Volume 8 Nomor 2 (2026) Pages 310 – 321
Edulead : Journal of Education Management
Email Journal : edulead.bbc@gmail.com
Web Journal : https://jurnal.uibbc.ac.id/index.php/edulead

Early Childhood Literacy Programme Implementation and Perceived Reading Readiness in Public Pre-primary Schools in Ubungo Municipality, Tanzania: A Mixed-Methods Study

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Submitted : 2026-10-23; Accepted : 2026-11-22; Published : 2026-11-26

Keywords: *Early Literacy, Phonemic Awareness, Vocabulary Development, Learning Materials, Reading Readiness, Pre-Primary Education, Tanzania*

Abstract

Background: Early reading competencies emerge through connected opportunities to attend to speech sounds, engage with print and develop oral language. This study examined early literacy programme implementation and perceived reading readiness in public pre-primary schools in Ubungo Municipality, Tanzania. Methods: A convergent mixed-methods design combined questionnaire and programme information from 22 preschool teachers with contextual evidence collected from four head teachers, two programme facilitators and 10 parents through interviews and document review. Descriptive statistics, reported correlation and analysis-of-variance results, and thematic interpretation were brought together under Emergent Literacy Theory. Results: Ten of 22 teachers (45.5%) reported often or always conducting explicit phonics activities, while six (27.3%) considered most children able to identify the main sounds of most letters. Sixteen teachers (72.7%) rated literacy materials as low-quality or inadequate; an illustrative classroom had 12 books for 78 children. Seven teachers (31.8%) believed most children had sufficient expressive vocabulary. Reported material–readiness correlations ranged from .37 to .43, with incomplete inferential information. A reported class-size ANOVA yielded $F(2, 19) = 3.89$, $p = .038$, indicating differences across groups without establishing their direction. Classes of 46–78 children and a reported absence of specialized early-childhood preparation among the 22 teachers were important implementation conditions. Conclusion: The evidence points to weaknesses in the consistency of code-related instruction, print resources and oral-language opportunities. Findings warrant coordinated teacher support, age-appropriate materials, routine language-rich teaching and more precise monitoring of children's skills; they do not establish causal programme effects.

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INTRODUCTION

Children enter formal reading with differing experiences of language, stories, print, letters and speech sounds. Early literacy is therefore best understood as a developmental process rather than a single skill acquired upon school entry. Children gradually build oral-language understanding, phonological sensitivity, letter knowledge and the expectation that print conveys meaning. Although these competencies develop together, they are not interchangeable: understanding spoken vocabulary, recognizing individual speech sounds and associating sounds with letters each contribute distinct resources to later reading. Emergent Literacy Theory emphasizes this cumulative development and the influence of opportunities supplied by adults and learning environments (Whitehurst & Lonigan, 1998).

Research synthesizing longitudinal evidence suggests that early code-related skills, such as phonological awareness and letter knowledge, and linguistic-comprehension skills, including vocabulary, follow distinguishable pathways into reading comprehension (Hjetland et al., 2020). This suggests that high-quality preschool literacy cannot be evaluated by a single teaching activity. Instead, its quality depends on the consistency and appropriateness of oral sound work, print exposure, vocabulary-rich interaction and adults' ability to respond to children's learning needs.

The Tanzanian pre-primary context gives this issue practical urgency. The Education and Training Policy of 2014, 2023 Edition, affirms the national importance of pre-primary education and foundational learning (Ministry of Education, Science and Technology [MoEST], 2023). Yet policy provision and everyday classroom experience are not necessarily equivalent. Teachers must translate curriculum intentions into instruction amid enrolment pressure, variable access to teaching aids and differences in professional preparation. In large classes, a programme may be formally present while opportunities for each child to practice sounds, handle books or use new words remain constrained.

Ubungo Municipality in Dar es Salaam offers a relevant urban public-school setting for examining these implementation conditions. The study identified large classes, limited specialized early-childhood preparation, uneven phonics practice and difficulties with literacy resources. Such evidence raises an implementation question: what do children actually have access to when the existence of a literacy programme is not itself a measure of its quality? This paper examines three components sound-focused instruction, learning materials and vocabulary development and discusses how they align with teachers' perceptions of reading readiness.

Research Problem, Objectives and Contribution

Effective early literacy provision requires recurring experiences that allow children to hear and manipulate sounds, encounter age-appropriate texts and practice meaningful conversation. However, teacher-reported classroom activity and children's perceived competence may diverge when teaching time, materials and opportunities for small-group support are insufficient. In Ubungo Municipality, the original study reported inconsistent explicit phonics activities, constrained book access and limited teacher confidence in children's letter sound and vocabulary skills. Such indicators merit examination together rather than as isolated deficits.

The study aimed to assess: (1) how phonemic-awareness-related and explicit phonics instruction was implemented and related to perceived reading readiness; (2) the availability and perceived quality of early literacy materials and their reported association with readiness; and (3) vocabulary-development opportunities and variation in reported vocabulary outcomes across classroom-size groupings. The paper contributes a locally situated account that links three instructional components to the enabling or constraining conditions of public pre-primary classrooms. Because the evidence is observational and partly based on teacher reports, the analysis concerns implementation patterns and associations, not proven programme effects.

Theoretical Framework and Literature Review

1. Emergent Literacy Theory and the pathways to reading

Emergent Literacy Theory challenges the idea that literacy begins only when formal reading instruction starts. Literacy-related knowledge develops through children's everyday encounters with oral language, written symbols and responsive adults. Whitehurst and Lonigan (1998) distinguish inside-out competencies, such as phonological awareness and letter knowledge, from outside-in competencies involving language, meaning and conceptual understanding. These domains are connected: sound and print skills enable access to written words, while language knowledge gives those words meaning. The framework provides an interpretive lens for the three components examined here without assuming that their effects can be isolated causally.

The theoretical distinction also makes measurement important. Phonemic awareness refers to attending to and manipulating phonemes in spoken words; phonics concerns relations between sounds and written letters. Letter–sound identification is code-related knowledge but is not a full measure of phonemic awareness, and vocabulary adequacy assessed by a teacher is not the same as a standardized language score. Accordingly, results are described using the exact constructs reflected in the reported indicators rather than treating every indicator as a direct assessment of global reading readiness.

2. Phonemic awareness, phonics and instructional practice

Phonemic awareness is a teachable foundational skill, but the quality and form of instruction matter. Rice et al. (2022) synthesized evidence of improved phonemic-awareness outcomes following instruction; the published article subsequently received a correction to its group-size moderator analysis, without a change in the broad interpretation of its findings. Becker and Sylvan (2021) likewise illustrate how sound-focused instruction can be incorporated into authentic preschool teaching. These studies support planned, developmentally appropriate opportunities for sound identification, blending and segmenting rather than relying solely on incidental exposure.

Implementation depends partly on teacher knowledge and support. In a systematic review, Ciesielski and Creaghead (2020) examined professional development associated with preschool phonological-awareness outcomes and highlighted the relevance of training content and implementation conditions. This literature suggests that teacher participation in training is a meaningful contextual indicator, although professional development alone cannot guarantee children's gains. For the Ubungo study, an important analytical question is whether reported instructional frequency and reported child competence tell a coherent story about the depth of code-related opportunities.

3. Literacy materials as opportunities to engage with print

Books and other print-rich resources do more than decorate a classroom. They give children occasions to notice print conventions, connect illustrations to words, revisit stories and use vocabulary in context. Access is multidimensional: quantity, suitability, condition, language, placement and how teachers use the materials can all influence the learning opportunities they create. A small stock of books may be shared effectively during interactive reading, but persistent scarcity can reduce variety, individual handling and repeated use.

The meta-analysis by Verhoeven et al. (2020) concerns computer-supported early literacy interventions, rather than general book supply; it offers evidence about the contribution of structured early literacy experiences while underscoring that different resource types are not equivalent. The present study therefore treats teachers' ratings of material quality and the reported book-to-child example as indicators of classroom opportunity, not as proof that providing more books by itself produces higher reading scores. A reported correlation between materials and readiness is informative but must be interpreted in light of the unknown measurement scales and sample used for that analysis.

4. Vocabulary, classroom interaction and structural conditions

Vocabulary grows through repeated encounters with words in meaningful contexts and opportunities to use them. Hjetland et al. (2020) show why linguistic comprehension merits attention alongside code-related skills, while Suggate et al. (2021) provide evidence that interactive elaborative storytelling can support vocabulary learning in preschool children. The implication for programmes is not merely to introduce new words but to support comprehension, retelling, question-answer exchanges and children's own talk.

Classroom size is relevant to these practices because an adult's opportunities to listen, probe understanding, model language and provide feedback are finite. Nevertheless, larger classes do not automatically produce weaker vocabulary outcomes; grouping arrangements, teaching methods, staffing, language of instruction and other factors may mediate the relationship. An ANOVA can identify differences across specified class-size groups but cannot, without group means or ordered contrasts, establish the direction of those differences. The current analysis therefore separates what the reported test demonstrates from what pedagogical theory suggests might explain it.

5. Research gap

Existing research establishes the importance of sound awareness, letter knowledge, vocabulary and supportive learning experiences, but less can be inferred about how those elements are delivered together in specific municipal public pre-primary contexts. The Ubungo study addresses this contextual gap by putting teachers' reports of instructional practice, learning materials and language readiness alongside school conditions. Its contribution is strongest as an implementation diagnosis and a source of locally relevant priorities. It is weaker as evidence of effects on individual children's attainment because direct child-assessment data, measurement details and complete subgroup statistics were not available for analysis.

RESEARCH METHOD

The study employed a convergent parallel mixed-methods design, in which numerical indicators and contextual accounts were collected during the same general phase, considered separately and integrated during interpretation. This approach was suited to an investigation of both the extent of reported literacy practices and the classroom conditions under which they occurred. The study was conducted in public pre-primary settings in Ubungo Municipality, Dar es Salaam, Tanzania. The study involved 38 adult participants: 22 preschool teachers, four head teachers, two programme facilitators and 10 parents. The teacher group supplied the denominator for the questionnaire percentages presented below. The analysis covers the reported participating groups and does not extrapolate to other schools or populations.

Quantitative information was gathered through structured teacher questionnaires and programme-related measures. The three programme dimensions were (a) phonemic-awareness-related instruction, operationalized here by reported frequency of explicit phonics activity and perceived letter–sound competence; (b) literacy materials, represented by teacher ratings of adequacy and quality, reported book availability and associations with readiness; and (c) vocabulary development, represented by teachers' assessment of children's expressive vocabulary and an ANOVA concerning class-size categories. The reported indicators capture teachers' responses and summary associations; a direct child assessment sample and the psychometric properties of a reading-readiness instrument were not established in the available study data. Thus, these indicators are not presented as standardized child test results.

Qualitative information was collected through semi-structured interviews with participating adults and document review. Contextual accounts informed interpretation of instructional activity, teacher preparation, access to materials and classroom organization. Only themes and contextual observations included in the study record are discussed; no verbatim

statements are quoted because attributable interview extracts were not available for this analysis.

Descriptive statistics, correlations, analysis of variance (ANOVA) and thematic interpretation were used. Where questionnaire percentages and the teacher denominator of 22 clearly implied integer counts, results are expressed as n/22 and percentages rounded consistently to one decimal place. The reported $F(2, 19) = 3.89$ corresponds to an upper-tail p value of approximately .038 under the standard F distribution. Positive correlations of .37–.43 were reported between literacy-material quality and readiness, but the analytical sample sizes, score definitions and distinct tests were not specified. Accordingly, the correlations are reported descriptively without a blanket claim of statistical significance. Quantitative and contextual findings were compared in relation to the three objectives and interpreted using Emergent Literacy Theory.

Questionnaire, interview and document sources were compared to strengthen interpretive credibility. Conclusions were restricted to indicators and contextual findings documented in the available results; instrument reliability coefficients, complete coding records and approval identifiers were not available for independent audit. These limitations were considered when assessing transferability.

FINDINGS AND DISCUSSION

Findings are organized directly around the three research objectives. The tables reproduce the observed summary indicators or show counts recoverable from the 22 teacher responses. Interpretations explain the educational meaning of the patterns while distinguishing teacher assessments from directly measured child outcomes.

Phonemic Awareness Related Instruction and Perceived Readiness

The first objective examined the implementation of sound-focused early literacy activities and their relationship with teachers' perceptions of children's readiness. The reported indicators point to two related but distinct concerns: the regularity of explicit phonics provision and perceived competence in associating letters with sounds. Table 1 separates instructional frequency from children's reported performance rather than implying that both measure the same construct.

Table 1
Reported indicators of sound-focused instruction and letter–sound readiness

Indicator	Reported result	Interpretive meaning
Teachers conducting explicit phonics activities often or always	10 of 22 (45.5%)	Regular provision was reported by fewer than half of the teachers.
Teachers believing most children identify the main sounds of most letters	6 of 22 (27.3%)	Perceived letter–sound readiness was lower than reported regular instructional provision.
Teachers reporting specialized early-childhood preparation	0 of 22 (0%)	Indicates a substantial professional-preparation constraint.
Reported class-size range	46–78 children	Individual practice, observation and feedback may be difficult under these conditions.

Note. Counts are recoverable from the original percentages for n = 22 teachers. Phonics activity and phonemic awareness are related but not interchangeable. Child competence was assessed through teacher opinion, not an identified standardized test.

The central result is that 10 of 22 teachers reported frequent explicit phonics activity, whereas only six felt that most children could identify the main sounds of most letters. These proportions describe different questions and should not be subtracted as though they formed paired individual outcomes. Nevertheless, their juxtaposition raises a useful implementation issue: opportunities to encounter letter sound instruction may be too irregular, too brief or insufficiently responsive to individual needs to convince teachers that most children are secure in the relevant knowledge. Equally, teachers may apply different thresholds when judging what it means for "most" children to know "most" letter sounds. The existing evidence cannot distinguish these explanations.

Teacher perceptions matter operationally because they influence classroom planning, but they are imperfect outcome measures. A teacher who judges that many children struggle with letter sounds may increase repetition or remedial practice, while another teacher may describe a similar group as ready. The study did not provide individual child assessment records that would adjudicate these judgments. Accordingly, the result is best read as a perceived implementation and readiness gap rather than a measured 18-percentage-point loss attributable to programme weakness.

The professional and classroom context gives the pattern added significance. The study recorded that none of the 22 teachers had specialized early-childhood preparation and that classes contained 46-78 children. These conditions are compatible with challenges in sequencing sound-focused activities, differentiating tasks and monitoring individual responses. They do not establish that lack of specialist training caused weaker perceived readiness. Rather, they specify conditions under which teachers may need practical instructional support, simple assessment routines and manageable group-based methods. Ciesielski and Creaghead (2020) suggest that professional development can support phonological-awareness teaching; Rice et al. (2022) synthesize evidence for sound-focused instruction. The present finding indicates where such evidence might inform practice in a crowded public pre-primary setting.

Emergent Literacy Theory clarifies why the finding should not be collapsed into a single literacy score. Letter–sound identification is one inside-out competency, and explicit phonics is one instructional route toward code-related learning. Young children also require oral sound manipulation, playful listening and repeated opportunities to connect sounds with symbols. A credible programme response would therefore include brief daily oral sound games, systematic letter sound work and formative checks across small groups not only more frequent whole-class repetition. Whether these activities improve measured readiness in Ubungo would require prospective child-level assessment.

Availability and Quality of Early Literacy Materials

The second objective assessed resources used to support foundational literacy. Teacher judgments were predominantly unfavourable, and one documented book-to-child example illustrates the scale of scarcity that may occur in a classroom. The available summary also includes positive correlations between material quality and readiness. Table 2 distinguishes the descriptive findings from inferential information that remains incompletely specified.

Table 2
Literacy materials: teacher ratings, illustrative access and reported associations

Indicator	Reported result	Interpretation / boundary
Teachers rating materials as low-quality or inadequate	16 of 22 (72.7%)	A clear majority reported unsatisfactory classroom resources.
Books in an illustrative classroom	12 books for 78 children	Approximately one book per 6.5 children in that example; not a municipality-wide average.

Reported association: material quality and readiness	r = .37–.43	Moderate positive correlations reported; exact analytic n, measures and significance tests unavailable.

Note. The reported 72.8% has been standardized to 72.7%, consistent with the implied ratio 16/22. The correlation range is reproduced as reported, without assuming every estimate is significant.

Sixteen teachers approximately three quarters of the responding group considered literacy materials inadequate or of low quality. This matters because access to developmentally appropriate books, pictures and print can support both independent exploration and shared adult–child interactions. The result should not be interpreted as showing that all remaining teachers considered resources sufficient; the original distribution of other response categories was not supplied. What is supported is a majority judgment that resource provision was deficient.

The example of 12 books available for 78 children makes the practical problem tangible. At that ratio, teacher-led rotation or shared reading may be essential for children to encounter the same resources repeatedly. Yet it is only one reported example, not an estimated mean across participating schools. More generally, material scarcity can create pressure to prioritize teacher demonstration over opportunities for children to handle books, discuss illustrations or revisit stories. The study did not measure the frequency of book-sharing, language appropriateness of texts or the proportion of materials in usable condition, so these pathways should be treated as plausible explanations rather than observed mechanisms.

The results included material-quality/readiness correlations ranging from r = .37 to r = .43. Positive coefficients are consistent with an association in which more favourable resource ratings accompany better readiness ratings, but the evidence is not sufficient to treat each coefficient as a confirmed statistically significant result. If the correlations were calculated from 22 independent teacher observations using two-sided Pearson tests, a coefficient of .37 would correspond to approximately p = .090, whereas .43 would correspond to approximately p = .046. Other analytic sample sizes or model specifications could change these probabilities. In the absence of a complete correlation table, the responsible finding is that moderate positive associations were reported, with inferential uncertainty remaining.

The theoretical interpretation is that learning materials are opportunities for literacy experience, not magic inputs. Emergent Literacy Theory suggests that children learn through active and social interaction with print. Material adequacy is likely to be consequential where teachers also have the knowledge and time to use books for prediction, storytelling, new-word discussion and links between spoken and written language. Verhoeven et al. (2020) show the value of structured technology-supported literacy interventions, but that evidence should not be misrepresented as a direct study of printed book shortages. This comparison reinforces a practical lesson: provision should be accompanied by deliberate pedagogical use and monitoring of access.

The findings also raise an equity consideration. In a resource-constrained classroom, some children may have opportunities to read or be read to at home while others depend heavily on the school. The current study did not collect comparable home-literacy indicators, so unequal impact cannot be quantified. Nevertheless, a public programme intended to provide foundational learning should not assume that family resources will compensate for a lack of classroom materials. A balanced school response could include pooled classroom libraries, locally produced story cards, rotated book access and partnerships that supply appropriately levelled, linguistically relevant print materials.

Vocabulary Development and Classroom Size Conditions

The third objective examined opportunities for vocabulary development and perceived readiness to express ideas through language. Teachers' judgments again indicated concern, while an ANOVA suggested that vocabulary-related scores differed across class-size categories. Table 3 retains the precise test result but does not infer a direction that the available test statistics alone cannot establish.

Table 3
Vocabulary-related indicators and classroom-size comparison

Indicator	Reported result	Interpretation / limitation
Teachers judging most children to have sufficient expressive vocabulary	7 of 22 (31.8%)	Fewer than one third expressed confidence in children's vocabulary adequacy.
Class-size range reported in the study	46–78 children	Individual oral-language exchange may be constrained, depending on classroom organization.
ANOVA comparing vocabulary outcomes across class-size groupings	$F(2, 19) = 3.89$; $p = .038$	The group means were not supplied; the test supports between-group differences, not their direction or cause.

Note. $p = .038$ is calculated from the reported F statistic and degrees of freedom. No class-size group means, confidence intervals or operational definitions of vocabulary outcomes were provided.

Only seven of 22 teachers reported believing that most children had sufficient vocabulary for expression. Such a judgment may reflect limited word knowledge, difficulty retrieving and using words, reluctance to speak in class, the language demands of classroom tasks or teachers' expectations. These possibilities are educationally distinct and were not directly disentangled by the available instruments. The safest interpretation is that teachers perceived limitations in children's expressive language readiness, not that a particular proportion of preschool children failed an objective vocabulary assessment.

Vocabulary-related outcomes varied with class-size category, $F(2, 19) = 3.89$, $p = .038$. The recomputed probability supports an overall difference among the three groups, under a conventional one-way ANOVA model. Crucially, an omnibus F statistic has no sign. Without group means and post-hoc comparisons, it cannot identify which class-size group had the highest or lowest vocabulary scores. The possibility of poorer vocabulary outcomes in larger classes remains a hypothesis requiring the group descriptive statistics, not an established direction of the test result.

A possible classroom mechanism is that larger groups make extended conversation and individualized feedback harder to deliver. Vocabulary learning benefits from children hearing rich language and participating actively in talk about stories, pictures, objects and experiences. Where only a few children speak during each lesson, teachers may receive limited evidence of children's word knowledge and provide fewer opportunities to elaborate or correct meanings. Yet organization may matter as much as enrolment: small-group rotations, peer conversation, dialogic reading and routines that invite every child to talk could mitigate some constraints without changing total class size. The study does not test these strategies; they are pedagogically grounded options arising from the discussion.

The results align conceptually with Hjetland et al. (2020), who distinguish language-related pathways to reading comprehension, and Suggate et al. (2021), whose work supports

interactive elaborative storytelling as a means of developing vocabulary. Under Emergent Literacy Theory, outside-in language competencies give meaning to the code-related skills described under Objective One. Thus, a programme that concentrates only on letter sounds would be incomplete even if its phonics schedule became regular. The Ubungo pattern supports strengthening oral language alongside code learning and print resources, not presenting the three components as competing priorities.

Integration of Findings Across the Three Objectives

Viewed together, the three objectives present a consistent implementation concern: relatively few teachers reported strong indicators of regular code instruction or child language readiness, a large majority rated literacy resources poorly, and the described classrooms were large with limited specialized preparation. These observations need not imply that every participating school shared the same problems. Nor do they establish causal links among training, resources, class size and children's performance. Their contribution lies in identifying several points at which a literacy programme may be present in name but less robust in day-to-day delivery.

Table 4
Integrated interpretation of the reported evidence

Programme component	Empirical signal	Theoretical interpretation	Action suggested for evaluation
Sound-focused teaching	10/22 report frequent phonics; 6/22 perceive broad letter–sound competence	Inside-out code-related learning needs repeated explicit and playful practice	Pilot structured oral sound/letter routines; assess actual child skills before and after.
Print resources	16/22 dissatisfied; one case: 12 books/78 children	Print exposure operates through access and interaction, not possession alone	Audit quantity and quality; rotate age-appropriate books; monitor use.
Vocabulary / oral language	7/22 perceive sufficient expressive vocabulary; class-size groups differ	Outside-in language knowledge needs meaningful adult–child and peer talk	Use dialogic reading and small-group conversation; collect vocabulary measures.
Enabling conditions	Classes 46–78; 0/22 with specialized preparation (reported)	Programme quality depends on opportunities and teacher capacity across domains	Pair instructional coaching with material support and manageable grouping.

Note. The fourth row identifies contextual conditions rather than a separately measured fourth programme component. Proposed actions are recommendations inferred from the evidence and literature, not interventions evaluated by this study.

The integration also exposes a measurement gap. The available statistics largely reflect teacher responses, while the wider research question concerns children's reading readiness. Stronger future evidence would separate programme implementation, teacher perceptions and objectively assessed child learning. For example, researchers could record the frequency and quality of phonological-awareness sessions, observe shared reading, inventory books and gather age-appropriate direct assessments of letter knowledge, phonemic awareness and expressive or receptive vocabulary. Repeated measures would enable a clearer distinction between change over time and differences between existing classrooms.

Emergent Literacy Theory connects the empirical signals without suggesting a single linear cause. Children encounter both inside-out and outside-in learning opportunities, and the surrounding classroom conditions determine how reliably those opportunities can be provided. A teacher may use sound games effectively but lack books, or may have books without protected time for meaningful conversation. For policy and school management, the key insight is therefore the need for coordinated support: instructional preparation, usable print materials, planned interaction and feasible classroom organization must be considered as a package.

Implications for Practice and Policy

The immediate instructional implication is to prioritize predictable, short and developmentally suitable literacy routines. Sound-focused practice should combine listening for syllables and phonemes with explicit, appropriately sequenced letter–sound connections. Teachers can incorporate formative checks using brief individual responses, small groups and records that distinguish sound awareness from letter knowledge. Training should focus on demonstration, coaching and feedback on classroom enactment rather than the distribution of guides alone (Ciesielski & Creaghead, 2020).

Resource provision should prioritize fit for purpose over simple counts. Schools can audit books and story materials by number, condition, readability, linguistic suitability and frequency of actual use. Locally produced picture cards and read-aloud resources may provide partial support, but they should complement rather than excuse insufficient book stocks. For language development, teachers can build talk opportunities into daily routines through interactive storytelling, picture discussion, shared reading, retelling and peer dialogue, drawing on the type of language-rich activity examined by Suggate et al. (2021).

Education authorities and school leaders should consider classrooms' capacity to deliver these activities when allocating teachers, learning materials and professional development. Where smaller classes are not immediately feasible, structured group rotations and support from trained staff could increase participation, but their effectiveness should be assessed locally. Monitoring systems should distinguish inputs (books, training), processes (actual instruction and interaction) and outcomes (direct child assessments), so improvement is judged by evidence of learning rather than the mere existence of a programme.

Limitations and Directions for Further Research

Interpretation is bounded by the study's single-municipality public pre-primary context and relatively small teacher sample (n = 22). Several indicators are teachers' judgments rather than direct child assessments; the underlying questionnaire, readiness scales, school-level sample structure, class-size group means and full correlation table were unavailable for this analysis. Correlation does not establish causation, and the reported material correlations could not all be verified as significant from the available summaries. Similarly, the significant omnibus ANOVA establishes differences but does not identify the direction of those differences or control for potential confounding. The absence of interview excerpts and coding records in the available study record limits the detail with which qualitative results can be reported. Findings should therefore be understood as contextual implementation evidence and hypotheses for improvement, not definitive effect estimates.

Future research should combine verified teacher and school characteristics with direct, age-appropriate literacy assessments and repeated observations of teaching practice. A larger multi-school sample would allow examination of variability between classrooms and more complete reporting of class-size means, confidence intervals and model assumptions. Intervention studies could then test whether instructional coaching, classroom libraries or structured dialogic reading improve measured vocabulary, phonemic awareness and letter–sound knowledge over time.

CONCLUSION AND RECOMMENDATIONS

This study shows that early childhood literacy provision in the reported public pre-primary settings in Ubungo Municipality was characterized by perceived gaps in regular phonics instruction, letter–sound readiness, availability of quality learning materials and expressive vocabulary. The principal indicators were that 45.5% of teachers reported frequent explicit phonics activities, 27.3% judged most children able to identify the main sounds of most letters, 72.7% considered materials inadequate or low-quality, and 31.8% believed most children had adequate expressive vocabulary. These findings are based predominantly on teacher reports and do not demonstrate that any one programme component caused changes in children's reading readiness. Interpreted through Emergent Literacy Theory, they underline the need to attend jointly to code-related learning, language development and interaction with print.

Municipal education authorities, teacher education providers and school leaders should strengthen practical early-childhood professional development focused on phonemic awareness, explicit letter–sound teaching, shared book reading, vocabulary facilitation and simple formative assessment. Support should involve coached demonstration and follow-up in classrooms, especially where large enrolments make individual engagement difficult. Schools should introduce realistic daily routines that combine sound games, meaningful read-aloud activities, story discussion and opportunities for every child to speak, while keeping sound awareness, letter knowledge and oral language as distinct but complementary teaching goals.

At the system level, priority should be given to adequate, durable and linguistically appropriate books and teaching materials, alongside workable grouping arrangements and monitoring of implementation. Resource audits should consider both numbers of materials and their actual use in learning interactions. Structured school–family engagement may support story and language experiences at home without transferring responsibility for basic provision to households. Finally, future programme evaluations should use direct child-level reading-readiness measures, transparent sampling and complete inferential tables; these improvements are essential for determining whether the promising associations and implementation concerns identified here translate into sustained gains in children's literacy.

Declarations

Author contributions. Safari Gande led the study and manuscript preparation. Ategwu Patrick Ogar J. and Adam Bago provided academic supervision, methodological guidance and critical review.

Acknowledgements. The authors acknowledge participating preschool teachers, head teachers, programme facilitators and parents, and St. Augustine University of Tanzania.

Funding. No external funding was reported for this study.

Competing interests. The authors declare no competing interests.

Ethical considerations. The study reports institutional ethical approval and relevant administrative permissions. Adult participants gave informed consent, and confidentiality and anonymity safeguards were applied. The approval body’s name and reference number should be confirmed from the study’s original ethics documentation.

Data availability. The analysis is reported from the study’s summarized data. The existence of a public data repository or sharing agreement was not documented.

REFERENCES

Becker, R., & Sylvan, L. (2021). Coupling articulatory placement strategies with phonemic awareness instruction to support emergent literacy skills in preschool children: A collaborative approach. Language, Speech, and Hearing Services in Schools, 52(2), 661–674. https://doi.org/10.1044/2020_LSHSS-20-00095

Ciesielski, E. J. M., & Creaghead, N. A. (2020). The effectiveness of professional development on the phonological awareness outcomes of preschool children: A systematic review.

Literacy Research and Instruction, 59(2), 121–147. https://doi.org/10.1080/19388071.2019.1710785

Hjetland, H. N., Brinchmann, E. I., Scherer, R., Hulme, C., & Melby-Lervåg, M. (2020). Preschool pathways to reading comprehension: A systematic meta-analytic review. Educational Research Review, 30, 100323. https://doi.org/10.1016/j.edurev.2020.100323

Ministry of Education, Science and Technology. (2023). Education and training policy of 2014 (2023 ed.). Government of the United Republic of Tanzania. https://www.moe.go.tz/sw/nyaraka/nyaraka-za-sera-ya-elimu-na-mafunzo-2024-mitaala-iliyoboreshwa-na-miongozo-mbalimbali

Rice, M., Erbeli, F., Thompson, C. G., Sallese, M. R., & Fogarty, M. (2022). Phonemic awareness: A meta-analysis for planning effective instruction. Reading Research Quarterly, 57(4), 1259–1289. https://doi.org/10.1002/rrq.473

Reading Research Quarterly. (2025). Correction to "Phonemic awareness: A meta-analysis for planning effective instruction." Reading Research Quarterly, 60(2), e70005. https://doi.org/10.1002/rrq.70005

Suggate, S. P., Lenhart, J., Vaahtoranta, E., & Lenhard, W. (2021). Interactive elaborative storytelling fosters vocabulary in pre-schoolers compared to repeated-reading and phonemic awareness interventions. Cognitive Development, 57, 100996. https://doi.org/10.1016/j.cogdev.2020.100996

Verhoeven, L., Voeten, M., van Setten, E., & Segers, E. (2020). Computer-supported early literacy intervention effects in preschool and kindergarten: A meta-analysis. Educational Research Review, 30, 100325. https://doi.org/10.1016/j.edurev.2020.100325

Whitehurst, G. J., & Lonigan, C. J. (1998). Child development and emergent literacy. Child Development, 69(3), 848–872. https://doi.org/10.1111/j.1467-8624.1998.tb06247.x.