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Community Designed Learning Support and School Retention Among San Children in Rural Namibia

¹ Nafenya Secilia, ² Moyo Virginia, ³ Mahongo Christine, ⁴ Nangolo Philipus

^{1, 2, 3} Department of Education, International University of Management, Nkurenkuru Campus, Namibia

⁴ Department of Mathematics and Economics, International University of Management, Nkurenkuru Campus, Namibia

Corresponding Author: Nafenya Secilia

Abstract

School retention among San children requires attention to the interaction between material hardship, school climate, language and the relationships connecting families to education services. This narrative review examines selected Namibian studies, international research on hunter-gatherer children's schooling, and African evaluations of parental and community participation. It then develops a community-designed learning support programme and a prospective mixed-methods evaluation. The synthesis indicates that documenting barriers alone does not establish which support arrangements improve sustained participation. Comparative evidence also shows that communication and parental mobilisation have context-dependent effects and cannot substitute for accessible, supportive schools. The proposed programme combines locally approved learning materials, flexible family-school communication, practical attendance

support and responses to discrimination. San learners, caregivers and community representatives would share decisions over priorities, delivery and the use of cultural knowledge. A feasibility phase would precede a school-level comparative evaluation, with continued enrolment as the primary outcome and attendance, learning, belonging, implementation and cost as complementary outcomes. Transfers and unknown schooling status would be distinguished from confirmed withdrawal. No programme has been implemented for this article, and no new learner data or intervention effects are reported. The contribution is an evidence-informed framework for testing locally legitimate support while protecting children's participation and community authority. Future research should establish feasibility and measurement quality before estimating effects across contrasting rural settings.

Keywords: San Children, Inclusive Education, Community Participation, School Retention, Rural Namibia, Learning Support

Introduction

School enrolment creates an opportunity to learn, but it does not ensure that children remain in school, experience respectful teaching or acquire foundational skills. For San children in rural Namibia, a retention study therefore needs to examine how school conditions and household circumstances combine over time. A programme that increases registration without improving daily participation can leave the educational problem largely unresolved. Equally, an initiative that improves attendance while exposing children to discriminatory treatment may achieve an administrative target without providing inclusive education.

Ikela, Mbongo and Hako's qualitative case study in the Oshikoto region interviewed five parents and thirteen teachers. It identifies poverty, limited parental involvement, negative school climate and teenage pregnancy among the reported barriers to schooling, and recommends stronger stakeholder collaboration ^[1]. These are participant accounts from a particular setting, rather than estimates of national prevalence or causal effects. Their importance for the present article is the need to move from describing difficulties to evaluating support that addresses locally identified obstacles.

A study of early school dropout in four circuits of the Ohangwena region similarly identifies school-related and socioeconomic factors, including distance, bullying, curriculum relevance and material hardship ^[2]. Together, these studies suggest that explanations centred exclusively on families would be incomplete. Teachers, school leaders and service providers also shape whether education is accessible and welcoming. Research should examine the institutional response to a learner's circumstances instead of treating a reported household difficulty as a fixed characteristic of San communities.

Cultural inclusion also requires care. Ninkova's research on multicultural education for the Omaheke Ju|'hoansi examines the relationship between educational inclusion and representations of cultural identity ^[3]. A broader review of hunter-gatherer

children's schooling discusses material costs, language barriers and tensions between schooling arrangements and family life across diverse settings ^[4]. These publications provide reasons to examine cultural relevance, but they do not justify assuming that all San children have the same language, livelihood, aspirations or relationship with formal education. Community-designed materials must reflect present-day local choices as well as knowledge that participants wish to share.

UNICEF's Namibia country programme document for 2025–2029 identifies continuing disadvantage affecting San and Himba communities, alongside the need to strengthen foundational learning and participation in service design ^[5]. This policy context supports a study linking retention to learning and learner experience. It does not identify a ready-made programme that will work in every rural community. Local schools need evidence about delivery, acceptability and costs before adopting a new support arrangement.

The research gap addressed here is the connection between community decision-making, the support actually delivered, and sustained educational participation. The selected Namibian evidence describes barriers, while comparative African evaluations examine different forms of family and community engagement. This review does not establish that no San-focused intervention exists. Its proposed contribution is a testable design that makes local authority explicit, records changes in support, and separates continued enrolment from attendance, learning and belonging.

The objectives are to synthesise relevant evidence without combining incompatible outcomes; develop a programme whose components and decision processes can be locally adapted; and specify a feasible evaluation capable of distinguishing implementation problems from uncertain educational effects. The guiding question is whether a support programme developed with San learners and caregivers can improve verified school retention while supporting learning and a respectful school experience. This question remains prospective: the present article reports a narrative synthesis and programme framework, not an implemented trial.

Materials and Methods

Review design and source selection

A focused narrative review was undertaken using web-accessible journal publications, institutional repositories and UNICEF documents. Searches were completed on 1 October 2026. Search concepts combined San children, Namibia, school dropout, retention, community participation, parental engagement, learning support and Indigenous education. Related searches sought comparative intervention evaluations in Africa and methodological guidance on participation, data governance and complex interventions. Publisher pages were used to check bibliographic details; accessible articles and abstracts were used to establish the scope of claims.

Sources were included when they directly addressed San schooling in Namibia, synthesised relevant schooling experiences, evaluated family or community education interventions, or provided methods needed for the proposed evaluation. Opinion pieces without identifiable evidence and publications unrelated to schooling were excluded from the core comparison. Older methodological publications were

retained where they supplied an established approach. Reference lists informed further targeted retrieval. This was a purposive search rather than a systematic review: there was no exhaustive database search, registered screening protocol or independently duplicated eligibility assessment.

The synthesis recorded each source's setting, design, participants where reported, outcome focus, principal finding and transferability limits. Six publications form the initial evidence matrix in Table 1 ^[1, 3, 4, 6–8]. Four additional studies extend the comparison to community learning interventions in Madagascar, Mozambique and India, including a later evaluation of scale-up ^[14–17]. The Ohangwena study and UNICEF programme document provide local context ^[2, 5]. Methodological sources inform the proposed design. No pooled effect estimate was calculated because settings, interventions and outcomes differ substantially. Two Madagascar publications concern related programme development and are not independent replications of a single intervention effect.

Thematic organisation distinguished material access, school relationships, cultural and linguistic relevance, family communication and implementation capacity. Findings were first described according to their original design. Programme implications were then developed as interpretations requiring local testing. Qualitative accounts were not converted into numerical rankings of causes, and the absence of direct learner participation in a cited sample was treated as a limitation of that evidence, rather than permission to infer children's views.

Programme theory and scope of the proposed evaluation

The programme is conceived as a locally governed set of support functions: make learning more accessible and relevant; create usable communication between caregivers and schools; respond to practical causes of absence; and address harmful school experiences. The working hypothesis is that coordinated delivery will improve sustained participation when these functions match the barriers learners identify. This is an intervention theory, not a finding of the review. The development and feasibility stages follow the principle that context, stakeholder priorities and uncertainties should shape complex intervention evaluation ^[9].

A prospective study would focus on rural public primary schools serving communities that identify themselves as San and choose to participate. Selecting one region initially would make transport, translation and follow-up more manageable. School selection should consider existing support, accessibility, enrolment patterns and willingness to maintain comparable records. No named school or community is presented as a participating site in this article. Findings from one region would require replication before wider application.

Children in the selected primary grades who are enrolled at baseline would form the retention cohort. A separate group of children who are out of school could contribute to programme design and a separately reported re-entry evaluation. Combining these populations in one retention denominator would confuse remaining in school with returning to school. Participation should be open to eligible children irrespective of disability, household phone ownership, attendance history or caregiver literacy. Children

whose families decline research participation should retain access to ordinary school services and locally agreed support.

Community governance and participation

Before choosing components, the study team would agree a governance arrangement with participating communities and schools. Learners, caregivers and community representatives would hold defined decision rights over priorities, acceptable communication, cultural materials and feedback. Representation should include people who rarely attend formal meetings and caregivers of children with disrupted schooling. Community leadership can assist recruitment, but it cannot replace individual consent or a child's opportunity to decline an activity.

Separate learner and caregiver discussions would precede joint planning meetings. Children could use drawings, route maps, stories and private conversations in a language and format they understand. Facilitators should invite disagreement and provide alternatives to speaking publicly. Lundy's account of participation distinguishes opportunities to express views from an audience that listens and influence on decisions ^[10]. The proposed study would record which learner recommendations were accepted, revised or rejected and communicate the reasons back to participants.

Each participating community would agree how knowledge and research records may be collected, stored, interpreted and reused. The principles of collective benefit, authority to control, responsibility and ethics offer a basis for this agreement ^[11]. Their application would need local discussion rather than automatic adoption of a generic template. Restricted stories, images and place-based knowledge would be excluded unless contributors explicitly permit the intended use. An agreement would also protect independent reporting of unfavourable programme outcomes without disclosing sensitive knowledge or identifiable children.

Development and delivery of the support package

Development would begin with a six-week feasibility cycle proposed for planning purposes. The first two weeks would establish priorities through listening sessions and checks of existing attendance records. During the next two weeks, teachers and community contributors would create or adapt a small set of learning resources, select communication channels and map available support. The final two weeks would test delivery in ordinary school routines and revise the package. These durations are design choices, not validated requirements or a timetable already agreed with a community.

Learning activities would connect curriculum objectives to locally approved examples without requiring children to perform a cultural identity. A numeracy activity might use an everyday situation selected by participants; literacy activities might include contemporary family experiences or community-approved stories. Each resource should specify its learning objective, language, permitted uses and contributor. Community members would review factual and cultural appropriateness, while teachers would check curricular alignment and accessibility. Children should be able to choose alternative examples.

Family-school communication would use the channels caregivers prefer and can access. Options include agreed meetings, voice messages, printed pictorial notes and

contact through a trusted liaison. Written text messages would not be the default requirement. Communication should identify what the school will do, what support a caregiver wants and when follow-up will occur. A contact is useful when it produces an understandable response, rather than merely increasing the number of messages sent.

Attendance support would start with a respectful conversation about the reason for absence. A local support map would distinguish actions a school can deliver, such as catch-up teaching, from issues needing another service, such as transport or material assistance. An example contact trigger would be three consecutive missed school days or five missed days in a month; the feasibility phase would determine whether this rule is useful and manageable. These are proposed operational triggers, not official definitions of dropout. Public attendance rankings and punitive home visits would be excluded.

School-climate work would include agreed responses to discriminatory language, bullying and exclusion from classroom activities. A named school contact and a confidential alternative route would allow learners to seek help. Staff development would use locally identified classroom situations and review whether agreed responses occurred. Support should extend to the whole school environment so that participating learners are not visibly separated or blamed for difficulties in implementation. Table 2 summarises the proposed components and delivery records.

Comparison design and sample planning

Following feasibility, a parallel school-cluster comparison would be preferable where participating communities accept random allocation of programme timing. Schools would be allocated to the support package or to existing services with later access to the package. Essential support and responses to immediate harm would remain available in both groups. Allocation should occur after baseline measurement and after communities agree the timing arrangements. An independent allocator would stratify by region or locality and relevant baseline school characteristics, using a recorded random procedure.

The unit of allocation should follow the level at which support is shared. Schools that serve overlapping communities or share staff may need allocation as a group to reduce spillover. If few independent clusters are available, the evaluation should be described as a feasibility study rather than a definitive effectiveness trial. A prospective non-randomised comparison could be used when allocation is unacceptable, but causal claims would then depend on stronger assumptions about baseline differences and changes over time.

No fixed sample size can be justified without baseline retention, school sizes and the similarity of outcomes within schools. Sample planning would specify the smallest educationally meaningful retention difference, expected follow-up loss, power and uncertainty about cluster correlation. Calculations should use conservative sensitivity scenarios and the actual number of independent clusters. Recruiting more children within a few schools cannot compensate fully for inadequate cluster replication. The feasibility study would estimate recruitment and record completeness, while reporting exploratory outcomes with uncertainty ^[12].

Outcomes and measurement procedures

The primary proposed outcome is verified continued enrolment in formal schooling twelve months after baseline, including a documented transfer to another school. The denominator is the complete baseline cohort allocated to each study arm. A learner with unknown status is not automatically counted as a confirmed dropout. Verified schooling, verified withdrawal and unknown status would be reported separately. Primary estimates and sensitivity analyses would explain the treatment of unknown status. Completion of the final primary grade would count as continued education when progression or another agreed completion criterion is verified.

Attendance would be recorded daily and summarised over defined school-open periods. The study should report both attendance while enrolled and the proportion of scheduled baseline-cohort school days attended, because a measure restricted to children still attending can improve when absent learners disappear from the denominator. School closures, approved timetable changes and documented transfers require consistent handling. Researchers would check a sample of registers against independent visits and follow-up records. Administrative corrections should leave an audit trail rather than overwrite the original entry.

Learning assessments would measure curriculum-aligned literacy and numeracy at baseline, programme end and follow-up. Tasks should be short enough to avoid displacing instruction and should use equivalent forms to reduce practice effects. Assessment language and accommodations would be agreed before group allocation. Where language versions cannot be shown to be equivalent, results should be reported separately with clear interpretation. Independent assessors, where feasible unaware of allocation, would record attempted tasks, missing assessments and reasons for non-completion.

Learner belonging, perceived safety and experiences of discrimination would be assessed with accessible, locally tested questions and qualitative interviews. No scale would be labelled validated for San children without supporting evidence. Cognitive interviews would check the meaning of questions and response options. Learners absent at the main data-collection visit would be offered another opportunity. Community-designed success indicators would complement, rather than silently replace, the prespecified retention outcome. Table 3 sets out the proposed measurement schedule.

Quantitative and qualitative analysis

The definitive comparison would analyse children according to their school's allocation, regardless of how much support they received. The primary effect would be an adjusted between-group difference in the probability of verified continued schooling, reported in percentage points with a confidence interval. A model accounting for school clustering would include prespecified baseline characteristics and allocation strata. If clusters are few, small-sample corrections and, where compatible with the allocation procedure, randomisation-based inference would be considered. Model choice and missing-outcome rules would be registered before outcome analysis.

Attendance and learning would be analysed as distinct secondary outcomes. Repeated measurements would

account for their nesting within learners and schools. Both baseline-adjusted learning differences and the distribution of outcomes would be reported. A longer follow-up could analyse time to verified withdrawal, treating documented transfer as continued schooling rather than an event. Effect estimates would be accompanied by descriptive school-level results and information about uncertainty. Statistical non-significance would not be interpreted as proof that support has no value.

Analyses by gender, disability-related support need, language, grade and baseline attendance should be limited to prespecified questions for which the sample provides reasonable information. An interaction test is needed before claiming different programme effects between groups. The total package effect would remain the primary estimand. Comparisons between children who voluntarily use more support and those who use less would be vulnerable to selection bias. Mechanism measures can inform interpretation, but observational uptake data cannot establish which individual component caused a retention change.

Qualitative data would be analysed through iterative familiarisation, coding, theme development and review, drawing on thematic analysis [13]. Researchers would document their interpretive positions and discuss emerging explanations with community co-researchers. Translation decisions and divergent accounts would remain visible in analytic notes. A matrix would connect each explanation to delivery records and outcome patterns. Disagreement between staff and learners is evidence to examine, rather than a problem to eliminate through a forced consensus.

Costs ethics and data management

The cost analysis would record printing, translation, contributor payments, liaison time, transport, training and administrative effort in Namibian dollars, with a stated price year. Caregiver and learner time would be described separately from cash expenditure. Budget estimates should distinguish start-up from recurring delivery. Cost per additional retained learner would be calculated only when the estimated retention difference is interpretable; uncertainty or an effect close to zero can make such a ratio unstable. Costs and educational outcomes should also be presented separately.

The review used published sources and did not recruit participants. A prospective evaluation would require institutional ethics review, relevant education permissions, community agreements, caregiver consent and age-appropriate learner assent before data collection. No approval number or implemented consent process is claimed. Research withdrawal should not remove ordinary educational support. Recruitment and record collection must avoid publicly identifying children by ethnicity or attendance history. Interviews would not seek sensitive disclosures that are unnecessary for the research question.

Identifiers would be held separately from assessment and interview files, with restricted access and a predefined retention period. Public reporting would suppress small identifiable cells and avoid revealing exact locations where this could expose children. A referral procedure would be agreed for disclosures of harm. Community feedback would use accessible summaries and opportunities to question interpretations. Data sharing would follow the prior

governance agreement; de-identification alone may be insufficient to protect a small community or its cultural knowledge.

Results and Discussion

Findings from the evidence synthesis

The results in this section concern the selected literature and the resulting programme design. No newly measured attendance, retention rate, interview quotation or statistical intervention effect is presented. Table 1 shows why the evidence supports development and evaluation of a coordinated programme while leaving its effectiveness in rural Namibia unresolved. Local descriptive studies establish relevance; comparative interventions show that participation strategies can operate differently across settings and outcomes.

Fig 1 makes the proposed relationship between governance and delivery explicit. Shared decisions matter when they change the resources, communication or support learners actually receive. The bottom row deliberately separates continued schooling from learning and learner experience.

This structure prevents a programme from being judged successful solely because meetings occurred or materials were produced. The figure also identifies where implementation records are needed: before interpreting an outcome, evaluators should check whether the intended support was available, understood and used.

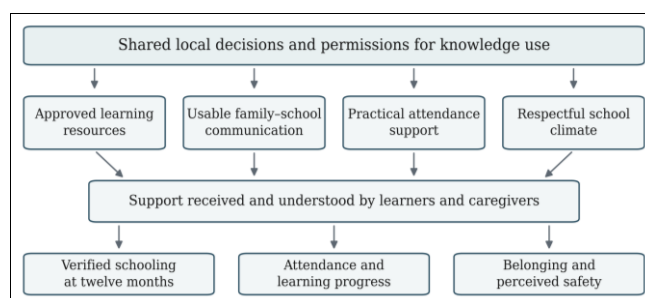


Fig 1: Proposed community-designed support pathways. Arrows represent hypotheses for prospective evaluation, not estimated causal effects. The framework connects shared decisions to support received and distinct educational outcomes

Table 1: Selected evidence and implications for the proposed programme

Source and setting	Design and finding	Implication and limit
^[1] Ikela <i>et al.</i> Oshikoto, Namibia	Qualitative case study; interviews with five parents and thirteen teachers identify material and school-related barriers.	Prioritise local barrier mapping. Adult accounts do not establish learner views or intervention effects.
^[3] Ninkova Omaheke, Namibia	Research on multicultural education examines representations of Ju 'hoansi identity and educational inclusion.	Community approval is needed for cultural materials. Findings concern a particular context.
^[4] Ninkova <i>et al.</i> Global South	Literature review identifies varied access and schooling barriers affecting hunter-gatherer children.	Examine relationships between school arrangements and local lives. Avoid assuming uniform experiences.
^[6] Kozuka Niger	Randomised experiment links information and community discussion to greater educational engagement.	Connect information to joint action. Outcomes cannot be transferred directly to San retention.
^[7] Di Maro <i>et al.</i> Angola	Field experiment finds different home and school engagement responses; combined mobilisation improves some school conditions.	Record where engagement occurs and what schools change. Engagement is not equivalent to retained learning.
^[8] Wolf and Lichand Côte d'Ivoire	School-randomised messaging trial: no statistically significant overall learning gain; subgroup patterns differ.	Communication alone has uncertain benefits. Monitor learning and potential unintended effects.

The most defensible synthesis is that barriers are connected and that support has to be examined at the level of delivery. A caregiver may receive information but still lack a practical way to respond. A teacher may adapt a lesson while bullying remains unresolved. A child may attend consistently yet fail to understand classroom instruction. These are programme-theory examples developed from the review; they are not additional observations from Namibian schools. An evaluation should therefore follow the sequence from identified need to action, experience and schooling outcome.

Comparative findings from recent intervention studies

The recent intervention evidence strengthens the distinction between community participation as a process and educational improvement as an outcome. Local Namibian studies establish the importance of barriers experienced in particular school contexts ^[1, 2], while comparative evaluations test specified packages. These types of evidence answer different questions. An account of bullying or material hardship identifies a possible reason for withdrawal; a trial estimates what happened after an intervention was offered. The proposed Namibian evaluation needs both, because a statistically credible comparison may still test a package that participants find inappropriate. In Madagascar, Maruyama and Igei's 2024 school-randomised evaluation reports a mathematics effect of 0.408 control-group standard deviations for grades 3–5 combined

^[14]. Grade-specific estimates are shown in Fig 2. The programme linked joint planning with remedial instruction. This finding demonstrates that a coordinated package can improve measured learning, but it does not establish that community involvement alone produced the gain or that the package would improve retention among San children.

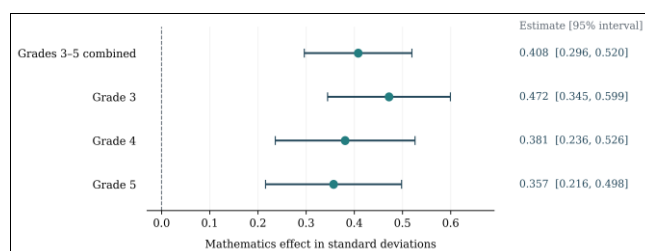


Fig 2: Published mathematics effects from Madagascar ^[14], [Table 4]. Points are adjusted estimates; bars are approximate normal 95% intervals calculated as estimate ± 1.96 times the reported school-clustered standard error. The combined estimate overlaps the grade samples. These are learning outcomes from a previous study, not Namibian retention results or a meta-analysis

The uncertainty intervals in Fig 2 communicate the precision of each estimate without implying that the combined and grade-specific samples are independent. The visibly larger point estimate for Grade 3 should not be treated as proof of a difference between grades; that claim

would require an appropriate interaction comparison. For the proposed study, the figure supports reporting uncertainty alongside estimates and identifying the assessed population. A single average can conceal how tasks or schooling circumstances differ, but adding many subgroups without adequate replication creates unstable conclusions.

The 2026 Mozambique evaluation by Chimbutane and colleagues provides a counterpoint ^[15]. Teacher training and materials, with or without community reading camps, produced weak literacy effects, no clear changes in teaching practice, and no detectable attendance or dropout effects. The authors also document limited implementation. Their result cautions against assuming that adding a community activity to school support necessarily improves engagement or retained schooling.

The practical comparison concerns the link between delivery and instructional opportunity. The Namibian framework would record planned sessions, sessions delivered, learners reached and the reasons for non-participation. Such records help distinguish an intervention that changes conditions from one that largely exists on paper. They would also reveal whether travel, scheduling or language makes a component inaccessible. These are proposed measurement responses to uncertainty, rather than a conclusion that one country's community capacity explains another country's outcome.

Maruyama and Igei's later Madagascar scale-up evaluation uses a difference-in-differences design and reports a second-year numeracy gain of 0.39 standard deviations ^[16]. It extends the evidence to wider implementation, although its identification assumptions differ from those of the earlier randomised trial. Kumar and colleagues' 2024 trial in 400 rural Indian villages reports learning gains from both community and community-school approaches, with limited overall differences between them ^[17]. Neither comparison supplies a direct effect estimate for the proposed Namibian retention outcome.

The studies therefore offer design guidance without a universal programme ranking. Their interventions differ in teaching content, delivery intensity, setting and governance. Outcomes also differ: mathematics achievement, early literacy, school processes and dropout are not interchangeable measures. The present review does not combine their numerical effects into a pooled value or predict a Namibian effect size. It uses the contrasting findings to specify what a local evaluation must observe before conclusions can be drawn about benefits or sustainability.

Relationship to the Namibian research gap

The two recent Namibian studies locate schooling difficulties within relationships among learners, families and schools ^[1, 2]. The proposed programme translates that concern into observable commitments. Each agreed priority would identify the action, responsible person and follow-up evidence. A request for accessible learning resources would lead to a documented resource version and delivery check. A concern about harmful treatment would lead to a response procedure and a confidential opportunity to report whether conditions improved. These examples specify the framework's contribution; they do not represent actions already completed in a San community.

A particularly useful extension is to include learners whose attendance is irregular when designing support and assessing

experience. School-based interviews alone can miss children who find participation most difficult. Caregiver and community contact can help identify appropriate times and places for voluntary feedback, while safeguarding privacy. Information from out-of-school children would inform priorities but remain separate from the baseline retention cohort. This separation allows the study to learn from interrupted schooling without changing the denominator whenever a new participant becomes reachable.

The comparative discussion also clarifies the limits of the proposed novelty. Locally approved materials, family contact and supplementary learning are established practices in several settings. The contribution proposed here is their integration with defined community decision rights, verified transfer tracking and transparent delivery records. A future study would need to show that these arrangements are acceptable and feasible before claiming an improvement in retention. The research gap is thus a specific evaluative question, not an assertion that community involvement itself is new.

Material access and the limits of communication

A central design implication is that communication should activate an available response. Telling a family that a child has missed school does not resolve a missing transport option, an unaffordable item or a concern about safety. During co-design, participants would distinguish information gaps from service gaps and record who can address each one. The resulting support map should name a responsible contact and the expected response time. Unresolved needs would remain visible rather than be relabelled as caregiver non-compliance.

Kozuka's Niger experiment examines information-sharing and community discussion around learning and reports increased educational engagement ^[6]. This provides a reason to connect information with organised opportunities for action, but it does not establish that the same arrangement improves retention in Namibia. Di Maro and colleagues' Angola experiment finds that home information and school meetings affect different forms of parental engagement; their combination improves selected school conditions ^[7]. The proposed programme consequently records both family participation and the school's response, rather than counting attendance at meetings as the endpoint.

Wolf and Lichand's trial in 100 schools involving 2,246 learners in Côte d'Ivoire provides a caution about messages as a stand-alone solution. The parent-only learning estimate was small and statistically non-significant, and the other messaging conditions did not improve overall learning ^[8]. The study also reports subgroup variation and a possible unintended increase in child labour in one condition. These results support monitoring educational outcomes and competing demands on children's time. They do not warrant concluding that all communication initiatives are ineffective. For the proposed Namibian programme, practical support would be documented as requested, approved, delivered or unresolved. This distinction matters because an apparently ineffective programme may never have reached the households that needed assistance. It also helps interpret differential uptake. Families facing the greatest travel or time costs may be least able to attend design meetings and learning sessions. Flexible engagement arrangements should be evaluated by who can use them, rather than by the average satisfaction of the most frequent participants.

Cultural relevance and learning quality

Culturally relevant learning is a design responsibility shared with contributors and learners. It should increase opportunities to understand and participate without assigning a fixed identity to a child. The proposed materials would identify their curriculum purpose and permitted use, allowing local relevance to be assessed alongside learning quality. Contributors may choose contemporary examples, multilingual resources or material unrelated to cultural heritage. A programme should not make access to support conditional on sharing knowledge or appearing in photographs.

The review of hunter-gatherer schooling and the Omaheke research justify attention to language, representation and school arrangements [3, 4]. The present framework extends that attention into a proposed resource-development procedure. Community approval would determine what may be shared; teacher review would determine how it supports a learning objective; learner feedback would identify whether it is understandable and welcome. These steps provide evidence about acceptability. Improved achievement would still require assessment, because a resource can be well received without producing a measurable learning gain.

Language also affects how progress is interpreted. A learner might explain a mathematical idea in a familiar language while struggling with the language of the test. Assessment design should distinguish curriculum understanding from language demands whenever possible. It should also preserve comparable conditions across study groups. If the intervention introduces a new language format only at follow-up, an apparent improvement may partly reflect a changed measurement procedure. Piloting language versions before allocation reduces this uncertainty but does not automatically establish equivalence.

Shared authority and whose priorities count

A community-designed programme requires decisions that can be traced to participation. Consultation meetings alone are weak evidence of shared authority. The proposed decision record would identify the issue, whose views were sought, the final choice and the reason for any modification. For example, caregivers might prioritise a meeting time, while learners request a private channel to discuss bullying. Recording both priorities makes trade-offs reviewable and helps detect whether the programme systematically favours adults' convenience over children's experience.

Participation can be unequal within a community. People who speak a dominant local language, live close to a meeting venue or already hold school roles may influence decisions more readily. Recruitment should therefore seek views through several channels and describe who remains absent. Learners who have withdrawn from school may offer especially relevant accounts of barriers, even though they belong to a separate re-entry evaluation cohort. Community membership should be established through locally acceptable self-identification and relationships, without intrusive identity verification.

The programme should have an agreed way to change course. A learner concern about an activity might lead to a new example, an alternative meeting format or suspension of a support practice. Changes need dates and reasons so that evaluators can relate them to outcomes. Some

adaptation is necessary to preserve local relevance, but changing all components during a comparison period would make the package difficult to interpret. Shared decisions would therefore distinguish routine adjustments from substantial revisions requiring renewed feasibility work.

Table 2: Proposed support components and implementation records

Component	Local decision and activity	Delivery evidence
Learning resources	Choose examples, languages and accessible formats; connect each resource to a curriculum objective.	Approved resource version; contributor permission; sessions delivered; learner feedback.
Family-school communication	Select meeting, voice, liaison or pictorial channels; agree when schools will respond.	Reach by channel; contact attempts; caregiver understanding; actions agreed and completed.
Attendance support	Identify the reason for absence; arrange catch-up teaching or refer practical needs.	Trigger and reason; support requested and delivered; unresolved barriers; return to school.
School climate	Agree responses to discriminatory treatment and a confidential route for seeking help.	Training participation; responses completed; learner safety feedback; unresolved concerns.
Community governance	Agree decision rights, contributor payment, knowledge permissions and feedback procedures.	Representation; decision log; adaptations; participant burden; agreed dissemination.

Retention attendance and belonging as distinct outcomes

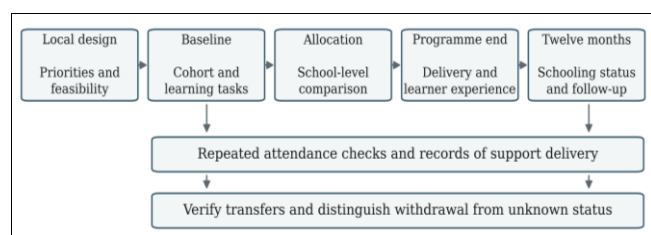
Retention is the primary proposed outcome because the research question concerns remaining in education. Nevertheless, a register may conceal prolonged absence, and an enrolled learner may have little access to meaningful instruction. Attendance, learning and belonging help identify what continued enrolment represents. Reporting them separately avoids an index in which strong performance on one indicator hides a serious problem on another. A favourable programme finding would ideally show retained schooling alongside evidence that participation is educationally useful and acceptable.

Mobility requires particular care. A child who moves to another school should not be counted as a dropout merely because the original register no longer includes the child. Conversely, a reported transfer without confirmation should not be accepted as evidence of continued schooling. Follow-up procedures should seek verification while respecting privacy and family preferences. The proportion of unknown outcomes should be visible by study arm. Differential follow-up success can create a retention difference even if actual schooling is unchanged.

Belonging is a complementary outcome and a possible mechanism, but its role cannot be assumed from a positive satisfaction score. Children may report favourable opinions when interviewed by adults associated with assistance. Independent interviewers and private response options can reduce this pressure. Longitudinal interviews can ask how daily experiences changed and which support children found useful. A formal mediation analysis would need a clear time sequence and additional assumptions; qualitative accounts alone do not prove mediation.

Table 3: Proposed outcome definitions and collection schedule

Outcome	Operational definition	Schedule and interpretation
Primary retention	Verified schooling at twelve months in the original or another school; separate verified withdrawal and unknown status.	Baseline cohort followed at programme end and twelve months; report missing-status sensitivity analyses.
Attendance	Days attended within school-open periods; report while-enrolled and baseline-cohort measures.	Daily registers with periodic independent checks; distinguish closures and transfers.
Learning	Curriculum-aligned literacy and numeracy using equivalent tasks and agreed language conditions.	Baseline, programme end and follow-up; report missing tests and assessment accommodations.
Belonging and safety	Locally tested learner questions and accounts of acceptance, support and harmful treatment.	Baseline and follow-up; private accessible formats; avoid unsupported validation claims.
Implementation	Reach, delivered activities, adaptations, unresolved support requests and participation in decisions.	Continuous logs plus periodic interviews; distinguish non-delivery from weak response.
Costs and burden	Start-up and recurring expenditure, staff time, contributor payments and family participation costs.	Throughout development and delivery; state price year and payer perspective.

**Fig 3:** Proposed evaluation sequence and repeated records.

Baseline precedes school-level allocation, and the twelve-month assessment verifies continued schooling. The diagram is a study design, not a participant flow from a completed intervention

Fig 3 links the endpoint to the records needed to interpret it. Daily attendance and support delivery would be observed during implementation; verified schooling would be assessed later. This sequence helps distinguish a temporary return to class from continued education. Transfer follow-up continues across schools where permission and practical access allow. The design also preserves the initial cohort: learners who become difficult to contact remain visible as unknown outcomes until status is established, rather than disappearing from the analysis.

Educational benefit and risks of selective participation

A programme may reach learners who already have better attendance more easily than those who need support most. Participation rates should therefore use eligible learners as the denominator and describe reach across baseline attendance levels. Evaluators would ask whether a favourable average reflects broader access or mainly improved outcomes among readily reached households. Where the number of children is small, descriptive patterns

and qualitative accounts may be more informative than an underpowered interaction model.

A similar issue arises when interpreting learning outcomes. Testing only learners present on one survey day can exaggerate apparent progress if lower-performing children are absent. Alternative assessment visits, documented reasons for missing tests and transparent sensitivity analyses make this problem visible. They cannot reconstruct unobserved knowledge with certainty. The study should therefore report learning estimates together with assessment completion and verified schooling, so that readers can judge whether the observed sample still represents the original cohort.

Previous intervention results also caution against identifying a single active ingredient from package outcomes^[14-17]. Even when an intervention improves scores, its component effects remain unresolved unless the design varies components in a credible comparison. In the proposed programme, community feedback can identify valued elements and delivery problems, but children's reported preferences do not establish causal contribution. A component trial might be justified later; the first evaluation should establish whether the agreed package as a whole warrants further testing.

Interpreting programme effects and uncertainty

A retention improvement accompanied by more consistent attendance and learning progress would support broader testing, provided implementation and participant experience are acceptable. A retention improvement without learning change would require examining instructional quality, assessment sensitivity and the follow-up interval. Improved belonging without a clear retention effect might still identify a valued school change, but it would not answer the primary effectiveness question. These are prospective interpretation rules rather than fabricated programme results.

A null or imprecise estimate has several possible explanations. The support package may have changed little, the relevant barrier may lie outside its reach, or the number of independent schools may be inadequate. Delivery records can distinguish an unsuccessful implementation from a well-delivered package with uncertain educational benefit. Confidence intervals should show which effects remain compatible with the data. Expanding a programme on the basis of a favourable point estimate alone would be difficult to justify when important harms or substantial uncertainty remain.

Other initiatives could influence the comparison. A new feeding arrangement, staffing change, transport service or economic shock may affect schooling during the study. Such events should be recorded in both groups. Random allocation helps balance expected differences, but it does not eliminate all chance imbalance, spillover or differential measurement. Non-randomised comparisons require particular caution because programme schools may differ in leadership, resources or motivation before implementation.

Feasibility sustainability and institutional responsibilities

A programme sustained entirely by unpaid caregiver or community labour may appear inexpensive while shifting costs to people with limited time. Budgeting should recognise translation, preparation and liaison work, and determine whether payments are manageable after research support ends. Teachers also need a realistic delivery

schedule. Catch-up teaching should be integrated into planned school activity rather than depend on an indefinite expectation of unpaid extra work. Feasibility findings should explain which functions ordinary school staffing can maintain.

Community involvement does not remove institutional responsibility for accessible teaching and a safe environment. The proposed programme would document what a school can change directly and what requires regional or national support. A local working group could coordinate referrals and identify recurring unmet needs, but it should not be treated as the provider of services it cannot deliver. Persistent barriers would be reported with the appropriate responsible institution rather than attributed to a lack of community effort.

A staged adoption process would begin with acceptable delivery and reliable records, proceed to a sufficiently replicated comparison, and then test transferability across contrasting settings. Expansion should preserve the support functions while allowing communities to choose appropriate forms. A communication channel that works in one locality may be inaccessible in another; a resource approved in one community may be inappropriate elsewhere. The transferable contribution is the decision and evaluation process, alongside clearly described implementation conditions.

Scaling decisions and evidence needed for transfer

The later Madagascar evaluation brings scale into the comparison ^[16], while the Mozambique findings keep implementation quality central ^[15]. For Namibia, transfer should begin with a description of the conditions required to deliver each support function. Schools would need to know the liaison workload, language resources, transport demands and availability of referral services. These conditions are part of the intervention. A package that requires support unavailable elsewhere cannot be recommended broadly solely because it worked at one well-supported site.

A practical expansion decision would consider the primary retention estimate and its uncertainty, evidence of learning, learner experience and recurring cost. A result that improves schooling while increasing family burden may require revision. A result that improves safety but leaves retention uncertain could justify continuing that valued school practice while investigating unresolved access barriers. Reporting such distinctions gives communities and education authorities a usable account of what changed without forcing every outcome into a single success label.

Sustainability would also be assessed after intensive research support ends. Researchers can inadvertently become the people who resolve referrals, maintain attendance records or supply transport. If these functions are not transferred to a funded and accountable arrangement, apparent feasibility may depend on the research team. A follow-up phase should record what schools and community partners maintain independently, which functions cease and what resources are required to restore them. This evidence would inform an adoption decision more directly than an unsupported promise of long-term sustainability.

Limitations and future research

The review is selective, English-language and partly dependent on accessible abstracts and publisher summaries. It does not quantify publication bias or provide a

comprehensive assessment of all San education initiatives. Source designs have different strengths and cannot support a common pooled retention estimate. The findings of descriptive studies may also reflect adult interpretations of learners' experiences. These limitations explain why the programme is presented as a proposition to test rather than an established intervention.

Future work should first examine whether communities want the proposed study and whether the package responds to their priorities. A feasibility phase should test participation, translation, register quality, transfer verification and workload. Subsequent studies need enough independent schools to estimate the total programme effect with useful precision. Component-specific effects would require an additional design, such as a factorial comparison, and adequate replication. Long-term work should follow primary-to-secondary progression and examine whether benefits persist when project resources end.

Conclusion

The reviewed evidence supports a study of school retention that connects household circumstances with the quality and accessibility of school provision. It also shows why information or participation activities should not be assumed to produce educational gains on their own. For San children in rural Namibia, the unresolved practical question is which locally chosen support arrangements can be delivered consistently and improve verified continued schooling while supporting learning and a respectful school experience.

This article contributes a programme framework combining approved learning resources, usable family-school communication, practical responses to absence and improvements in school climate. Its proposed novelty lies in shared decision rights and a traceable connection between priorities, support delivered and outcomes. These features make community design assessable rather than treating it as an informal description of consultation. They also preserve differences between communities and allow learners to question activities that do not meet their needs.

The proposed evaluation separates retained enrolment, daily attendance, learning and belonging. It requires documented transfers, visible unknown outcomes and appropriate school-level comparisons. Implementation and cost records provide a basis for deciding whether a programme is deliverable and for interpreting uncertain results. A feasibility study would precede claims of effectiveness. The present review establishes neither a retention gain nor a cost-effectiveness estimate, and it does not identify a universally appropriate package.

The next step is a locally agreed feasibility study followed, where appropriate, by a sufficiently replicated evaluation. Wider adoption would depend on evidence of educational benefit, acceptable participant experience and maintainable delivery. Even where retention effects remain uncertain, a transparent account of unresolved needs, school responses and community decisions would help identify what should change before further testing. The longer-term goal is sustained access to meaningful education without requiring children or families to surrender authority over their cultural knowledge and choices.

The comparison with previous studies sharpens the educational claim. Positive learning findings elsewhere make a coordinated approach plausible, while weak or null findings show that the presence of community activities

cannot establish effectiveness. A Namibian evaluation should therefore test the locally agreed package and document its actual reach. Its conclusions would apply to the participating contexts and measured period before broader transfer is considered. Replication should examine the programme's required conditions as well as its average outcome.

The figures support this conclusion in complementary ways. Fig 1 specifies the proposed pathway from decisions to support and outcomes; Fig 2 demonstrates how a published learning estimate can be presented with uncertainty; and Fig 3 identifies the sequence needed to verify sustained schooling. Together, they make the distinction between reviewed evidence and prospective claims visible. None supplies an observed retention rate for San children. Their value is to guide a study in which the educational contribution can be evaluated and questioned by the people affected.

Future work should preserve community authority while strengthening measurement and comparison. A feasible study would provide an agreed support package, reliable cohort records, accessible assessments and a transparent account of implementation costs. A sufficiently replicated comparison could then determine whether verified schooling improves and whether learning and learner experience support that finding. This would provide a firmer basis for practical adoption than either a descriptive account of barriers or an intervention claim without delivery evidence.

Recommendations

Schools and community partners should begin by identifying priorities with learners and caregivers, reviewing existing support and agreeing a manageable decision process. Programme planning should budget for translation and community contributions, connect attendance contacts to practical assistance, and include a response to harmful school experiences. Researchers should prespecify outcome definitions and missing-status procedures before estimating effects. Education authorities should use local evaluation findings to address service gaps and should require evidence across contrasting settings before recommending broad adoption.

Data Availability

The article analyses publications listed in the references. No new learner-level dataset was generated or analysed. Tables 1–3 contain a literature summary and proposed programme and measurement specifications. Figures 1 and 3 are original proposed frameworks. Fig 2 redraws published mathematics estimates and calculates approximate uncertainty intervals from the reported standard errors^[14]. Any future sharing of participant data would be subject to consent, confidentiality and an agreed community governance process.

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