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EVIDENCE GAP MAP

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

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Author: Taskeen Adam

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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:

- Mapping and situational analysis at the country level
- Use of data to address priority research questions and evidence gaps
- Cultivating communities of learning at country and regional levels
- 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: Cameroon (↑Pambe et al., 2025), (↑Arisa & Gachoki, 2025), and Malawi (↑Saddick et al., 2025). These EGMs follow and should be viewed in conjunction with the situational analysis done in Cameroon (↑Pambe et al., 2025), Kenya (↑Gachoki & Arisa, 2025), and Malawi (↑Kadzamira 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 in Malawi, Kenya, and Cameroon explores the

similarities across the findings from these 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. The 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 largely be used across the system to improve educational policy and learning in the short term, and consequently improving 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:

- The methodological approach used to develop the EGMs.
- The comparison of the distribution of the three evidence bases produced.
- 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 that helps users understand complex information by analysing and summarising documents and other sources, was used to support pattern identification, analysis, and writing for certain sections of the report. AI hallucinations and potential bias were mitigated against by 1.) limiting the tool to drawing only from the three EGM reports, and 2.) further cross-checking every generated theme with the source data. NotebookLM is designed to easily and explicitly show the exact quote from sources that was used to develop its analysis, allowing for a streamlined quality assurance process. The majority of the analyses provided by NotebookLM were adjusted to improve the accuracy and depth of the outputs and capture important findings that were missed by the tool, highlighting the continued integral role of the human in the loop.

While consistency was ensured within each study, such as dual-coding and quality assurance, this was not done 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 disaggregated quantitative research approaches. For this reason, readings of graphs that present weightings and distributions should consider this detail. This cross-country analysis was reviewed and approved by authors of the three countries EGMs.

1.2. Report structure

The report is structured as follows: Section 1 positions this paper within the context of the broader Unlocking Data research landscape. In Section 2, a comparison of the methodologies of the three studies is presented, illustrating variations based on context and purpose. In Section 3, the distribution and characterisation of the three EGMs are provided, 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 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 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.
Socio-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 presents the outcome categories as described in ↑Pambe et al. (2025), 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

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; ↑Selwaness et al., 2022; ↑Lawson & Iwiire, 2025b). 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 provides a comparison of the methodological process undertaken in the three EGMs.

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

Aspect of methodology	Kenya	Cameroon	Malawi
Research area focus	Foundational learning in Kenya.	Foundational learning in Cameroon.	Foundational learning in Malawi.

Target FLN age group	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 age range.	Children aged 4 to 10.
Included publication language	English only.	English and French.	English only.
Sources of literature	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.	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.
Included literature types	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.	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.
Publication timeframe	Publications from 2010 to 2023.	While no restriction on publication year, the evidence base grew from 1983 to 2024.	Literature from 2010 to 2024.

Screening/ coding process	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.	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.
Reference Management Software	Zotero was used to organise and manage bibliographic data across the studies.		
Coding/ Classification Software	**EPPI-Reviewer** was used to code and classify the literature.		
Visualization Software	**EPPI-Mapper** was used to prepare interactive visual EGMs.		
Key Coded Variables / Granularity	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.	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

Notably, the approaches presented in Table 3 are largely similar due to country teams utilising UDI methodological guidance notes and communicating to support each other as part of a community of practice. The countries used a similar process to organise, code, and visualise the body of evidence on foundational learning. The analysis proceeded in three interconnected steps: managing and preparing bibliographic data using Zotero; coding and classifying studies within EPPI-Reviewer; and finally, converting the structured dataset into an interactive EGM using EPPI-Mapper.

Distinctions are mainly due to contextual differences, e.g., Cameroon includes French publications because it is a bilingual country; nuanced aims and purposes, e.g., varied country definitions of foundational learning; and differences in the countries' local education research landscapes, e.g., excluding PhD dissertations in Kenya due to perceptions of low quality (↑Arisa & Gachoki, 2025) or including unpublished literature and opportunistic mapping in Malawi 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	Kenya	Cameroon	Malawi
Initial search	549	677	150
After full-text screening	68	55	110
Female lead authors	41	17	50
Male lead authors	27	38	56[5]

Figure 1 maps the aggregated distribution of studies by study type/research design. The majority of studies were qualitative studies and 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*

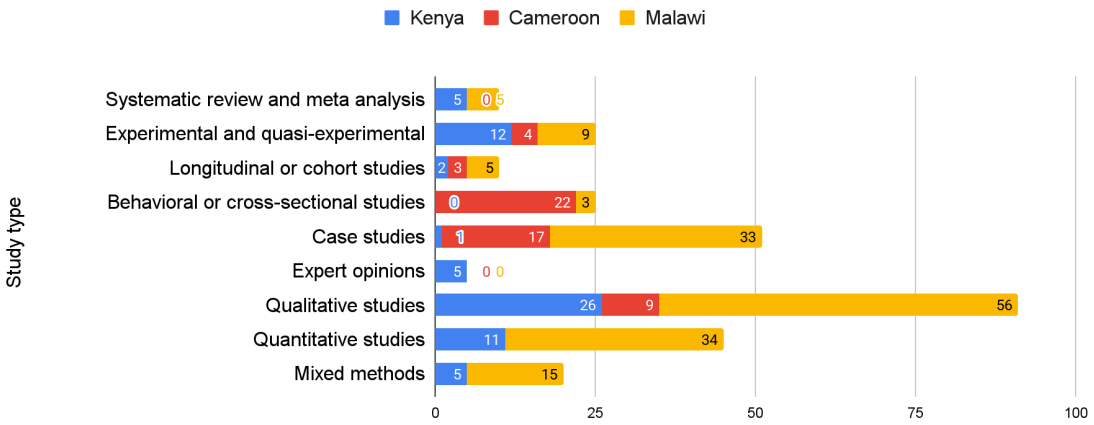

Figure 2 shows the distribution of foundational learning studies found across the different intervention categories for Kenya, Cameroon and Malawi, respectively.

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

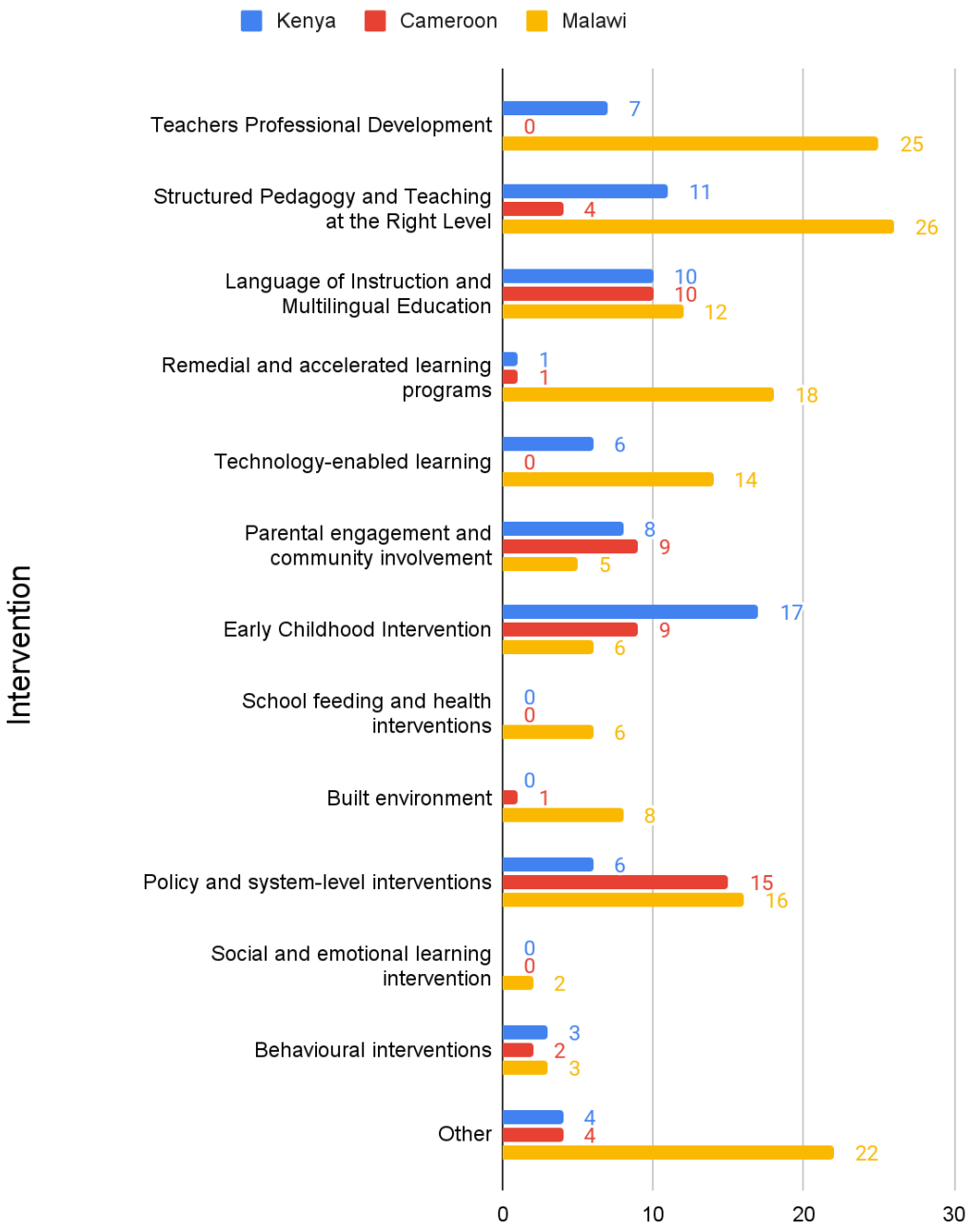

Figure 2 illustrates the patterns in terms of which interventions are represented more and which are represented less in the literature, per country and across countries. It illustrates that early childhood education interventions are dominant in Kenya, policy and system-level interventions are dominant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

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

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

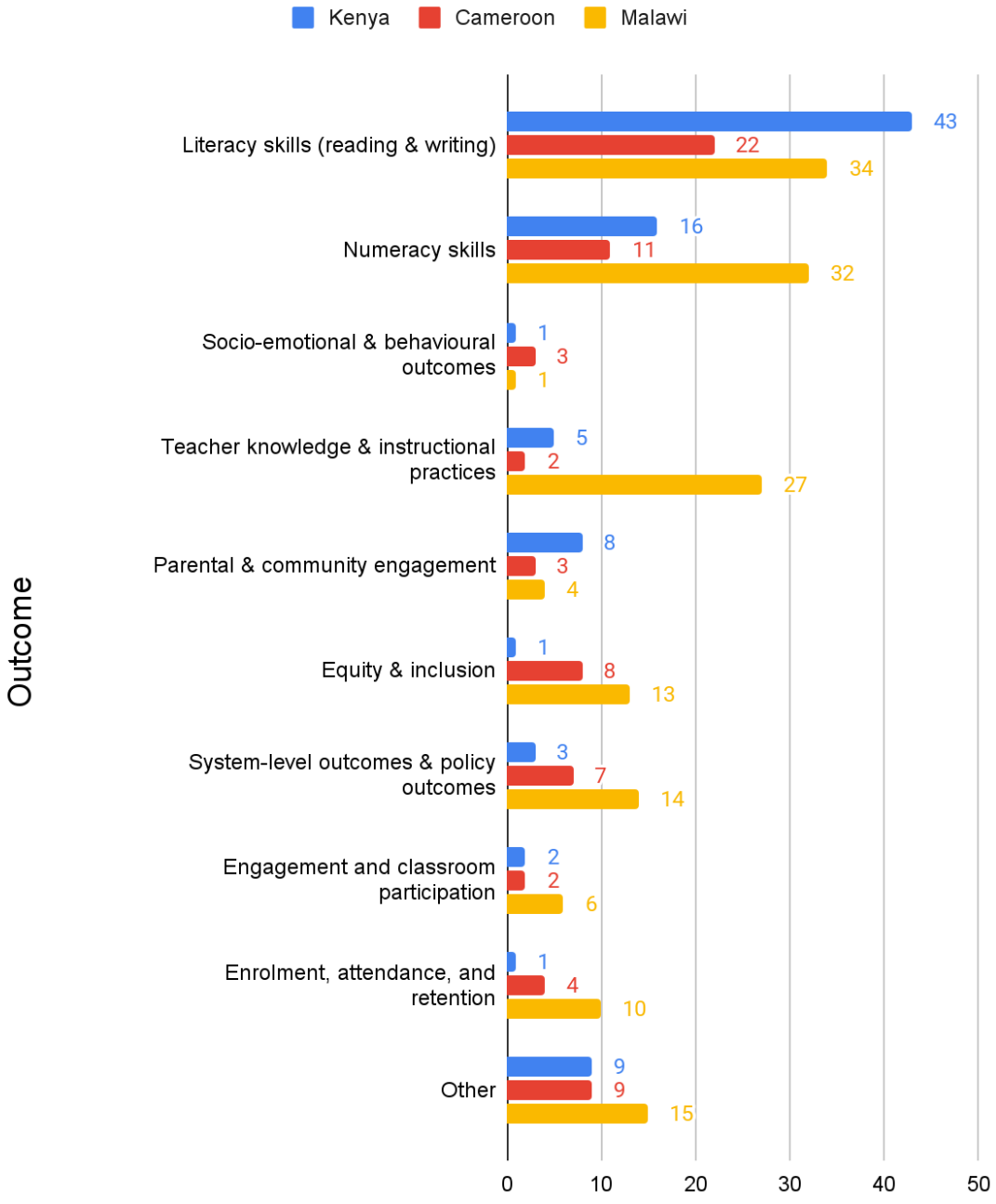

Figure 3 illustrates the patterns in terms of which outcomes are represented more and which are represented less in the literature, per country and across countries. These patterns are discussed in detail in Section 4.

4. Detailed findings

This section discusses the similar findings across studies, as well as country-specific findings.

4.1 Similar findings across studies

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

- **Strong focus on foundational literacy and numeracy outcomes**: All three countries show a strong concentration of research on literacy and numeracy skills. These were the top two outcomes that have existing evidence for all three countries.
    - In Kenya, more studies focussed on literacy skills (43 studies) than numeracy skills (16 studies).
    - Cameroon's studies are similarly dominated by literacy skills (22 studies), followed by numeracy skills (11 studies).
    - Malawi also demonstrates a clear concentration of research in both literacy (47 studies) and numeracy (42 studies). 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.
- **Emphasis on policy and system-level Interventions**: There is a shared focus on broader, systemic educational reforms across the reports.
    - In Cameroon, policy and system-level interventions are the most studied intervention area, with 15 identified studies.
    - Malawi similarly shows that policy and system-level interventions are among the most frequently studied, with 16 identified studies.
    - Kenya's EGM, in contrast, indicates that policy and system-level interventions are relatively low, with only 6 studies. The Kenya EGM emphasised the importance of increasing research in this domain to inform policy and practice.
- **Significant evidence gaps in 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*, and an even more lacking evidence base for socio-emotional and behavioural *outcomes*.

  - Kenya's EGM notes limited and weak evidence for socio-emotional and behaviour outcomes (1 study), socio-emotional learning interventions (0 studies), and behavioural interventions (3 studies).
  - In Cameroon, socio-emotional and behaviour outcomes were found in only 3 studies. No socio-emotional learning interventions were identified, and behavioural interventions were covered in only 2 studies.
  - Malawi's EGM highlights that studies on socio-emotional development outcomes are markedly underrepresented (only 1 study). Although interventions have a slightly larger presence, with 2 social and emotional learning studies and 6 behavioural interventions, these remain emergent and underexplored, particularly in comparison to the other intervention categories.

- **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.
  - Kenya's evidence for equity and inclusion outcomes remains limited and weak, with only 3 studies.
  - With 8 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 foundational learning interventions that address the needs of the most marginalised.
  - In Malawi, equity and inclusion outcomes are identified as markedly underrepresented, despite 13 studies touching upon this area. The EGM underscored the need for research that connects classroom instruction with equity-related domains to equitably support all learners.
- **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 (0 studies) despite widespread implementation of such interventions across the country. Similarly, no interventions of these types were studied in Cameroon. With smaller evidence volumes (7 studies) in Malawi, the EGM recommended expanding research on this, in particular,

the long-term effects of school feeding and health interventions on foundational learning.

- **Technology-enabled learning** lacks comprehensive research in Kenya (6 studies), has no identified interventions in Cameroon, and while having 14 studies in Malawi, it is still considered under-explored in certain contexts. The Kenya EGM noted 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** only appeared in 1 study in both Kenya and Cameroon, and while having 22 studies in Malawi. Given that such learning programmes aim to address learning gaps, more robust evidence is needed to evaluate their effectiveness (↑Arisa & Gachoki, 2025).
- **Built environment interventions** have no studies in Kenya, only 1 study in Cameroon, and 8 studies in Malawi. Kenya particularly 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 a 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).

- **Prevalence of qualitative studies and scarcity of rigorous designs**: Across the studies, there were 91 qualitative studies[6] as opposed to 10 systematic reviews/meta analysis, and 25 experimental/quasi-experimental studies. The robustness and generalisability of evidence is optimal when an evidence base is balanced with varied methodological approaches, but this is not yet the case in Kenya, Cameroon and Malawi.
  - Kenya's evidence relies heavily on qualitative methods (26 studies), with a notable absence of behavioural or cross-sectional methodologies, and seldom utilises systematic reviews/meta analysis (5 studies) or longitudinal designs (2 studies). There is a growing number of rigorous experimental/quasi-experimental approaches (12 studies).
  - Cameroon's studies predominantly use behavioural/cross-sectional studies (22 studies), case studies (17 studies), or qualitative analysis (9 studies),

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

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.

    - In addition to coding the research design, Malawi 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 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 (0 studies) were the least common types of studies.

- **Gender disparities in research leadership**: A consistent pattern of **male dominance in first authorship** is observed across the EGM reports.
    - In Cameroon, male authors led 38 out of 55 studies, compared to 17 by female authors. Notably, female authors conducted 0% of experimental or quasi-experimental studies.
    - In 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).
    - Kenya notably had more female-led studies (41) than male-led studies (27).

4.2 Country-specific findings

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

- **Cameroon**:
    - **Linguistic bias in studies**: A significant limitation is the overwhelming dominance of English-language studies (49 out of 55) compared to French (6 studies), despite Cameroon being a bilingual country where French is often more dominant. 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 interventions for school feeding and health interventions, social and emotional learning interventions, teacher professional development, and technology-enabled learning. This absolute 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 to conduct studies and the quality of them.

- **Kenya**:
  - **Evidence remains weak in key outcome areas:** More empirical evidence is needed in key foundational learning outcome areas such as socio-emotional and behaviour, equity and inclusion, system and policy-level changes, classroom engagement and participation, and enrolment, attendance, and retention.
  - **Some interventions are prevalent but remain unevaluated:** Whether school feeding programmes, remedial programmes or technology enabled learning, such interventions exist but remain understudied, particularly regarding their long-term effect on foundational learning outcomes.
  - **Methodological robust research needed in diverse contexts:** To cater for all diverse and marginalised populations in Kenya, studies are needed with different groups and in different contexts to ensure policymakers can invest in evidence-based interventions.
- **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 against this.
  - **Marked underrepresentation of specific outcomes (despite some studies existing)**: While studies exist, outcomes related to socio-emotional development (1 study), parental and community engagement (5 studies), enrolment, attendance, and retention (10 studies), and classroom

engagement (6 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 programs influence subsequent foundational learning outcomes, signalling a need for more longitudinal research on early childhood interventions.

5. Recommendations

The cross-country analysis of Evidence Gap Maps (EGMs) for Kenya, Cameroon, and Malawi 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, the following 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.

- **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 benefit 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 long-term impacts of these interventions on learning outcomes.
- **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-analysis (none in Cameroon). Future research should prioritise more varied and rigorous methodologies, including evidence synthesise, to enhance the robustness and generalisability of findings.
- **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 notably presented a contrasting trend, with more female-led studies. In Cameroon and Malawi, particular domains had more pronounced male-led scholarship including policy, systemic reform, and learner engagement, and 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 programs, targeted grants, and ensuring gender balance on research review panels.

- **Enhance policy uptake and collaboration.** In line with the mission of the UDI, education data and evidence needs to be converted to actionable insights for evidence-based policymaking. This can be achieved through:
    - **Strengthening partnerships and co-creation**: Foster collaboration between universities, CSOs, and government ministries (e.g., Ministry 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 Unlocking Data Initiative'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.
- **Include cost-effectiveness analysis across studies.** While 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 the cost-effectiveness of these, for policymakers to make crucial budgetary decisions.

By strategically addressing the evidence gaps, the foundational learning research landscape in Kenya, Cameroon, and Malawi 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 Kenya, Cameroon, and Malawi 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 proved 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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