendance, and retention.
- **Some interventions are prevalent but remain unevaluated:** Interventions such as school feeding programmes, remedial programmes, or technology-enabled learning exist but remain understudied, particularly regarding their long-term effect on foundational learning outcomes.
- **Methodologically robust research is needed in diverse contexts.** To cater to all diverse and marginalised populations in Kenya, studies are required with different groups and in various contexts, ensuring policymakers can invest in evidence-based interventions.

## Cameroon

- **Linguistic bias in studies**: A significant limitation is the overwhelming dominance of English-language studies (49 out of 55) compared to French (six studies), despite Cameroon being a bilingual country where French is often the

more dominant language. This bias may skew evidence and underrepresent the experiences of the majority French-speaking population, affecting the applicability of interventions.

- **Zero interventions in key areas**: The Cameroon report explicitly identifies no studies on interventions in the following areas: school feeding, health interventions, social and emotional learning interventions, teacher professional development, and technology-enabled learning. This total gap is particularly stark.
- **Impact of regional crises**: Cameroon's education system is significantly impacted by regional crises, socio-economic disparities, inadequate infrastructure, teacher shortages, and disrupted attendance, which severely affect learning progress and influence the availability and quality of studies in these areas.

# 5. Recommendations

The cross-country analysis of Evidence Gap Maps (EGMs) for Malawi, Kenya, and Cameroon has illuminated emerging strengths, persistent limitations, and significant gaps in the foundational learning research landscape across these SSA countries. Drawing on these findings and the specific recommendations from each country's EGM, this section outlines actionable recommendations for strengthening the evidence base and informing more effective policy and practice. The recommendations below are structured to promote a more robust, equitable, and impactful research ecosystem for foundational learning.

## 1. Prioritise research in understudied areas

Across all three countries, there is a consistent and urgent need to expand research beyond foundational literacy and numeracy skills to address holistic child development and systemic issues.

- **Socio-emotional and behavioural outcomes, equity and inclusion outcomes, and classroom engagement require enhanced and rigorous research to ensure foundational learning efforts offer equitable benefits to all learners.** Future research should actively integrate socio-emotional, equity, and classroom engagement outcomes within their conceptual frameworks and research questions to reflect a more holistic, equitable conception and implementation of foundational learning.
- **School feeding and health interventions**, **remedial and accelerated learning programmes, and built environment interventions** require longitudinal research to investigate the long-term impacts of these interventions on learning outcomes.

## 2. Strengthen methodological rigour and diversity

The current evidence base heavily relies on qualitative studies, with a notable scarcity of rigorous experimental, quasi-experimental, and longitudinal designs, as well as limited systematic reviews and meta-analyses (none in Cameroon). Future research should prioritise more varied and rigorous methodologies, including evidence synthesis, to enhance the robustness and generalisability of findings.

## 3. Actively promote female-led research

A pattern of male dominance in first authorship is largely observed, particularly in Cameroon, where male authors led 38 out of 55 studies. While Malawi's research leadership was fairly balanced overall, Kenya presented a notable contrast, with a higher proportion of female-led studies. In certain domains, studies on Cameroon and Malawi

exhibited a more pronounced male-led scholarship. These include policy, systemic reform, and learner engagement, as well as experimental or quasi-experimental methodologies. Prioritising funding and support for female-led research is crucial to address these gaps. This could be achieved through strategies such as mentorship programmes, targeted grants, and ensuring gender balance on research review panels.

## 4. Enhance policy uptake and collaboration

In line with UDI's mission, education data and evidence must be converted into actionable insights for evidence-based policymaking. This can be achieved through the following.

- **Strengthening partnerships and co-creation**: Foster collaboration between universities, CSOs, and government ministries (e.g., ministries of education) to co-create research agendas that are policy-relevant and contextually grounded.
- **Improving data accessibility and use**: Develop open-access repositories to enable easier access to evidence and provide training for local researchers in evidence synthesis. This directly supports the UDI's aims.
- **Establishing robust monitoring systems**: Implement effective monitoring and evaluation frameworks for new initiatives to generate real-time data on understudied interventions.
- **Conducting end-to-end research across the education system**: Design research that traces the trajectory of policy and systemic reforms through classroom practices to student-level learning and retention outcomes. This 'cross-level integration' is critical across the countries, though explicitly highlighted by Malawi.

## 5. Include cost-effectiveness analysis across studies

While cost-effectiveness is not explicitly mentioned in any of the country EGMs, they did mention the limited education budgets of countries and limitations in research funding. Thus, evidence generated not only needs to focus on the effectiveness of interventions to improve educational outcomes, but also on their cost-effectiveness, so that policymakers can make crucial budgetary decisions.

By strategically addressing the evidence gaps, the foundational learning research landscape in Malawi, Kenya, and Cameroon can be significantly strengthened, ultimately contributing to improved educational outcomes for children in these resource-constrained settings.

# 6. Conclusion

This cross-country analysis of EGMs in Malawi, Kenya, and Cameroon underscores both the potential and limitations of current foundational learning research in SSA. The mapping of existing evidence in each of the three countries has proven to be a crucial exercise in that it reveals substantial and recurring gaps, such as those in equity, socio-emotional development, and systemic and policy-level research. The evidence bases produced also showcase the growing research in foundation literacy and numeracy, which are key pillars to improving learning outcomes.

Methodological limitations, gender disparities in research leadership, and underrepresentation of key intervention areas further point to the need for more inclusive, rigorous, and contextually relevant evidence generation. Moving forward, the UDI and its partners must continue fostering collaborative, policy-engaged research communities while expanding support for underrepresented voices and methodologies. By addressing these evidence gaps, strengthening local research ecosystems, and prioritising actionable insights, the region will be better equipped to develop equitable, data-driven policies that transform foundational learning outcomes for all children.

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